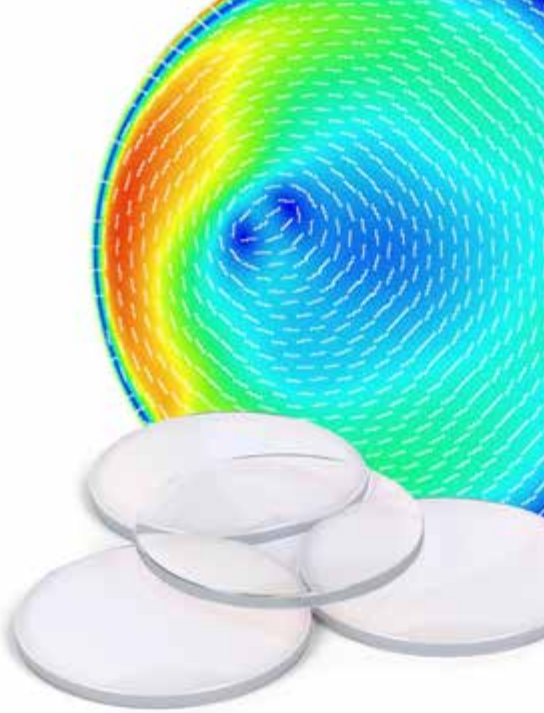
StrainScope

Optics Tester



Real-time polarimeter for fast and precise measurement of the stress birefringence in optical materials and components

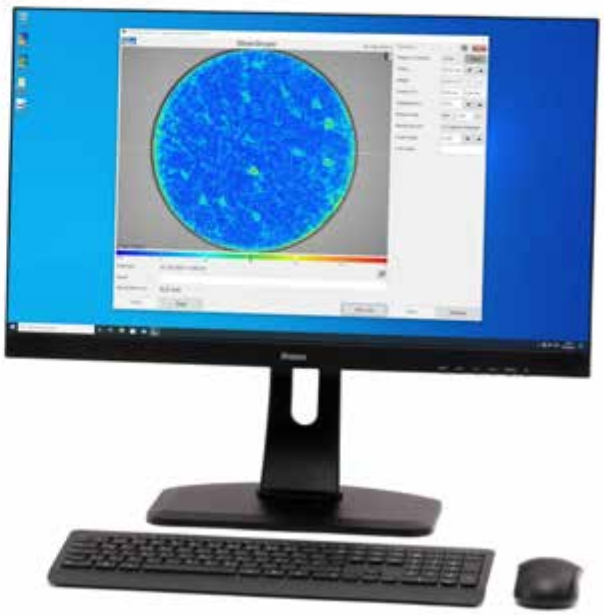
Internal stresses affect the mechanical and optical properties of products made of glass and plastics, both in the manufacturing process as well as in the further processing.

With the StrainScope® Optics Tester you can measure residual stresses with high spatial resolution precisely and reproducibly – in real time and including orientation (azimuth angles). The telecentric optics enable the measurement of thick materials without parallax errors and the measurement of residual stresses in materials with intrinsic birefringence.

The convenient archive function ensures that all measurement results are fully documented.

Features and Benefits

- ✓ Fast and easy operation
- ✓ Objective, reproducible and precise measurement results
- ✓ Flexible for different measuring tasks
- ✓ Complete traceability through automatic result documentation



StrainScope®
Optics Tester

Technical Data

Operation	external Windows PC with 27“ monitor, keyboard/mouse
Illumination	LED array (diffuse), circularly polarized
Image acquisition	matrix camera with telecentric lens
Image resolution	1200 x 1000 pixels (max. 2400 x 2000 pixels)
Measuring field size	approx. 89 x 74 mm
Lateral resolution	approx. 0.074 mm (or 0.037 mm)
Measuring results	polarization angle (°) optical retardation (nm) normalized retardation (nm/cm, nm/mm, nm/in) integrated stress (MPa, psi)
Measuring range	approx. 0 to 120 nm optical retardation
Measuring resolution	approx. 1 nm optical retardation, approx. 1° azimuth angle
Measuring frequency	up to 20 Hz (depending on PC performance)
Interfaces	USB 3.0
Power supply	100–240 V (AC), 50/60 Hz, 100 VA (max. 1.1 A)
Operating conditions	15-30 °C, 30-70 % relative humidity, non-condensing
Dimensions	approx. 800 mm (H) x 350 mm (W) x 370 mm (D), excl. PC
Weight	approx. 28.2 kg (excl. PC)

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