

OPTICAL THICKNESS GAUGE

157 Series



Determine the exact thickness of your transparent and semi-transparent materials

Bristol Instruments offers a family of thickness gauge systems that employ proven optical technology to provide the most precise and reliable non-contact thickness measurement available. These systems measure:

- Hard and soft materials without damage or deformation
- Materials as thin as 12 μm and as thick as 80 mm
- Up to 31 layers simultaneously, including air gaps

Thickness measurements are made with an unprecedented level of accuracy, versatility, and convenience. What's more, these systems measure thickness in real time, making them ideal for integration into a production process to improve quality, increase yields, and reduce costs.

Popular applications

- Optical Components and Lens Assemblies
- Contact and Intraocular Lenses
- Electronic Displays
- AR/VR/MR Optical Components
- Glass Slimming
- Medical Tubing and Catheters

Features and Benefits

- Reliable accuracy for greater confidence in your test results
- Straightforward, user-friendly operation for greater productivity
- Easily integrated into your manufacturing process
- Rugged design for production environments
- Configurations available to allow up to eight test stations with a single instrument.
- Standard 3-year warranty minimizes the cost of ownership



CONTACT US TO SCHEDULE A FREE ANALYSIS OF YOUR PART.

Send us your part and we will provide a live video demonstration of our measurement capabilities.

SPECIFICATIONS

157 Series

MODEL	157	157LS	157XLS
THICKNESS MEASUREMENT			
Accuracy ¹	± 0.1 µm		
Maximum Thickness ²	12 mm	40 mm	80 mm
Minimum Thickness ^{2,3}	16 µm	20 µm	24 µm
	12 µm (± 1.0 µm accuracy)	12 µm (± 1.0 µm accuracy)	16 µm (± 1.0 µm accuracy)
Repeatability ^{4,5}	0.02 µm		
Traceability	Accuracy verified with NIST certified gauge blocks		
Units	mm, µm, mils		
MEASUREMENT RATE	10 Hz	7 Hz	4 Hz
INSTRUMENT INTERFACE OPTIONS	USB and Ethernet with Windows-based display program Ethernet can be used for network connection allowing instrument access to up to 8 clients Library of commands for LabVIEW and custom programming		
MINIMUM COMPUTER REQUIREMENTS ⁶	PC running Windows 10, 1 GB available RAM, USB 2.0 (or later) port, monitor, pointing device		
DIMENSIONS AND WEIGHT			
Dimensions (H x W x D)	3.5" x 17.0" x 15.0" (89 mm x 432 mm x 381 mm)		
Weight	17 lbs (7.65 kg)		
POWER REQUIREMENTS	90 - 264 VAC, 47 - 63 Hz, 80 VA max		
WARRANTY	3 Years (parts and labor)		

- (1) Defined as measurement uncertainty, or maximum thickness error, with a confidence level of ≥ 99.7%.
- (2) Dependent on material under test.
- (3) Measurements can be made down to 12 µm (157, 157LS) and 16 µm (157XLS), but with lower accuracy.
- (4) Standard deviation for a 60 minute measurement period.
- (5) Dependent on the reflectivity of the material under test at the probe wavelength of 1.3 µm.
- (6) Required for initial optical probe alignment and use with the Windows-based display program.
Not required for measurement.



Bristol Instruments reserves the right to change the specifications as may be required to permit improvements in the design of its products. Specifications are subject to change without notice.