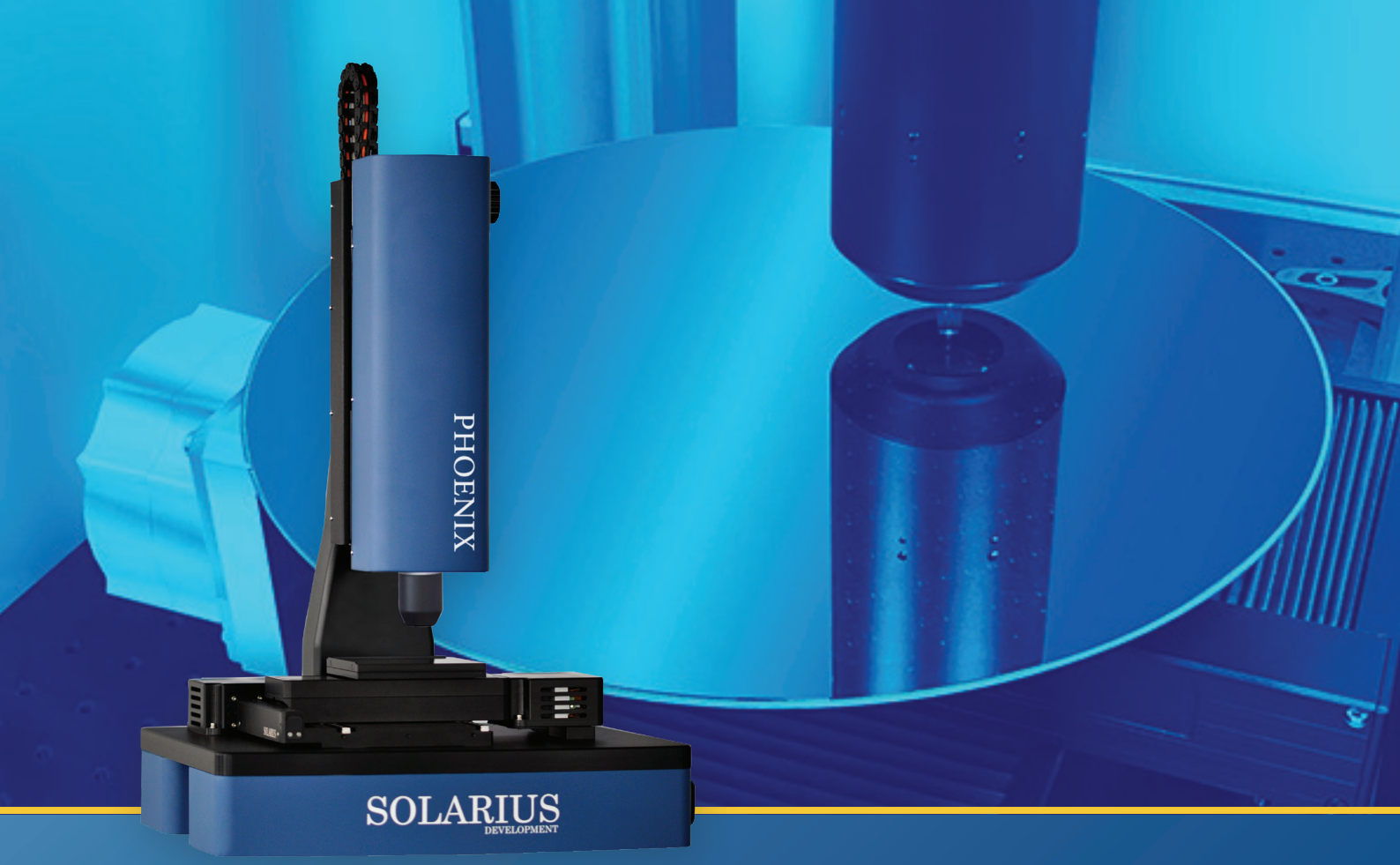


Phoenix

High-end 3D surface metrology

Accuracy and precision down to the nanometer for most demanding measuring tasks on complex surfaces

- **Highest optical and digital resolution**
- **Diffraction limited imaging**
- **Reliable technology**
- **ISO compliant roughness values**
- **Non-contact measurements**
- **Maintenance-free and robust**

SOLARIUS™

Extending the scope of 3D Measurement

Robust, fast, accurate to the nanometer. **The new Phoenix.**

Precise 3D imaging

The new Phoenix Desktop 3D surface measuring system from Solarius enables highly accuracy and precise 3D surface inspection. Phoenix expands the scope of application due to its extensive equipment, which supports in particular simple automation of the measurement tasks.

Reliable technology

Phoenix Desktop 3D system is based on the Chromatic confocal technique dedicated to industrial environment, independent from ambient light Sub-micrometric accuracy & nanometric Axial resolution. In the design and calculation of the optics, great importance was attached to a physically optimal direction limitation of the optics, which allows for accurate, precise and repeatable lateral measurements.

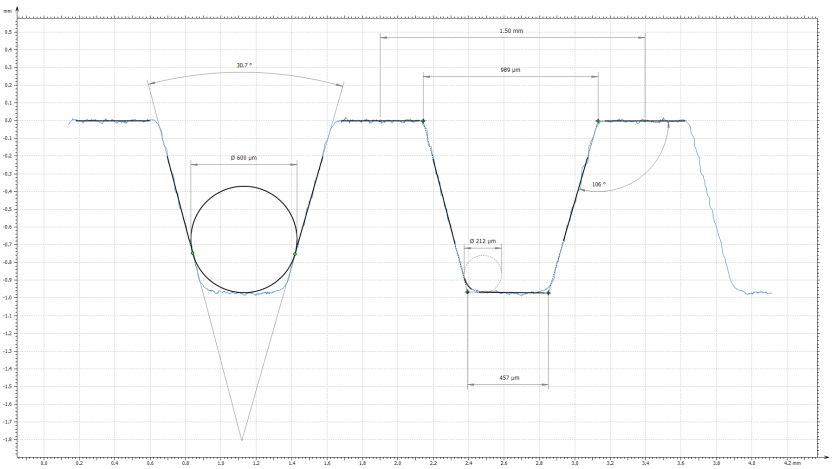
Phoenix features a comfortable and precise automated X/Y positioning unit with 150mm x 150mm travel range and a height measuring range of 100m. The height measuring range can be adjusted up to 150mm in height using an accurate, manual traversing unit.

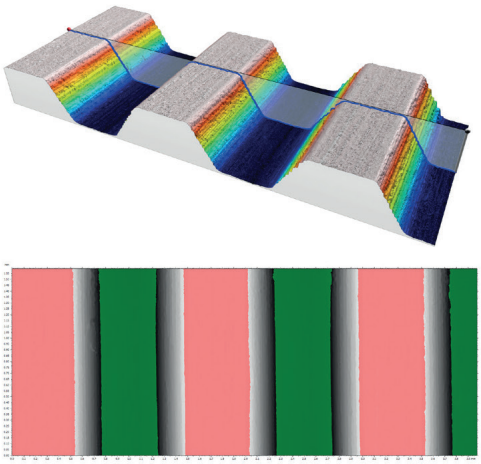
Phoenix has six available sensors types with sensor head 45, 90 or 180 points of measure available which designed to meet the metrology require in mechanics, semiconductors, 3C, Glass, Automotive, Aerospace, Medical.

Typical **Applications**

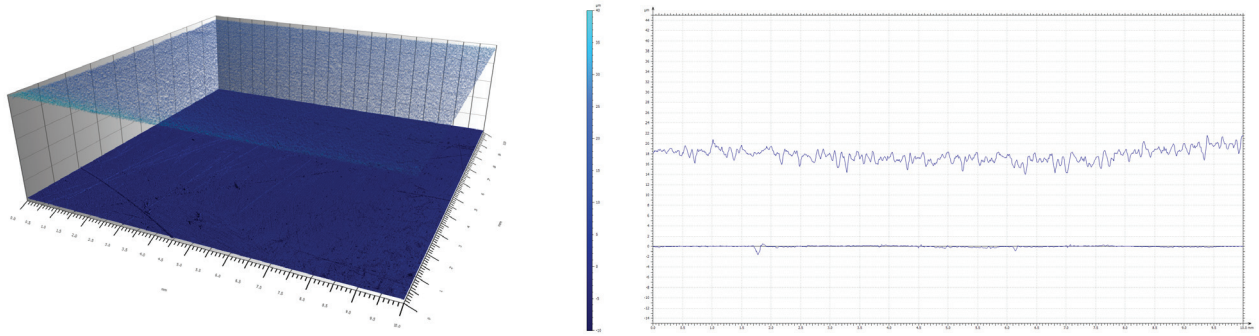
- Surface Cosmetic inspection
- Volume
- Area
- Geometry
- Defect detection/inspection
- Coplanarity
- Wear & Tear

Contour & Area

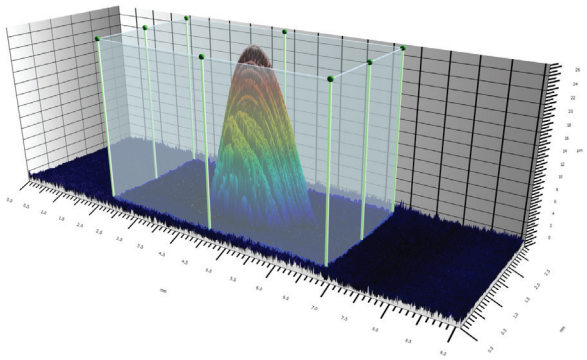


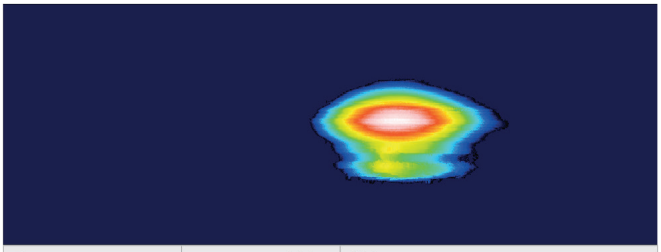


Layer Thickness



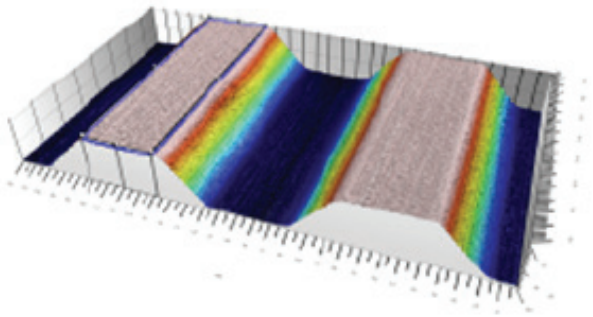
Volume





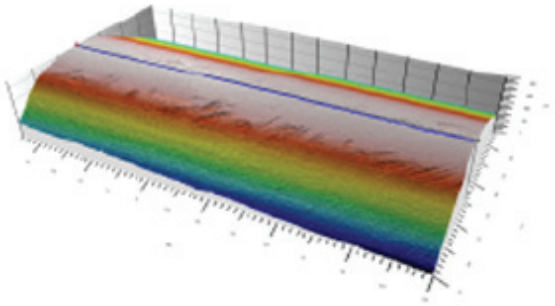
Parameters	Value	Unit
Area	1.95	mm^2
Volume	21526324	μm^3
Max height	26.6	µm

Flatness



ISO 12781		
Flatness Parameters		
FLTt	28.2 µm	Peak-to-valley flatness deviation of the surface
FLTp	13.3 µm	Peak-to-reference flatness deviation
FLTv	14.9 µm	Reference-to-valley flatness deviation
FLTq	5.98 µm	Root-mean-square flatness deviation

Straightness



ISO 12780		
Straightness Parameters		
STRt	8.19 µm	Peak-to-valley straightness deviation
STRp	3.32 µm	Peak-to-reference straightness deviation
STRv	4.87 µm	Reference-to-valley straightness deviation
STRq	2.33 µm	Root-mean-square straightness deviation

Technical data **Phoenix**

Confocal chromatic line sensor

Product	Unit	WireView	MicroView	DeepView	SuperView
Line Length	mm	1.51	1.8	4.2	12.85
Measuring Range 2kHz	mm	0.9	0.5	2.6	2
Working Distance	mm	7.8	10.1	19.5	11.3
Numerical Apeture		0.75	0.5	0.37	0.33
Max. Sample Slope	°	± 46	± 30	± 20	± 17
Pitch 45pts	µm	34	40.4	94	287.2
Pitch 90pts	µm	17	20.2	47	143.6
Pitch 180pts	µm	8.5	10.1	23.5	71.8
Max. Linearity Error	µm	± 0.1	± 0.08	± 0.12	± 0.12
Static Noise	nm	150	100	300	300
Axial Resolution	µm	0.9	0.6	1.8	1.8
Spot Size	µm	3.2	3.8	8.8	27.2
Homogeneity	nm	200	125	400	400
Min. Measurable Thickness	µm	110	50	250	300
Length	mm	480.7	425.6	428.3	397.8
Diameter	mm	70	50	60	60
Weight	kg	2.2	1.6	2.8	2.55

Controller

Controller	MPLS
Order Code	08ST05M0004
Technology	Chromatic Confocal
Source	White LED
Number of Points	(1) x 180
Measuring Frequency	200Hz to 2000Hz (up to 6000Hz decreasing MR)
Distance Measurement	Highest/First/Second/Third/Fourth/Last Peak
Thickness Measurement	2 of 5 peaks
Digital Output	GigaEthernet
Synchronization	Via optical connectors
Other Input/Output	Encoder input (1)
Sensor head connection	Via optical connectors
Temperature In Use	+5 to +50°C
Storage Temperature	-30 to +70°C
Relative Humidity	Via optical connectors
Protection Type	IP20
Compliance	EN 61010-1; EN 61326-1
Power Supply	100-240 VAC
Maximum/Usual Consumption	I20W/70W
Dimensions (mm)	497 X 448.9 X 184
Weight	14.5 kg

Technical data **Phoenix**

System configuration

Setup	Desktop system
Lateral measurement range / travel range	150 mm x 150 mm
Flatness stages	± 5 µm
Load capacity	max. 10 kg
Vertical travel range	up to 150 mm, Manual.
Dimensions [W X D X H]	580 mm x 500 mm x 1,020 mm
Weight	80 kg
Supply voltage	100-240 V, 50-60 Hz
File formats	SUR, TXT, CSV
Computer	Desktop PC includes monitor, keyboard
Software	SolarScanNT, SolarMap, customized analysis software [1)]

[1)] Customer and application specific

Incredibly fast **3D inspection** makes Phoenix unrivaled in price, accuracy, and speed

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