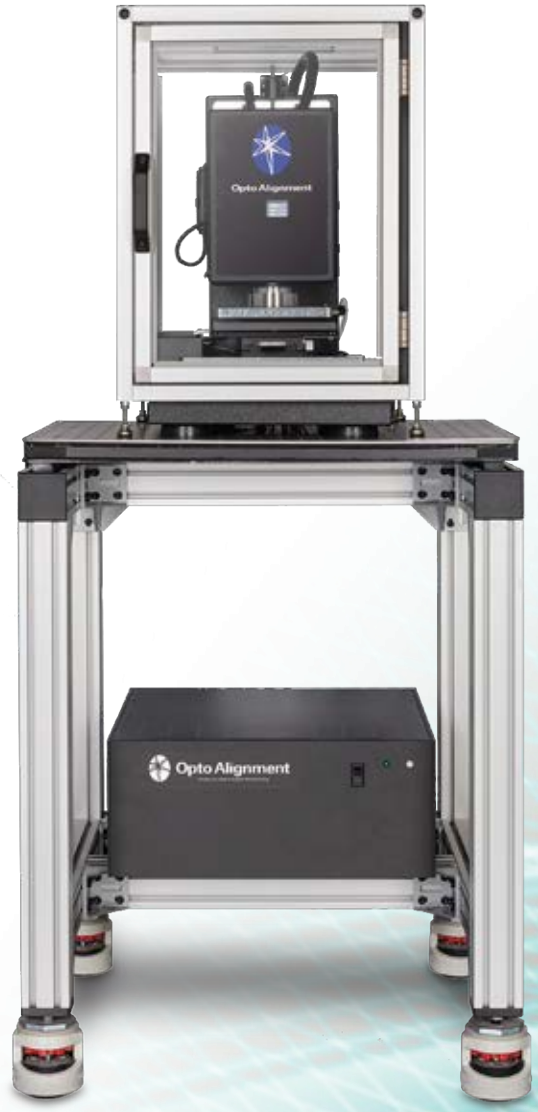
Opto Alignment

Aspheric and Freeform Surfaces

QuickPRO-3D™

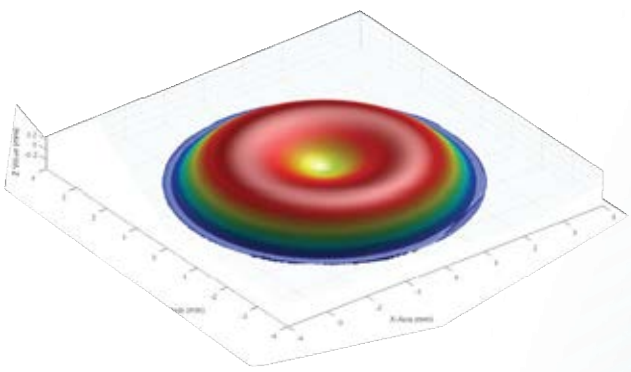
Bench-Top, High-Speed, High-Accuracy, Non-Contact 3D Surface Profiler

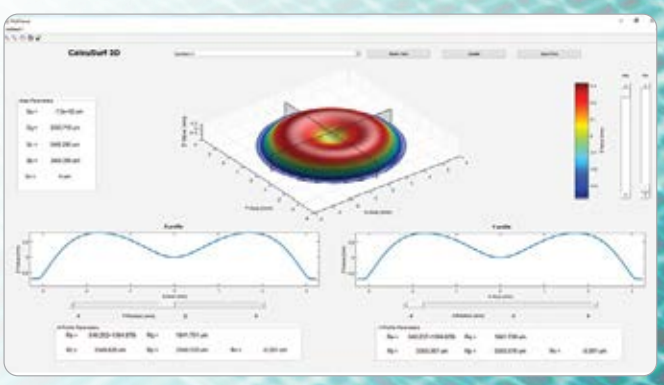
The QuickPRO-3D™ is a compact (Bench-Top) non-contact metrology system designed from the ground-up for high-accuracy at high-speed for the most demanding measurements of surface topography and film thickness. The core measurement technology is based on high-bandwidth chromatic confocal white light sensing 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 150nm Z-axis measurement accuracy and sub-micron X/Y-axis positional accuracy.



Features

- Compact, bench-top unit with environmental enclosure
- Non-contact chromatic confocal sensor
- 3D surface topography and transparent film thickness
- 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
- Available custom automation





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Applications

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

SYSTEM			
Dimensions (L: W: H)	535mm x 380mm x 510mm		
Weight Approx.	60kg		
System Controller	Motion and sensor control; high-speed data link		
Power Requirements	110-220V AC, 50·60 Hz, 2 amps (220V), 5 amps (110V)		
MOTION			
Measurement Area (X : Y : Z)	100mm x 100mm x 50mm		
Position Accuracy	< 1µm		
Drive Type	Linear servo motor w/magnetic counterbalance (Z)		
Stage Speed	100mm/s		
Scan Type/Path	Spiral, Raster, User-Defined		
Load Capacity	5kg		
SENSORS			
Technique	Chromatic Confocal Point Sensor		
Applications	Profile and Thickness		
Sampling	Up to 66kHz		
Available Probes*	0.5mm (HS)	1.0mm	3.0mm
Lateral Resolution	5µm	2µm	6µm
Working Distance	11mm	19mm	23mm
Axial Resolution	20nm	4nm	8nm
Maximum Slope	> ±45°	±45°	±30°
Thickness Range (n=1.5)	30µm - 750µm	45µm - 1500µm	180µm - 4500µm
Thickness Measuring Range*	up to 0.3mm	up to 1.5mm	up to 6mm
MEASUREMENTS			
Axial Measurement Accuracy	≤ 150nm		
Thickness Accuracy (TTV)	≤ 0.002mm	Depends on refractive index	

**Additional probes available upon request*

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ISO 9001:2008