

# Centering Scope **CS-A1100**

Designed for quick use on-site  
The new standard for centering measurement





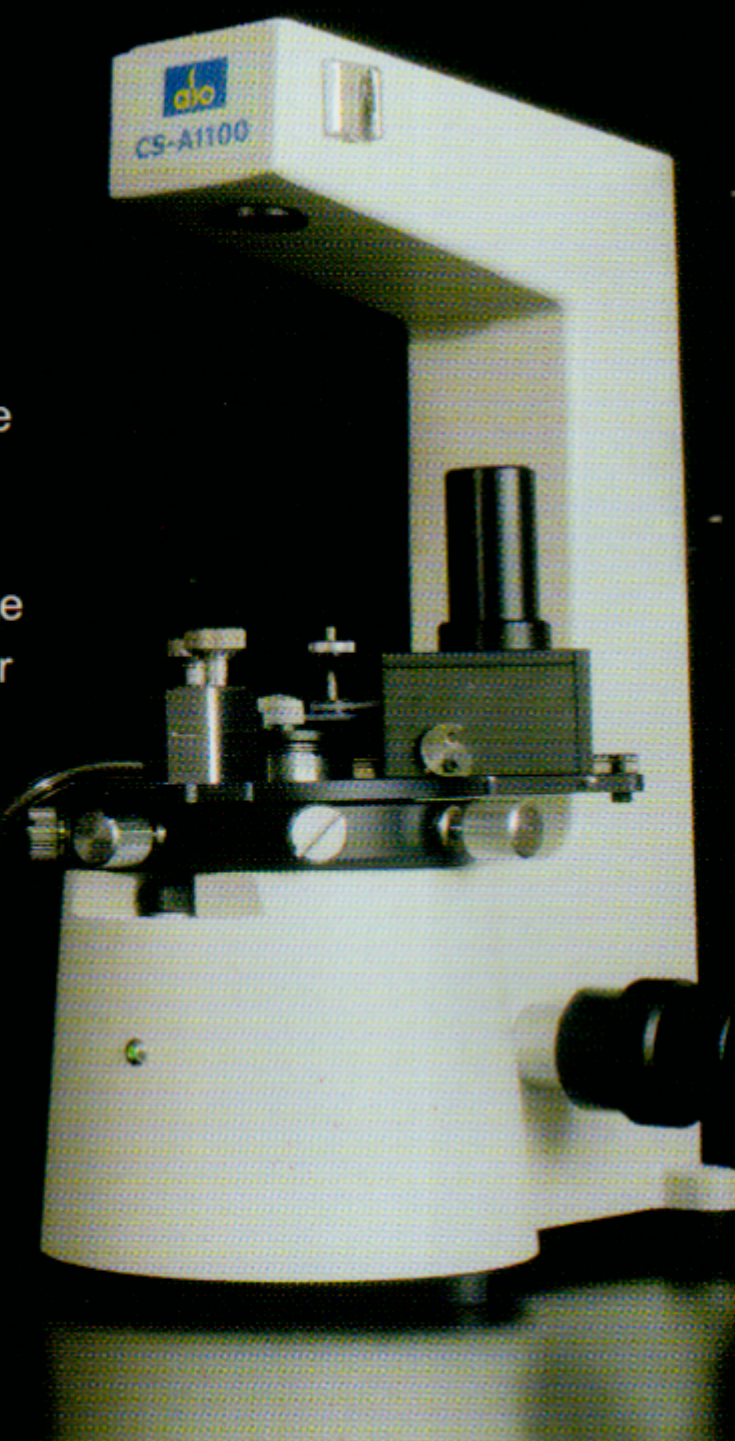
# Centering Scope CS-A1100

**A low-cost, compact optical centering instrument that delivers high-precision measurements free of operator error**

Centering error is one of the most decisive factors affecting lens performance. No matter how finely polished it is, a lens will not achieve maximum optical performance if its optical center is not aligned properly.

The standard of lens centering accuracy has increased over the years from 1 minute to 30 seconds. Now 15 seconds is gradually being accepted as the new standard for all future measurements.

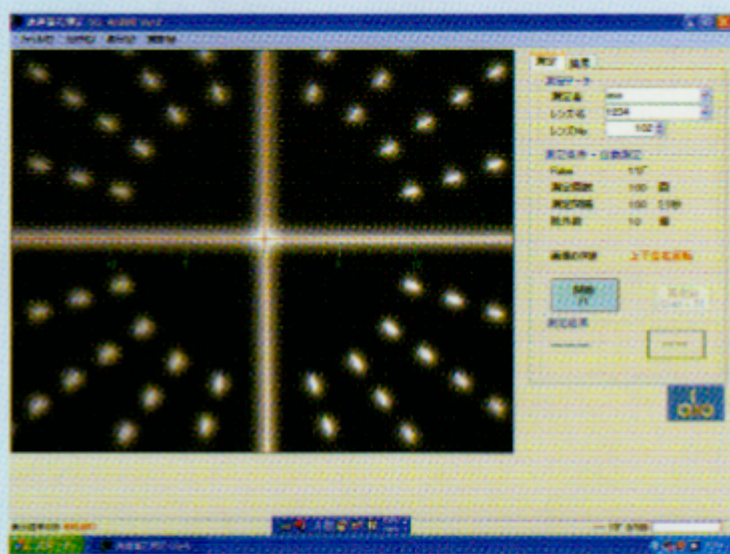
In addition to the new analysis software specifically designed for centering error measurements, the CS-A1100 is equipped with a motorized rotary stage providing an unprecedented level of measurement precision. Compact and easy to use on-site, the CS-A1100 is a versatile instrument with a wide range of applications, such as optimization for lens centering machines, balsam cementing, and testing.



The CS-A1100 connects easily to a mobile PC, and you can select the processing options best suited to your needs. Its features include the following:

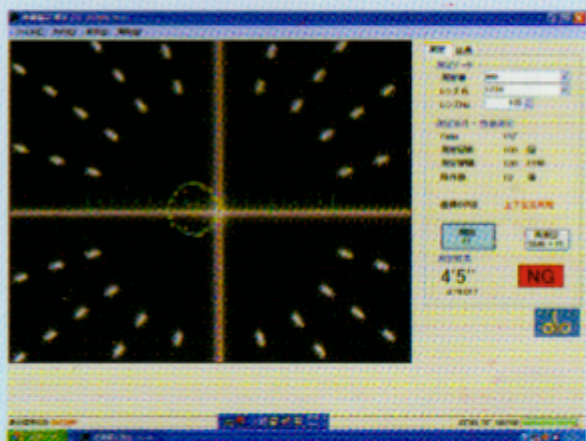
## Projected images and crossed lines

- Eliminates operator error by converting a projected image into crossed lines.
- Calculates and displays the centering error from the trajectory/displacement of the intersecting point of the crossed lines using a lens rotation mechanism.
- Displaying a minimum reading unit of 1 second.
- Also measures deviation angles of prisms and parallel planes.
- Requires only mobile PCs.
- Performs calibration with a master calibration unit.



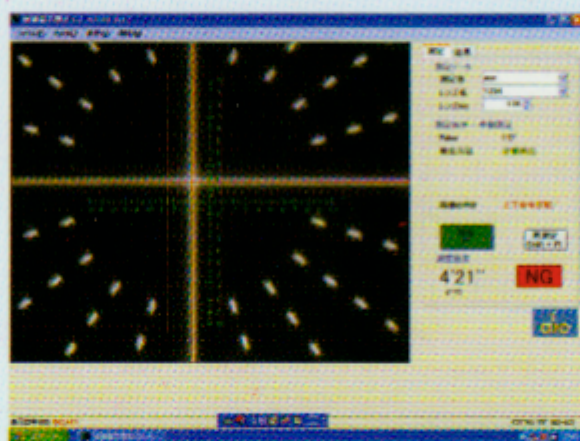
Projected images are converted into crossed lines.

## Automatic mode



In automatic mode, measurements are taken at regular intervals as the lens is rotated. A least-squares method is used to approximate a circle and automatically calculate the centering error based on the diameter of the circle. The data is instantly displayed and saved, and

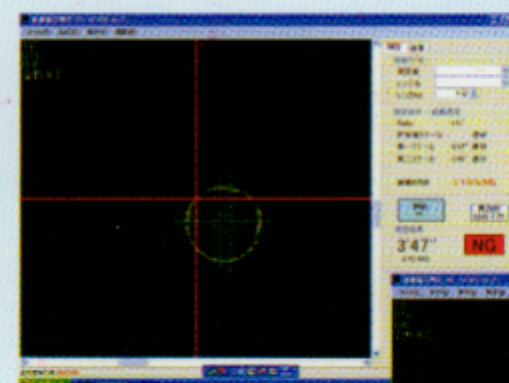
## Manual mode



Manual mode allows the operator to set the farthest left and right positions of the crossed lines to obtain the centering error.

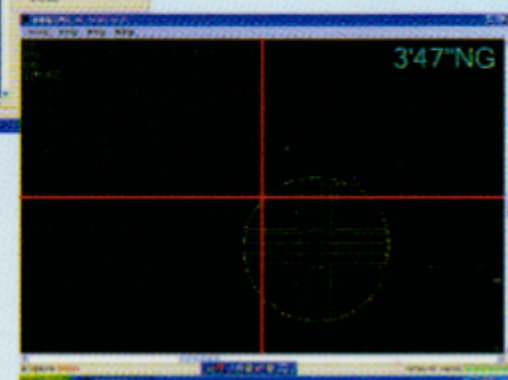
The screen view includes only the crossed lines and the scale, making it easy to see the screen and obtain a precise measurement. This mode is

## Centering mode (zoom-in function)



Normal

Full screen



This mode zooms into the center of the screen during a centering or post-centering check. The operator can also limit the screen display to the crossed lines and the scale. This mode is particularly effective for taking

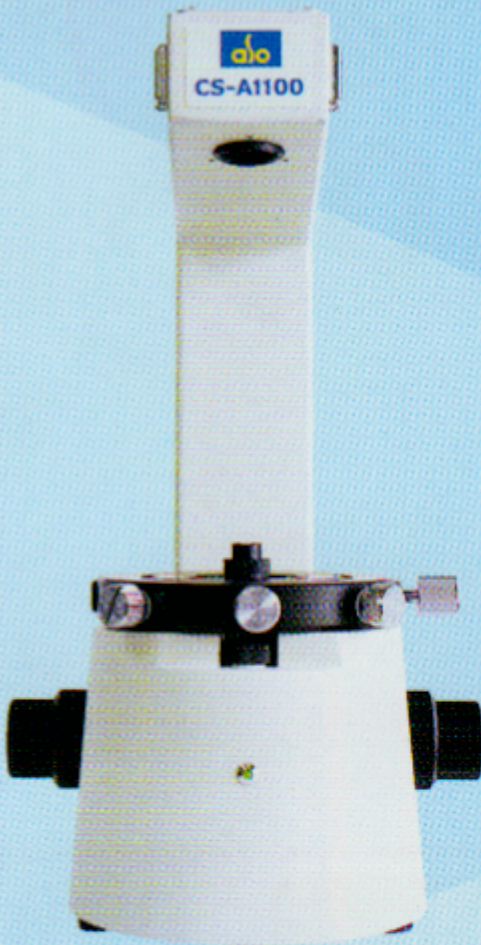


# Main Device

## Compact Design

### Consistent Measurements Based on a Mechanism Designed for Working Efficiency

- Uses a navigation chart to quickly detect the center of a target image.
- Smoothly moves the target image to the center of the screen by using an X-Y stage.
- Provides consistent measurements thanks to its robust seamless structure, which has ample space around the lens holder.
- With a user-friendly design that features a focus knob on each side for coarse and fine adjustments, focus adjustments can be made quickly and precisely.



- A compact and space saving design.
- With the clamp lock mechanism, replacing the stages is a breeze.
- Has an adjustment knob that is located under the stage. This allows you to adjust the brightness of the target line.
- A UV cut filter is included in the main device.

## A Variety of Rotating Stages

The stages are designed to rotate according to the shapes of the lenses

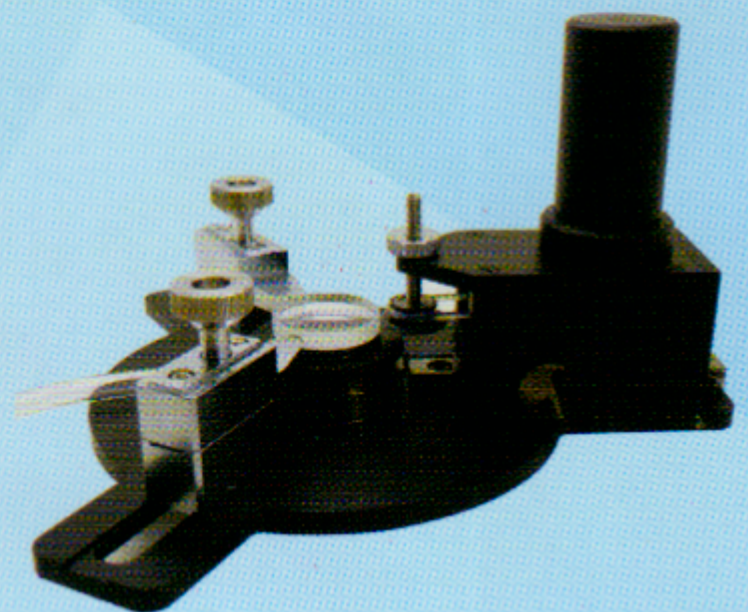
### Motorized Lens Rotating Stage

A powerful device for measuring the centering errors of high-precision small-aperture lenses

#### RS-12 Type

When the lens to be measured is placed on a two-pin lens holder or resin holder, this device uses suction to stabilize the lens. The height of the rotating pulley can be adjusted to handle the edges of different types of lenses.

The diameters of rotatable lenses range from 3 mm to 76 mm. To measure centering errors for lens barrels that have lenses, use a special holder (special order product) that is equipped with a bearing.



### Motorized Lens Rotating Stage for Cementing Lenses

Designed to improve the efficiency of the cementing process

#### RS-8 Type

This device eliminates the need for lens edges to have fixing bars. As a result, more space is made free for centering work. A two-pin lens holder is also available for use with this stage.

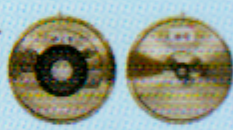


### Holders for the Motorized Stages

Suitable for different lens sizes



Resin Holders



Two-pin Holders

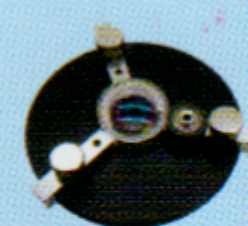


Holder with a Bearing  
(Special Order Product)



### Three-jaw Lens Rotating Stages

Most suitable for measuring centering errors for large lenses



Standard Chuck

Accommodates lens diameters of up to 76 mm.



Large-sized Chuck

Accommodates lens diameters of up to 150 mm.

## Optional Accessories

Useful options to allow ease of work

### System Layout Base Plate

The main device, pump, and controller are arranged in a space-saving compact configuration. This makes it easy to move the system to a different location.



### Calibration Tool

Required for device calibration. Comes with a calibration certificate.



### Customized Keyboard

A simplified keyboard that only has the keys that are needed to



### Fiber Holder

Holder for attaching UV fibers to the left and right sides of the head.



### Data Search Software

Uses the date, operator name, or lens name to search measurement data and





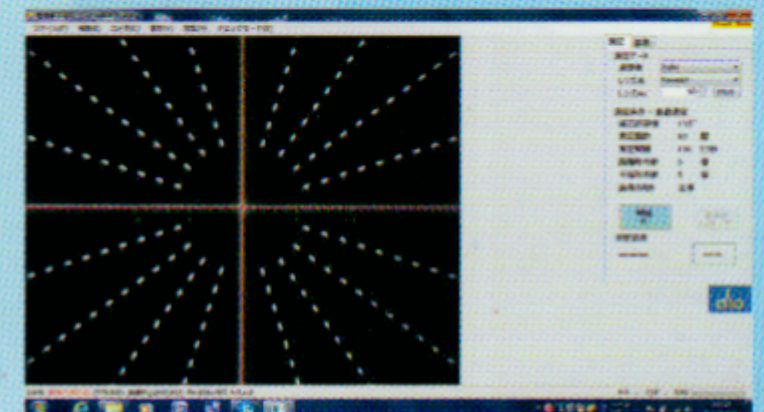
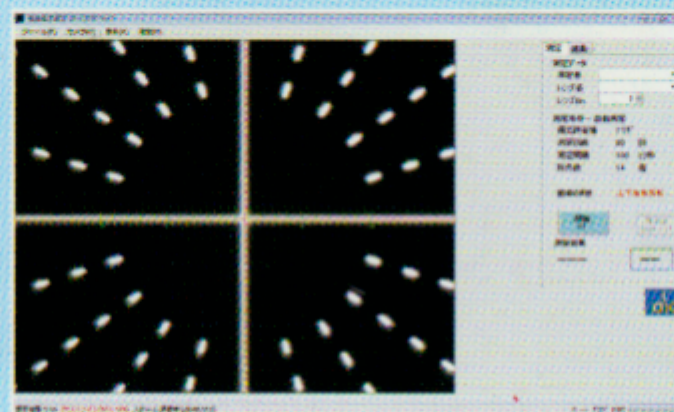
An easy way to measure micro lenses

# CS-A1100S

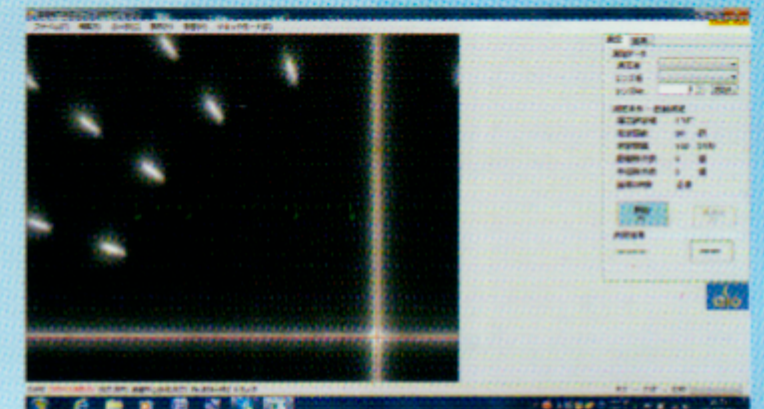
## Wide-field Optical System

- Provides a very easy way to align the micro lens for focusing.
- Extends the measuring range for deflection angle prisms.  
(Capable of measuring deflection angles of up to 1 degree of transmitted light.)
- Offers the same measurement accuracy as the CS-A1100.

Comparison of Standard Images  
(without Samples)



Comparison of  $\phi 3$  mm Lenses  
(Compensation Lens Installed)



## Specifications

Type	Translucent eccentricity measuring system CS-A1100/CS-A1100S
Use	Eccentricity measurement (centering accuracy measurement), Centering (lens cementing)
Measurable lenses	Convex lens, Concave lens, Cemented lens, Assemblage lenses
Measurement range	Effective diameter of the lens: 3 mm or more, Back focus: $\pm 3$ mm - $\infty$ *
USB camera	Black and white 1/2 inch USB camera
Power supply	AC adapter. Input: 100 - 240 VAC, 50/60 Hz, Output: 12 VDC, 1.5 A
Dimensions	333 (H) $\times$ 255 (D) $\times$ 155 (W) mm (main device)
Weight	4 kg (main device)
Standard system	Main device, Dedicated analysis software (ASOPT1 Ver. 2), AC adapter, Lens holder (for $\phi 15$ mm sample lenses), Dust cover, Compensation lens
Optional accessories	Standard 3-jaw stage ( $\phi 15$ - $\phi 76$ mm), Large-sized 3-jaw stage, Motorized lens rotating stages (RS-8, RS-12), Customized keyboard, UV fiber holder

\* To measure a concave lens with a back focal length of 15 mm or less, use the compensation lens that comes with the measuring system. The specifications above are subject to change without prior notice.

Sales distributor