Opto Alignment

QuickPRO-3D™

Bench-Top, High-Speed, High-Accuracy, Non-Contact 3D Surface Profiler

- Compact, bench-top unit with environmental enclosure
- Non-contact chromatic confocal sensor (Point or Line Scan)
- 3D surface topography and transparent film thickness
- Integrated CMOS camera with co-axial or ring illumination
- Nanometer encoded X/Y/Z motion with magnetic linear motors and cross roller bearings

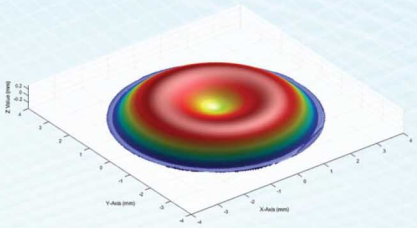
- Available vacuum chucks for sample and tray holding
- User-friendly CalcuSurf3D™ recipe generation, data acquisition, and surface analysis software permits optimized measurement sampling density for best coverage at highest throughput
- Extensive 3D surface plotting and data reporting functions conforming to DIN ISO

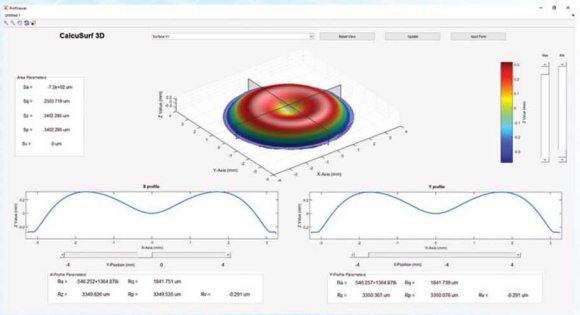
Designed and Built in the USA

The QuickPRO-3D™ is a compact (Bench-Top) non-contact metrology system designed from the ground-up for high-accuracy at high-speed for the most demanding measurements of surface topography and film thickness. The core measurement technology is based on high--bandwidth chromatic confocal white light sensing with motion provided by high-force linear motors and nanometer precision optical encoders. A solid granite platform with integrated temperature sensing provides the requisite structural and thermal stability needed to achieve the guaranteed 150 nm Z-axis measurement accuracy and sub-micron X/Y-axis positional accuracy.

APPLICATIONS:

- Lenses (single & trays)
- Diamond-turned parts & molds
- MEMS
- Semiconductor
- Advanced Packaging
- 3D Printed Products
- Micro-fluidic cells
- LED & OLED
- Transparent films





SYSTEM			
Dimensions (L x W x H)	535 x 380 x 510 [mm]		
Weight	Approx. 60 kg		
System Controller	Includes motion control, sensor control, power supplies, ethernet interface to PC		
Power Requirements	110-220V AC, 50-60 Hz, 1 phase, 2 amps (220V), 5 amps (110V)		
MOTION			
Stage Travel (X x Y x Z)	100 mm x 100 mm x 50 mm		
Encoder Resolution (X x Y x Z)	20 nm x 20 nm x 1 nm		
Drive Type	Magnetic linear motor		
Bearing type	Cross Roller Bearing		
Flatness	Approx. 1 µm/100 mm		
Load Capacity	5 kg		
SENSOR			
Technique	Chromatic Confocal (Point & Line Scan)		
Applications	Distance, Thickness		
Sampling	Point: 4,000 points/sec, Line Scan: 384,000 points/sec		
Available Probes	0.2 mm	1 mm	4 mm
Lateral Resolution	1.7 µm	2.5 µm	4 µm
Working Distance	5 mm	16 mm	37 mm
Vertical Resolution	8 nm	40 nm	160 nm
Vertical Accuracy	150 nm	400 nm	1.6 µm
Maximum Slope	± 45°	±28°	±20°
Thickness Measuring Range*	up to 0.3 mm	up to 1.5 mm	up to 6 mm

*refractive index n=1.5

Opto Alignment
www.optoalignment.com
sales@optoalignment.com
1034-A Van Buren Ave.
Indian Trail, NC 28079-5541
T: 704-893-0399
F: 704-893-0403