

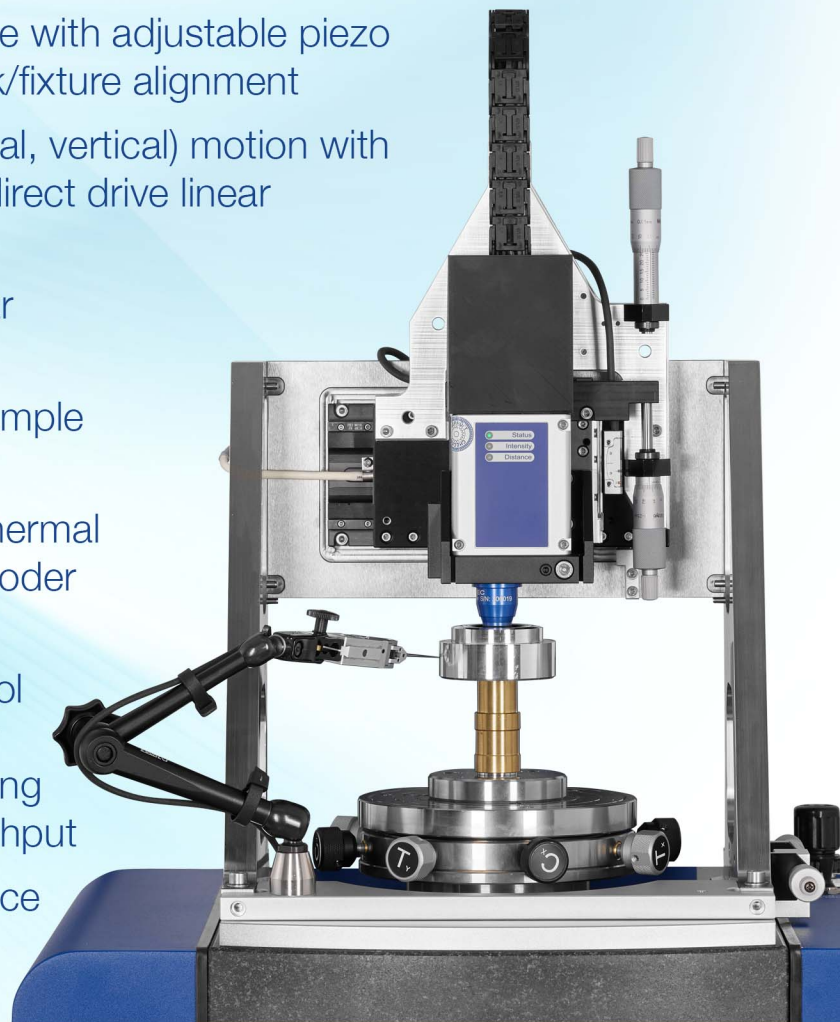


# Opto Alignment

## **QuickPro-RPS™**

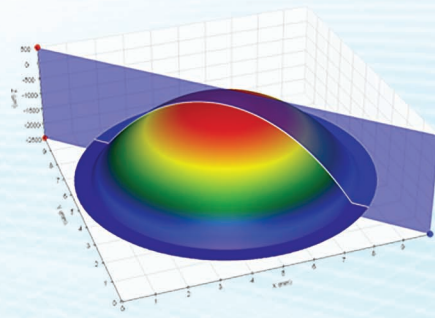
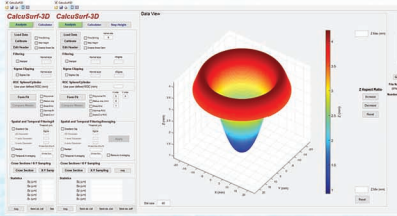
### **High-Speed, High-Accuracy, Non-Contact 3D Rotary Profiler Station (RPS)**

- Designed specifically for measuring the surface topography and transparent film thickness of rotationally symmetric samples such as diamond-tuned optical surfaces and molded or polished aspheric lenses.
- Two size options: RPS-150 for  $\Phi \leq 150$  mm samples and RPS-300 for  $\Phi \leq 300$  mm samples
- Non-contact, high-resolution, high-speed chromatic confocal point sensor with three available probe resolutions
- Integrated high-precision centration/tilt table with adjustable piezo lever probe for fast and easy sample/chuck/fixture alignment
- Nanometer encoded C/R/Z (rotational, radial, vertical) motion with direct drive rotary air bearing (C-axis) and direct drive linear mechanical bearing (R- & Z-axis)
- Granite base with dimensionally stable Invar metrology frame
- Available vacuum bell chucks for secure sample holding
- Nanometer precision motion control with thermal compensation and error mapped Invar encoder gating scales
- User-friendly QuickPRO™ instrument control and data acquisition software permits easy set-up and optimized measurement sampling density for best coverage at highest throughput
- Powerful CalcuSurf-3D™ software for surface plotting, form fitting and data reporting



Designed and Built in the USA





SYSTEM	RPS-150	RPS-300
Dimensions (L : W : H)	500 mm : 600 mm : 700 mm	850 mm : 750 mm : 1450 mm
Weight	Approx. 60 kg	Approx. 350 kg
System Controller	Includes 3-axis 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)	
Compressed Air Requirements	114 liters/minute (2 CFM) @ 550 kPa (80 PSI)	

MOTION	RPS-150	RPS-300
Stage Travel (C : R : Z)	360°: 75 mm : 50 mm	360°: 150 mm : 50 mm
Encoder Resolution (C : R : Z)	20 nm : 20 nm : 5 nm	20 nm : 20 nm : 5 nm
Load Capacity	50 kg	200 kg
Drive Type	C: 3-phase ironless rotary, R & Z: 3-phase ironless linear	
Bearing Type	C: air bearing, R & Z: cross-roller bearing	
C-axis Eccentricity/Wobble	Radial/Axial: 50 nm, Angular (Coning): 0.206 arc sec	
R- & Z-axis Flatness/Straightness	Approx. 1 μm / 100 mm	

SENSOR			
Technique	Single Point Chromatic Confocal		
Applications	Surface Distance & Thickness		
Sampling	4000 points/sec		
Available Probes	0.5 mm	1 mm	4 mm
Measuring Range	0.5 mm	1 mm	4 mm
Lateral Resolution	2 μm	2.5 μm	4 μm
Working Distance	11 mm	16 mm	37 mm
Axial Resolution	10 nm	40 nm	160 nm
Axial Linearity	150 nm	400 nm	1.6 μm
Maximum Slope	± 50°	± 30°	± 15°
Thickness Measuring Range	≤ 0.75 mm	≤ 1.5 mm	≤ 6 mm