

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

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

Precise 3D Inspection

The new Phoenix Desktop 3D surface measuring system from Solarius enables highly accuracy and precise 3D surface inspection. Thanks to high precision data acquisition, data processing allows a complete 3D reconstruction of the profile and extract required feature to be measured.

Reliable technology

Phoenix 3D Optical Desktop system is based on Chromatic Confocal technology. This allows nanometric axial resolution without moving the part and without ambient light interference. In addition, Phoenix features a precise automated X/Y positioning unit with 150mm x 150mm travel range and a manual height measuring range of 100mm. Each component contributes to provide accurate, precise and repeatable measurement results.

Easy and Powerful Software

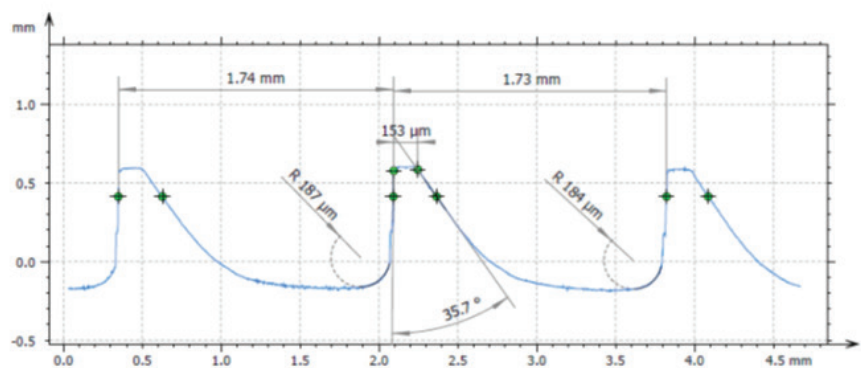
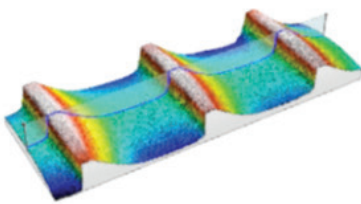
In order to provide flexible but powerful inspection capability, Phoenix takes advantage of easy to program Data acquisition and complete data processing SW. The intuitive and easy to operate software is a key feature of all the Solarius products: new operators spend less time understanding the system and can perform more measurements in shorter time. After set up, measurement and data analysis procedures can be stored and executed repeatedly at any time without additional efforts.

Due to it's sturdy mechanical design and high precision, Phoenix can be installed in the production line to monitor the quality of any manufactured product.

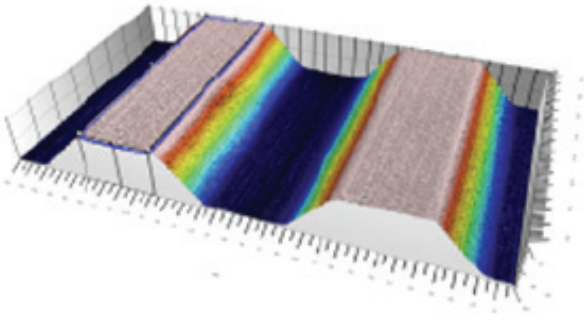
Typical Applications

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

Contour & Area

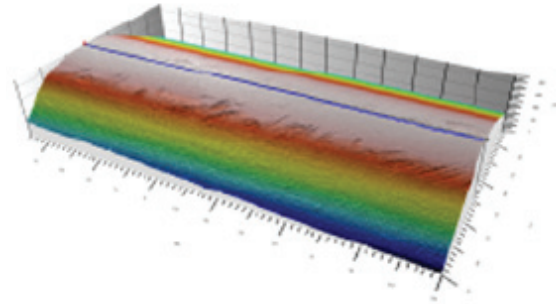


Flatness



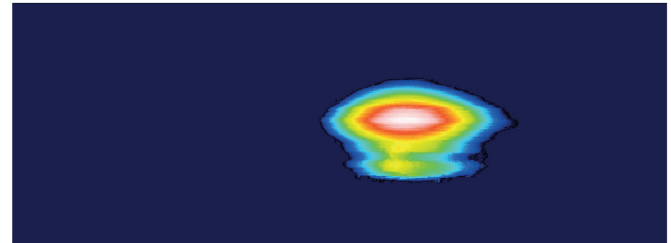
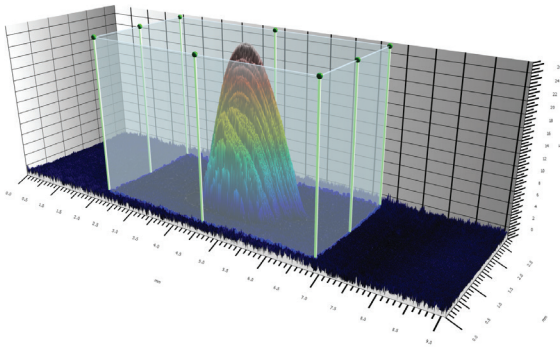
ISO 12781		
Flatness Parameters		
FLTt	28.2 μm	Peak-to-valley flatness deviation of the surface
FLTp	13.3 μm	Peak-to-reference flatness deviation
FLTv	14.9 μm	Reference-to-valley flatness deviation
FLTq	5.98 μm	Root-mean-square flatness deviation

Straightness



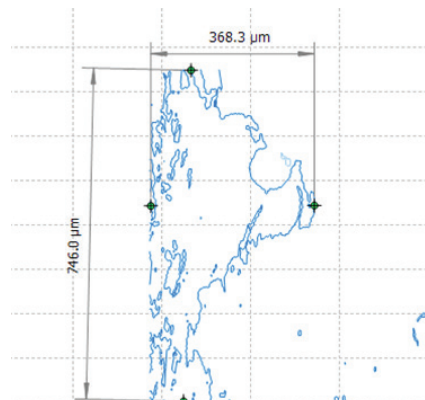
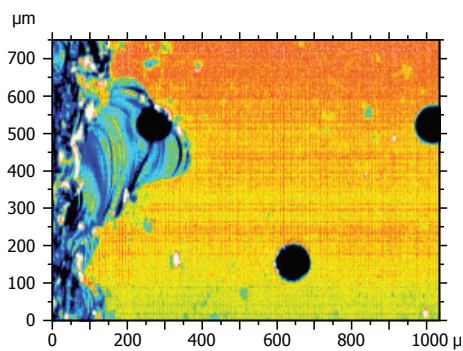
ISO 12780		
Straightness Parameters		
STRt	8.19 μm	Peak-to-valley straightness deviation
STRp	3.32 μm	Peak-to-reference straightness deviation
STRv	4.87 μm	Reference-to-valley straightness deviation
STRq	2.33 μm	Root-mean-square straightness deviation

Volume



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

Surface Defect Inspection



Technical data **Phoenix**

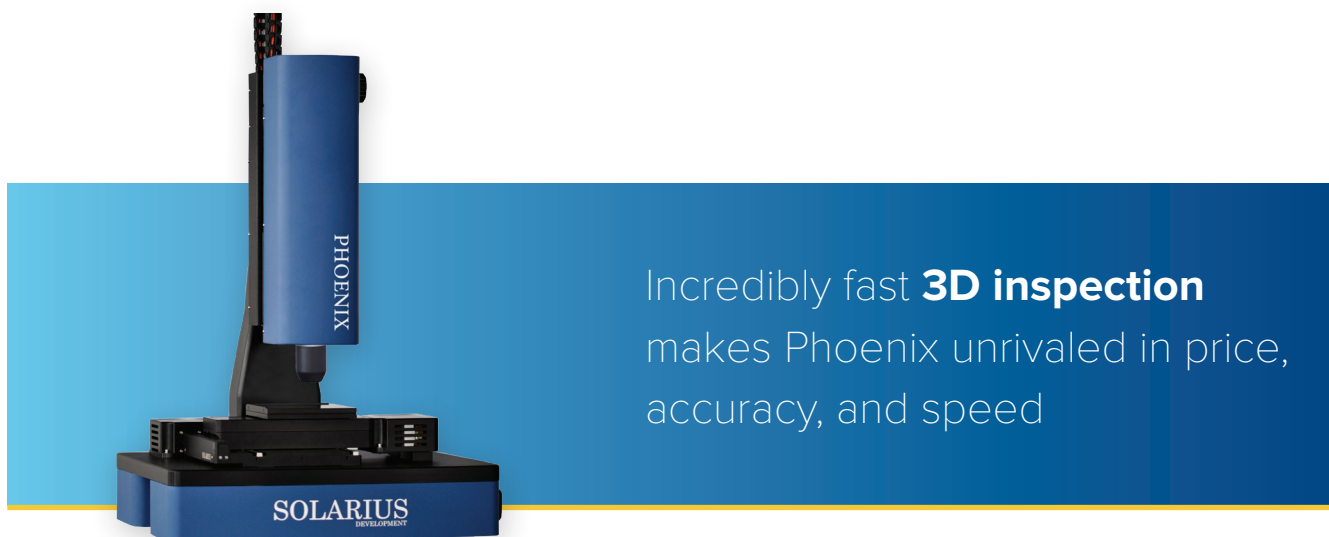
Confocal chromatic line sensor

Product	Unit	0.2mm	1mm	4mm
Measurement Range	mm	0.2	0.95	3.9
Working Distance	mm	5.3	18.5	36.4
Line Length	mm	0.96	1.91	4.78
Numerical Aperture		0.7	0.55	0.33
Line Pitch 192channel	µm	5	10	20
Spot Size	µm	2	4	10
Lateral Resolution	µm	1	2	5
Axial Resolution	µm	0.02	0.08	0.32
Linearity	µm	0.08	0.3	1.2
Min. Measurement Thickness	µm	20	75	300
Max. Measurement Thickness	mm	0.28	1.35	5.5
Measurement Angle to Surface	°	90° ± 44°	90° ± 33°	90° ± 20°

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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