

# Strainoptics

WORLD LEADER IN NON-DESTRUCTIVE OPTICAL STRESS INSPECTION & MEASUREMENT

Bulletin E671-4022

## PS-100-E671 Polarimeter

### FOR MEASURING RESIDUAL STRESS IN ANNEALED LABORATORY APPARATUS IN ACCORDANCE WITH ASTM E671



Strainoptics' PS-100-E671 is the Polarimeter System specially designed to measure residual stress in glass laboratory equipment and ensure it is in accordance with ASTM E671 *Standard Specification for Maximum Permissible Thermal Residual Stress in Annealed Glass Laboratory Apparatus*. The PS-100-E671 is a modular system that is sold with a full wave tint plate, a monofilter, and a calibration gauge. Other accessories can be added to customize your system for your specific requirements. If you are measuring your laboratory glass apparatus in accordance with ASTM E671, this Strainoptics polarimeter system is a must.

### Customize your PS-100-E671 System

#### Immersion Cell and Index Matching Fluid

Immersion cells reduce the lensing effect of objects with curved surfaces or other odd geometries. Immerse your sample in index matching fluid in the immersion cell, which is an anodized aluminum container with a transparent, stress-free bottom for viewing your sample in the polarimeter. The standard size is 4" x 8" x 2", but custom sizes are available. Index matching fluid is available for both borosilicate glass (1.50 refractive index) and for soda lime glass (1.54 refractive index), but fluids with non-standard refractive indices may be available upon request.

#### DIGIVIDEO

The Digivideo is a digital camera that mounts on the PS-100-E671 and features a USB connection, a 10:1 zoom lens, and imaging software for Windows. This gives you magnification, the ability to see retardation in your samples on a computer screen, and the ability to take photographs.

#### Sample Tilting Stage

Is the retardation in your samples variably distributed? If so, you may be using the procedure illustrated in ASTM E671 Figure 1, and you may find this tilting stage useful. It holds your sample at an angle of your choosing and displays the angle value for input into your stress calculation.



### What's in the box?

A PS-100-BS polarimeter complete with:

- An **A-100** Senarmont dual-gauge rotation precision analyzer, calibrated in degrees for temper number
- A **PI-200** plane polarizing illuminator with 7.8" x 7.8" (200 x 200 mm) viewing area and LED lights
- An **SWF-100-LP** standard wavelength filter (monofilter), which is mounted to the polarimeter and rotates in and out of view
- An **RPLP-100** full wave tint plate, which is mounted to the polarimeter and rotates in and out of view
- A **CALGAGE-ST** standard polarimeter calibration gauge (per ASTM C1426)
- A **heavy-duty case** with high density foam for transportation and storage
- **Calibration certificates** for both the polarimeter and the CALGAGE
- A **one-year warranty**.