ContourX-200 3D Optical Profilometer

● Flexible Benchtop for Surface Texture Metrology

The ContourX-200 Optical Profilometer provides the perfect blend of advanced characterization, customizable options, and ease of use for best-in-class fast, accurate, and repeatable non-contact 3D surface metrology. The gage-capable, small footprint system offers uncompromised 2D/3D high-resolution measurement capabilities using a larger FOV 5 MP digital camera and new motorized XY stage. ContourX-200 also comes complete with Vision64®, the industry's most advanced operation and analysis software. New VisionXpress™ provides an even easier to use interface and streamlined capabilities with access to an extensive library of pre-programmed filters and analyses for precision machined surfaces, thick films, semiconductor, ophthalmic, medical device, MEMS and tribology applications. Boasting unmatched Z-axis resolution and accuracy, the ContourX-200 provides all the industry recognized advantages of Bruker's proprietary white light interferometry (WLI) technology without the limitations of conventional confocal microscopes and competing standard optical profilers.

Highest Performance Areal Metrology

■ Best Z resolution independent of magnification

■ Largest standard field of view

■ High-stability, vibration-tolerant compact design

Powerful Measurement and Analysis

■ Easy-to-use interface for quick and accurate results

■ Automation capabilities to set up routines for measurement and analysis

■ Extensive library of filters and analysis options for roughness, surface texture, and critical dimension

■ Customized analysis reporting to industry standards, such as ISO 25178, ASME B46.1, ISO 4287

Optical Metrology

Innovation with Integrity

Uncompromised, Best-in-Class Metrology

Built upon over four decades of proprietary WLI innovation, the ContourX-200 optical profilometer exhibits the low noise, high-speed, accuracy, and precision results that quantitative metrology requires. With the use of multiple objectives and integrated feature recognition, features can be tracked over a variety of fields of view and at sub-nanometer vertical resolution, providing scale-independent results for quality control and process monitoring applications in very diverse industries. ContourX-200 is robust in all surface situations from 0.05% to 100% reflectivity.

Widest Application Analysis Capabilities

Utilizing powerful VisionXpress and Vision64 user interfaces, the ContourX-200 offers thousands of customized analyses for productivity in labs and on the factory floors. The larger FOV provided by the system's new camera and flexibility afforded by the new motorized XY stage enables more flexibility and higher throughput for a broad range of samples and parts. The hardware and software combine to provide streamlined access to top optical performance, completely outclassing comparable metrology capabilities.
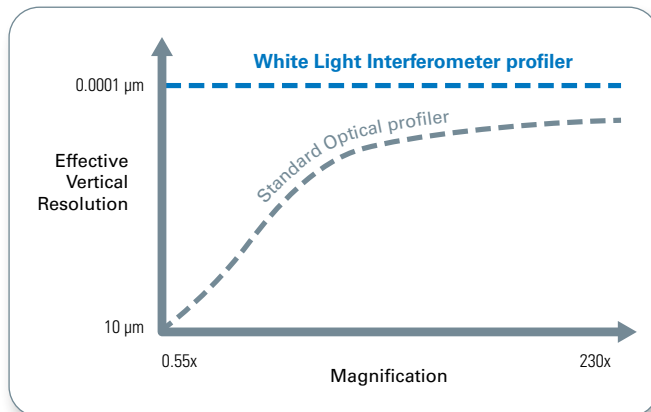
WLI offers constant and ultimate vertical resolution for all objectives.
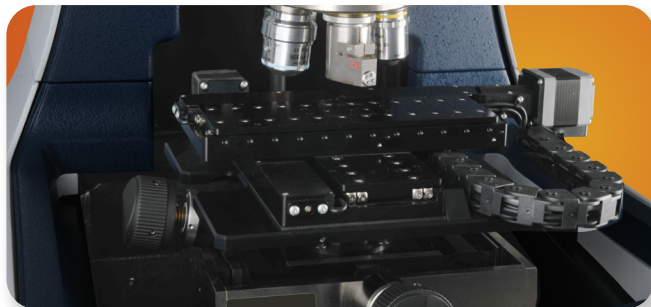
ContourX-200 motorized stage.

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ContourX-200 Specifications

Max. Scan Range	≤10 mm
Vertical Resolution[1]	<0.01 nm
Lateral Resolution	0.38 µm min (Sparrow criterion); 0.13 µm (with AcuityXR®)
Step Height Accuracy[2]	<0.75%
Step Height Repeatability	<0.1% 1 sigma repeatability
Max Scan	37 µm/sec (with standard camera)
Reflectivity Range	0.05% to 100%
Max. Sample Slope	≤40° (shiny surfaces); ≤87° (rough surfaces)
Sample Height	≤100 mm (4 in.)
XY Sample Stage	150 mm (6 in.) automation stage
Z Focusing	Automated
Tip/Tilt Function	±6° available on stage
Optical Metrology Module	Patented dual-color LED illumination; Single-objective adapter; Optional automated or manual turret; Optional motorized or manual discrete modules
Objectives	Parfocal: 2.5X, 5X, 10X, 20X, 50X, 115X; LWD: 1X, 1.5X, 2X, 5X,10X; TTM: 2X, 5X, 10X, 20X; Bright Field: 2.5X, w5X, 10X, 50X
Available Zoom Lenses	0.55, 0.75X, 1X 1.5X, 2X
Camera	Monochrome (standard) or color (optional); 5 MP with 1200x1000 data array
Software System	Vision64 and VisionXpress Analysis Software on Windows 10 OS; 64-bit
Software Packages	USI; Advanced PSI; Production Mode; VisionMAP; AcuityXR®; Optical Analysis; SureVision; Film; MatLab; SDK, TCP/IP
Automation	Advanced automated stitching, scatter, and grid automation standard auto focus; auto intensity; auto-saving; on-fly analysis; and recording into database
Calibration	Via NIST/PTB traceable step height and lateral ruler standards
System Footprint	480 mm (W) x 604 mm (D) x 754 mm (H)
Weight	67 kg
Warranty	12 months

[1] As demonstrated by taking the one sigma Sq value of 30 PSI repeatability measurements on an SIC reference mirror.
[2] Absolute accuracy for step heights 8 µm and higher.