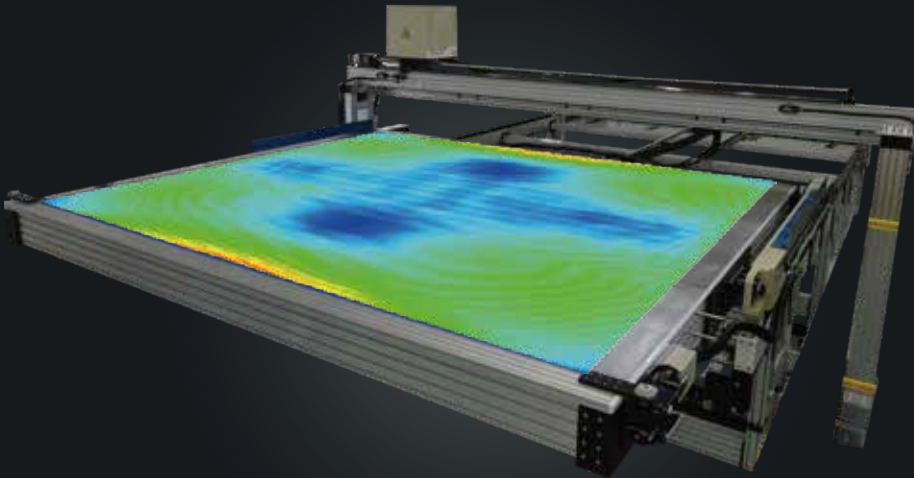


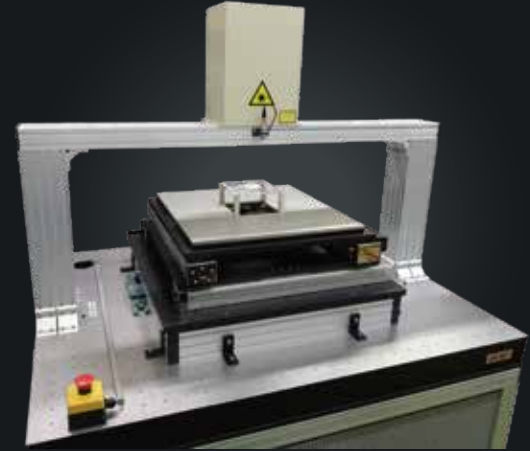
# Birefringence Measurement Equipment

## ABR-100 Series

For internal stress measurement of display glass and optical materials



Display glass measurement image (3.4 x 3.4 m)  
Color map of birefringence phase difference



Glass measurement system for  
photomask substrates

## High-precision measurement of birefringence and principal axis orientation at the same time

The ABR-100 is a birefringence measurement equipment that combines a high-frequency heterodyne light source and a high-speed, high-precision digital phase meter.

It is widely used for R&D of optical materials and quality control in manufacturing processes.

Light source : He-Ne Zeeman Laser (633 nm)

Items	Retardation	Azimuth
Range	0 ~ 260 nm	± 90 deg.
Accuracy*	± 0.01 nm	-
	± 0.01 nm	± 0.2 deg.
Time	<b>0.1 sec./point</b> Retardaton and Azimuth	

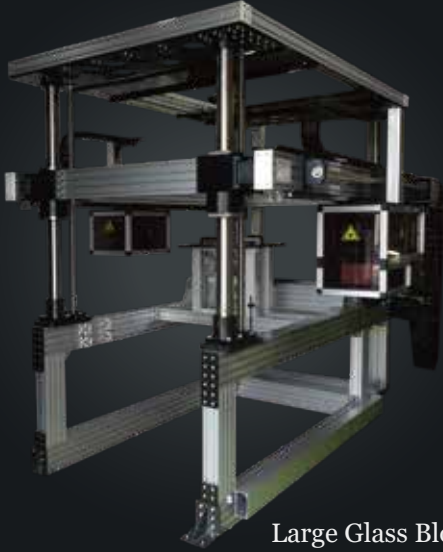
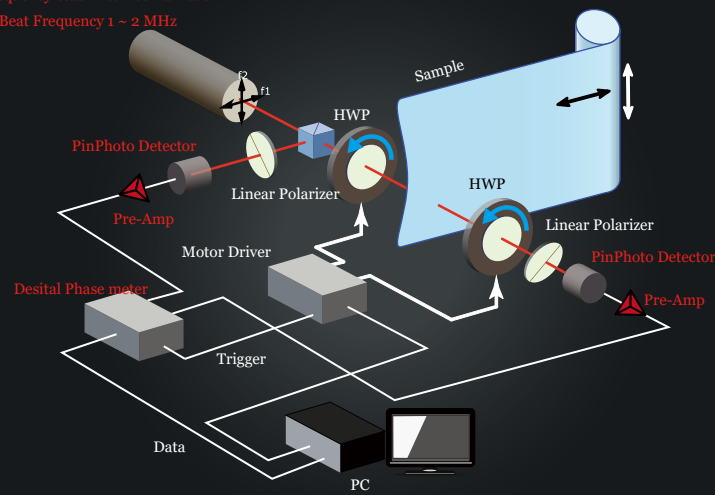
\* Upper column : measurement results for the air layer ( $R_e = 0$  nm)

Lower column : measurement results with 1/20 wave plate ( $R_e \approx 30$  nm made of quartz crystal) ( $\sigma$ )

# High accuracy and High stability

The ABR-100 uses optical heterodyne interferometry and Fourier analysis to provide high-resolution, high-precision measurements that are not affected by external disturbances.

Frequency-stabilized Zeeman laser  
Beat Frequency 1 ~ 2 MHz



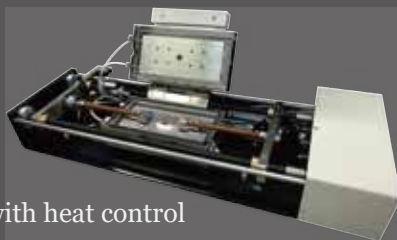
Large Glass Block Measuring Equipment

## Customize

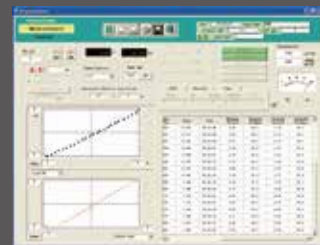
We customize stage size, stage configuration, and spatial resolution to suit the customer's samples.

## Applications

- Display glass inspection
  - Various sizes of sample stages are available according to the sample size.
  - Maximum size: 3700 x 3400 mm (actual)
- Large glass blocks
- Optical elements and lenses
- polymer materials
- Photoelastic constant measurement
  - Measure material-specific optical parameters by adding external stress and temperature.
  - Compatible with both disk compression and film tension.



Stretching machine with heat control



Example results

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