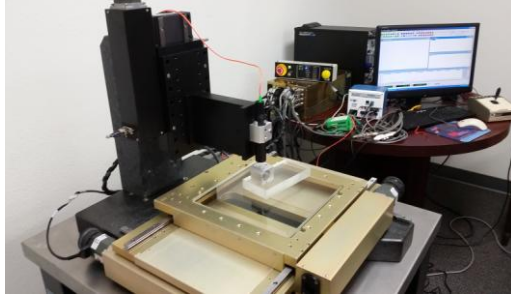


3-Axis Confocal Metrology Station

COMPREHENSIVE
INSPECTION SOLUTIONS



The Confocal 3-Axis Metrology System raster scans using a 3-axis motorized platform, built on a low-vibration granite base for optimal Confocal point sensor resolution and high quality 2D & 3D data visualizations for measurement & inspection applications.

SYSTEM BENEFITS

- Non-contact
- Transportable desktop form factor
- Single micron accuracy & resolution
- Measures transparent, translucent & opaque materials
- Wide measuring range, no shadowing
- Works in varying ambient lighting conditions
- Sloping surfaces OK (orthogonal flatness correction)
- Detects complex surfaces, i.e., cavities, slopes holes.

SYSTEM CUSTOMIZATION

Symation specializes in providing complete system solutions: sensors, software, stages, fixtures, testing and integration. Configuration to specific inline and offline requirements include the following customizations:

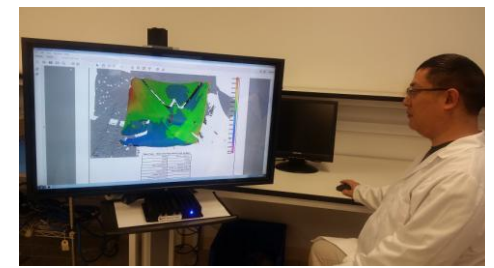
- Accuracy
- Number of axes
- Sensor selection
- Mechanical Fixturing
- Data collection & software analysis tools
- User interface development
- Motion control algorithm design
- Robot integration
- Product data tracking and analysis
- Windows CE, Windows Visual Studio, C++, SQL

SYMATION ADVANTAGE

- 20+ years' experience
- Design for industrial reliability
- Long-term customer support
- Diverse application history

SYSTEM PROFILE

- High Resolution Surface Inspection
- Data for 3D Analysis
- Defect Visualization
- Dimensional Measurement



CONFOCAL APPLICATIONS

- Production & Lab Environments
- Defect Inspection Workcells
- Measurement Stations
- Integrated Inline
- Coating Uniformity Process Control
- Production Tool Verification
- Robotic Arm Integration
- Conveyance

SURFACE CHARACTERIZATION

- Shape & Profile Scans
- Roughness, Finish, Texture
- Flatness, Warpage, Planarity
- Step-height, Thickness

Industries

- Coating and Finishing
- Mirror Fabrication
- Glass Production
- Semiconductor
- Electronics
- Biomedical
- Research Labs
- Lighting/LED's
- Solar
- Aerospace
- Automotive



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3-Axis Confocal System Specification

Sensor: Confocal Pen	
Confocal White Light Displacement Pen	Multiple heads available CL1-CL6
Working Distance (mm)	1.8
Measuring Range (mm)	1-24
Range Beginning (mm)	3-22
Measurement Resolution (nm)	8-780
Linearity (um)	Maximum linearity error: 0.028
Max Target Tilt Angle (deg)	30
Spot Diameter (um)	1.9-28
Lateral Resolution (um)	0.9-14
Min Measurable Thickness (um)	7.5
System: 3-Axis Scanner	
X & Y Travel (mm)	200
Z Travel (mm)	150
Max Speed (mm/sec)	5 (dependant on sensor, controller, material, etc.)
Measuring Frequency (Hz)	100-5000
Measuring Modes	Distance, Thickness, Surface Inspection, Defect Visualization, Dimensional Measurement, 3D Data Analysis
Linear Encoder Resolution (um)	0.1
3D Visualization Software	MountainsMap®. Data post-processing analysis calculations include: contour plots, 3D views, profile extractions
System Size: 24in x 24in x 30in (LxWxH) Pen Dimensions: 200 x 27mm	