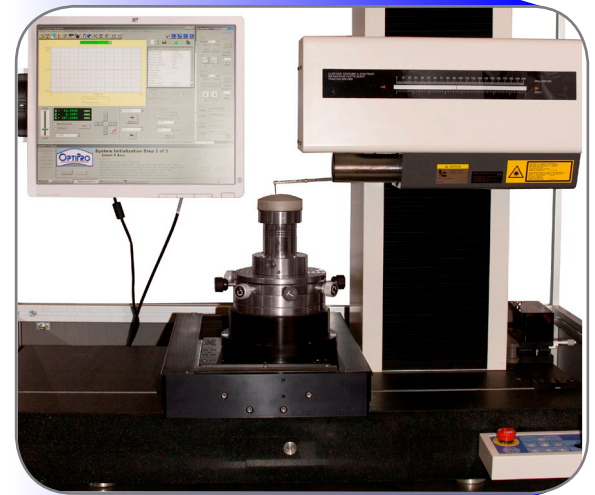


# OPTIPRO

## OptiTrace 5000 Asphere Measurement System



### OptiTrace 5000 Asphere Measurement System

A unique solution for the measurement of aspheres, cylinders and freeform precision optics. The integration of OptiPro's custom asphere analysis package, ergonomic environmental enclosure and the Y-Theta air bearing unit with the ZEISS Surfcom 5000 profilometer for 2D and 3D measurement.

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# OptiTrace 5000 Technical Specifications

## Surfcom 5000 Technical Specifications\*

*High precision aspheric contour measurement and surface roughness analysis*

- Large measuring range - up to 32 mm vertical, 200 mm x-axis
- User-friendly and simplified software interface for automated measurement and analysis
- Comprehensive, aspheric analysis software with custom form and filter data entry
- Aspheric toolbox for form analysis with slope error, optimized base radius, and sag table tools

### Horizontal axis (X-Axis)

Traversing length; Measuring range	200 mm
Straightness accuracy	0.05 + 3L/10000 $\mu$ m
Resolution	0.54 nm
Indicated X accuracy	+/- (0.2 $\mu$ m+L/1000 mm)
Tracing speed	Variable from 0.03 mm/s to 60 mm/s
Detection principle	Scale

### Column axis (C-Axis)

Traversing height	500 mm
Drive speed	Variable to 200 mm/s
Detection principle	Scale

### Detector

Detection principle	Dual Beam Laser Interferometer
Resolution	0.31 nm
Measuring range	13 mm, 26 mm, and 32 mm
Indicated Z accuracy	$\pm (0.2 +  H  / 1000) \mu$ m
Measuring force	0.75 mN
Radius of stylus	2 $\mu$ m diamond, 0.5 mm, 1.0 mm ruby
Material of stylus	Diamond (Option: ruby ball)
Tracing arm lift off	Automatic system

### Miscellaneous

Power supply	110, 120 Vac (50-60 Hz)
Power consumption	Approx. 350 VA
Dimensions	2100 mm width, 1500 mm height, 1000 mm depth
Dimensions of base	600 mm width, 320 mm depth
Weight	Approx. 350 kg
Standard accessories	Calibration device, gauge block, tools, diamond & ruby tip styli

### Environment

Temperature	10-30°C
Accuracy guaranteed	20 $\pm$ 2°C (without direct air movement) 0.5°C / 1 hour (maximum rate of change) 0.1°C / operation time

### Humidity

40-80% (without moisture)

## Y-Theta Table Technical Specifications (Optional)

### Theta (Rotary Axis)

- 6" diameter air bearing
- Material: 400C hardened stainless steel
- Radial/Axial accuracy: 0.125  $\mu$ m
- Angular wobble: 0.025  $\mu$ m/25 mm
- Axial load capacity: 35 lbs.
- Air consumption: 1.0 scfm @ 60 psi
- Tilt and center fine adjustment table, 4 knobs each
- Direct drive DC servo motor package
- Graduation accuracy:  $\pm$  2.75 arc sec

### Y-Axis

- Box way linear air bearing, hard-coated aluminum, 200 mm travel
- Straightness: 0.125  $\mu$ m/25 mm
- Air consumption: 1.0 scfm @ 60 psi
- Direct drive DC servo motor package, brushless linear motor
- Scale resolution of 50 nm and a graduation accuracy of 1.5  $\mu$ m
- Laser calibration of linear axis < 1.0  $\mu$ m & straightness of < 1.5  $\mu$ m/200 mm

\*Specifications subject to change. For the latest specifications of the Surfcom 5000, please contact Carl Zeiss IMT Corporation or go to [www.zeiss.com/imt](http://www.zeiss.com/imt).