SENSOFAR

METROLOGY

Gateway to high-end metrology

S lynx

Compact 3D Profiler

Simplified high

performance

High-speed versatility

Collect and analyze data with exceptional speed– that is the goal of the S lynx 2. It ensures maximal data capture by featuring three distinct measuring techniques – Interferometry, Confocal, and Ai Focus Variation – each faster than the last. Thrive in your data analysis using the full power of your PC as acquisition calculations are performed in the sensor head.

Practical operability

Explore the comfort of an effortless system. This bench-top system combines manual and motorized components, making recurring tasks like finding the focus, leveling, and navigating your sample easier than ever. Sensofar's systems also come with best-in-class longevity, facilitating your work for the years to come.

Compact convenience

The small size and compact design of the system allow it to fit into the tightest spaces of your lab or production floor. Moreover, setting up the S lynx 2 is incredibly easy, thanks to its plug-and-play configuration and flexibility to run with any PC.

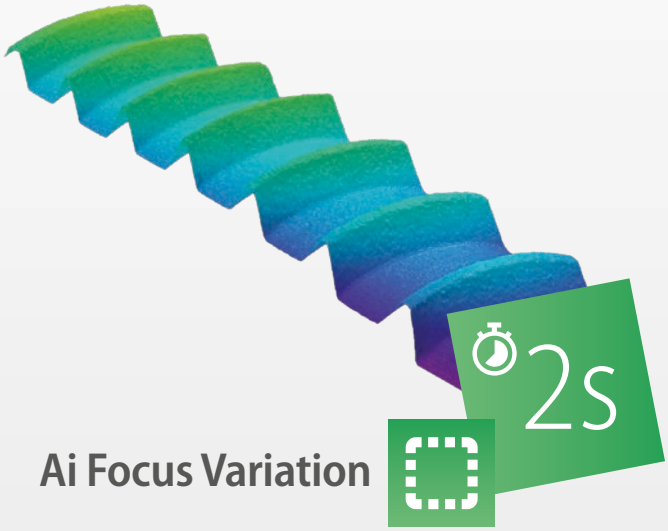
It's a Sensofar!

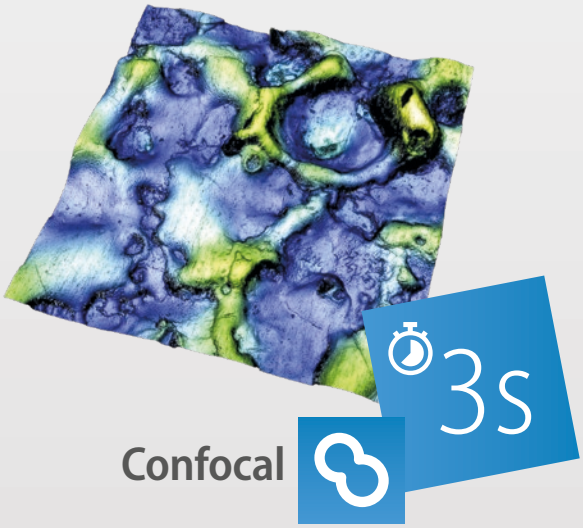
The S lynx 2 is part of the Sensofar ecosystem, inheriting our wealth of technical expertise developed for optical area profilers. Additionally, we have built a powerful suite of analysis software and a user portal full of resources.

Streamlined fle

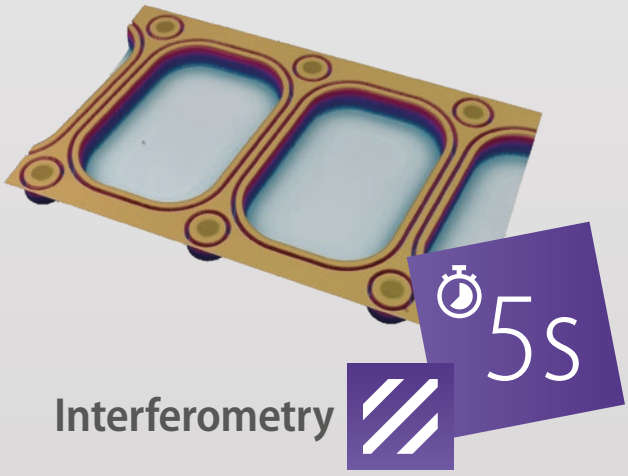
Use the best acquisition technology

The S lynx 2 is equipped with three very powerful measuring techniques: Ai Focus Variation, Confocal, and Interferometry. This dynamic trio allows for data collection across a wide range of materials using the optimal technology for every surface, guaranteeing unparalleled measurement accuracy.





	Ai Focus Variation	Confocal	Interferometry
Shapes or micrometric roughness	✓	✓	
Hybrid surfaces or miniaturized shapes	✓	✓	✓
Nanometric roughness and features		✓	✓
Thickness measurements		✓	✓



S lynx

xibility

Fast scan, fast analysis

Throughput is important. That is why this system is designed for lightning-fast measurements across every measuring technology. Plus, the acquisition calculations are executed within the sensor head, allowing the PC's full power to be utilized for the data analysis.

Large extended measurements

The advanced stitching capabilities allow you to capture high-resolution data over larger areas. Our innovative algorithms cover the entire motorized stage range, spanning an impressive 125 x 75 mm for the system's compact size.

Our mos

Discover how easily our bench-top system balances cutting-edge and timeless components, integrating manual and motorized elements for practical excellence.

Easy focusing across variable sizes

Easily fit and focus on samples with an adjustable column accommodating up to 100 mm of movement. Achieve precision and fine-tuned focus for even the smallest samples with the 20 mm travel range of the motorized Z stage.

Extended lifetime

As a result of using LEDs as light sources and requiring no moving mechanisms for imaging, the S lynx 2 operates smoothly without consistent maintenance efforts, extensive calibration, or regular replacements.

st practical approach

Simplified sample positioning

Effortlessly place and navigate your samples with the motorized XY stage, with a travel range of 125 mm x 75 mm, and easily level them using a tip-tilt stage perfectly aligned to the optical axis.

Expanded imaging capabilities

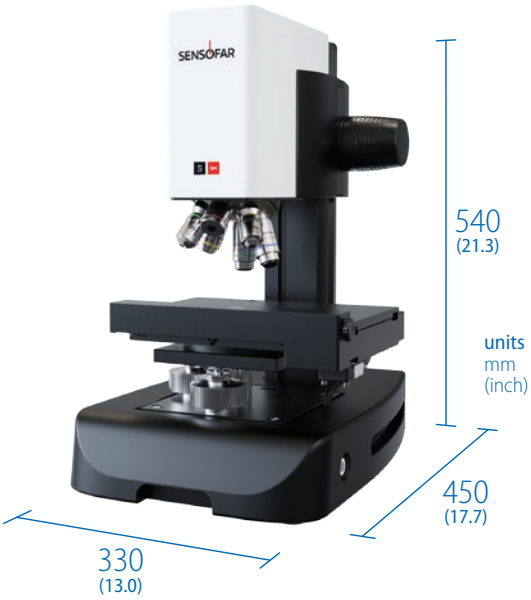
Experience what is possible by switching between objective lenses at any time during operation using a 6-position motorized nosepiece.
Select from a wide range of compatible lenses, including specific options with super long working distances and water immersion capabilities.

Compact dimensions

Its small size and compact design let you place the system anywhere on your production floor or laboratory.

Adaptable to your needs

Experience hassle-free setup with the S lynx 2. Easily find a place for it, as no extra components are under the table. Get it up and running by simply connecting two cables between the profiler and the PC.



Tailor your acquisition experience

SensoSCAN ML, the software running the S lynx 2, gives the possibility to customize the acquisition interface. Simply display the critical settings for your samples.

PC flexibility

Operate the S lynx 2 seamlessly with the computer system of your choice. Whether you opt for our recommended PC configuration or leverage your own, the flexibility is yours to tailor the setup that precisely matches your requirements.

Ready for any operator level

Discover the versatility of SensoSCAN ML with three distinct operator levels. Unlock advanced capabilities such as calibration and recipe modification at the highest level while restricting lower levels to predefined recipes and acquisitions.

It's a Sensofar

Owning a Sensofar system is not just having a high-end optical profilometer; it is your ticket to unlocking a world of tools and content, empowering you to fully engage with the process of surface characterization.

Metrology excellence

Our commitment to metrology pushes us to pursue the closest representation of a real surface. That is why every Sensofar product measures areas and follows ISO 25178 standard, providing a truly reliable instrument for surface characterization.

Sensofar ecosystem

As part of our Sensofar community, you have access to all our software analysis options, helping you find the perfect solution. Additionally, we offer an interconnected software suite for comprehensive characterization.

SENSOFAR

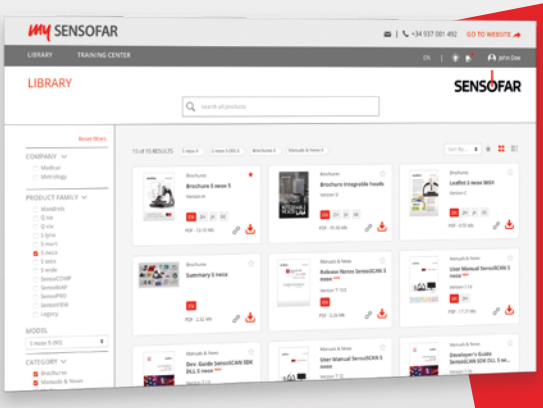
Intuitive user experience

Sensofar's software is designed with a very intuitive interface, reducing training time. The interface of every Sensofar software package is consistent. Once you learn how to navigate one Sensofar program, you can effortlessly navigate them all.

Helper acquisition mode

Our systems have a special feature called 3D auto that measures any in-focus sample by iteratively searching for suitable measurement settings. It provides users with the sample's topography with the maximum measured points. Plus, users can see and learn the measuring settings previously identified.

mySENSOFAR



Discover an extensive collection of exclusive content on our online portal designed to help you use and learn about your system. MySensofar offers a range of resources, including manuals and white papers tailored to specific applications. Benefit from our 20+ years of metrology expertise in the optical field, all conveniently accessible in one place!

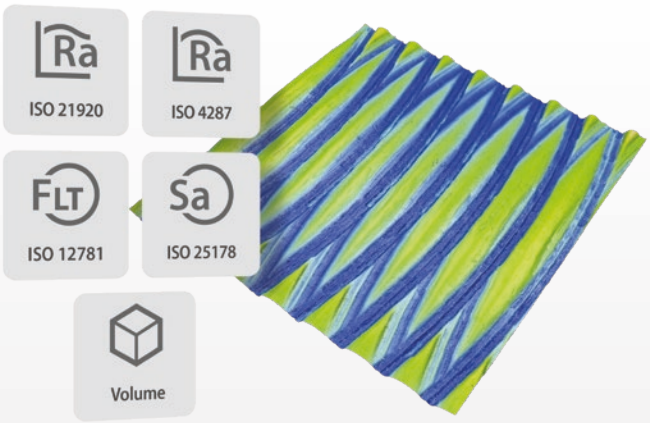
SensoVIEW

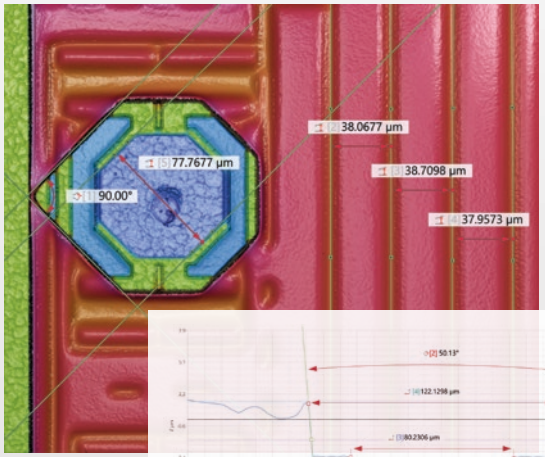
Broadening analysis horizons

SensoVIEW is the ideal analysis software for a wide range of tasks. It features a complete toolkit for preparing and extracting data from both 2D and 3D datasets.

Surface characterization

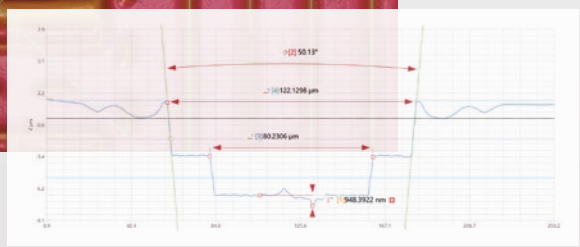
SensoVIEW provides dedicated operators with a user-friendly, step-by-step interface for extracting flatness and surface texture parameters, following the corresponding ISO standards, volume calculations, and more.

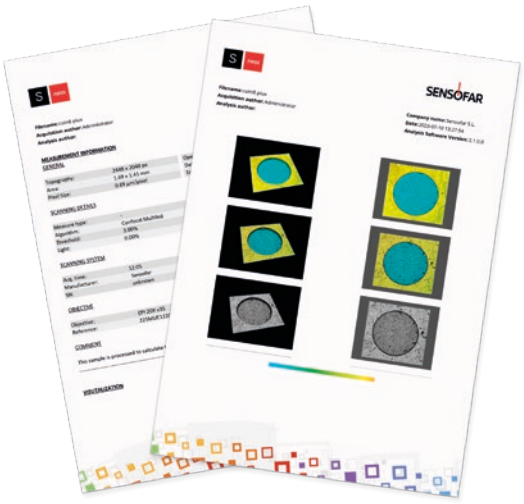




Dimensional measurements

A variety of tools for critical dimensions are available for contour and profile views. Each one is equipped with an auto-adjustment feature and the capability to incorporate tolerances, ensuring a thorough dimensional analysis.





Customizable reports

Discover SensoVIEW's flexible reporting to present your results in clean, well-structured documents.

Tailor headers and footers to your taste

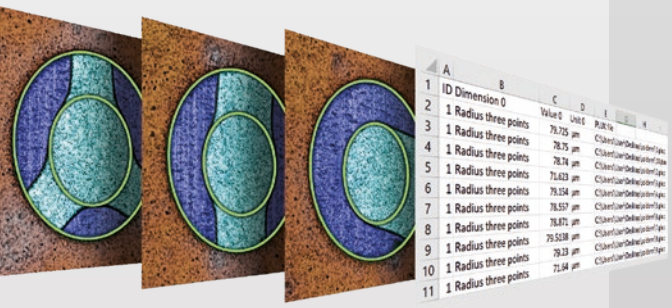
Select the content you want in your report

Choose the style to display your results

Edit your template to personalize it further

Analysis templates

Templates can be created from any performed analysis, storing all the processes applied: data modifiers, surface texture operators, critical dimensions, and reporting preferences.



S lynx

SensoPRO Rapid Quality Control

Automatic recognition of the features of interest

Analysis of a massive datasets (>100 files)

1s processing time per file

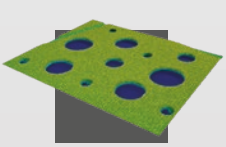
Configurable processing settings and parameters

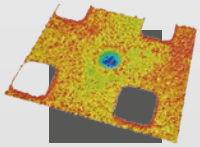
Command line available for external SensoPRO integration

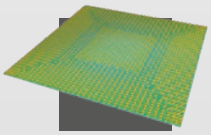
Pass/Fail reports based on predefined tolerances

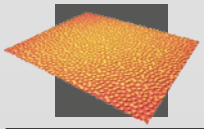
Plugin-based solutions

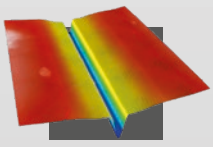
SensoPRO has an extensive suite of plugins, addressing common automation analysis needs and custom applications.

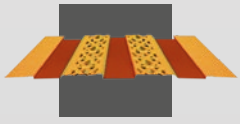

Holes


Dimples


Bumps


Surface characterization


Trenches & Grooves

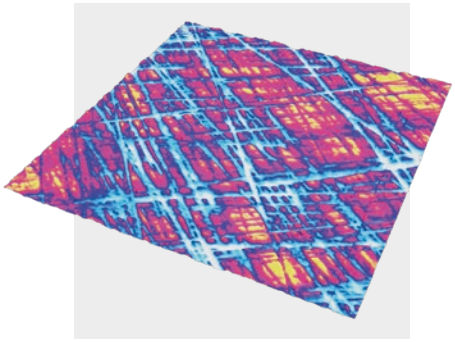

Traces

Do you need a custom solution?

We can adapt and develop any analysis solution for your application.

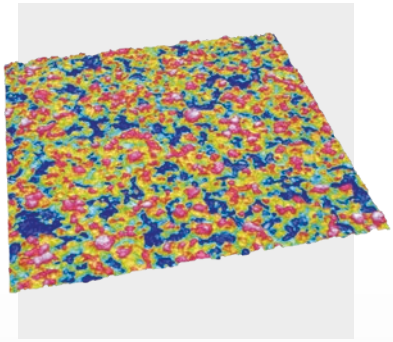
Applications

The S lynx 2 is a general-purpose system that fulfills multiple applications in diverse settings, including manufacturing and research requirements. Discover some real-world examples:

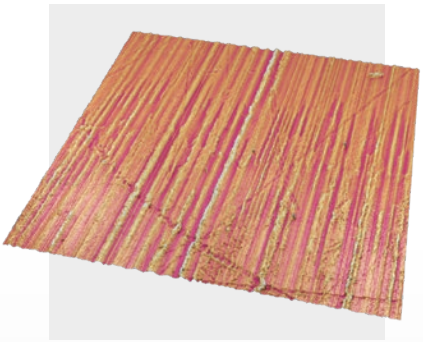


AEROSPACE
Cylinder liner

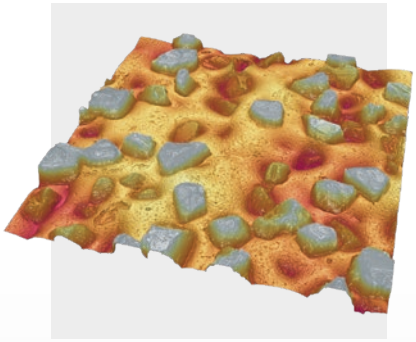
Surface texture characterization



CONSUMER ELECTRONICS
Copper substrate



MEDICAL DEVICES
Knee implant



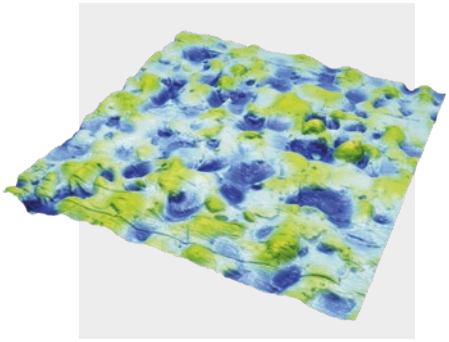
ADVANCED MANUFACTURING
Grinding tool

System specifications

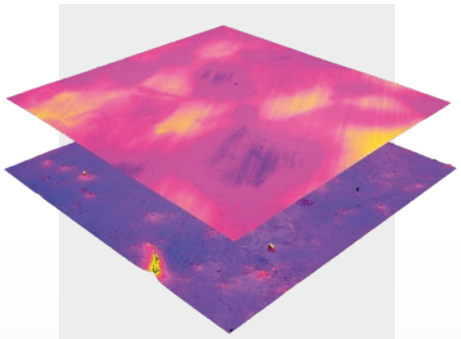
Measuring principle	Confocal, CSI and Ai Focus Variation
Measurement types	Image, 3D, 3D thickness
Camera	1 Mpx: 1024x1024 px (150 fps)
Confocal frame rate	60 fps
Range of magnifications	2.5X - 100X
Field of view	From 0.14 to 5.6 mm (single shot)
Z stage travel range	20 mm; 5 nm resolution
Max. Z measuring range	Confocal & Ai Focus Variation 12 mm; CSI 1 mm
XY stage range	Motorized 125x75 mm
Max. Extended measurement area[1]	125x75mm
Tip-tilt stage	Manual up to ±4° of tilting
LED light sources	Blue (460 nm); white (580 nm; center)
Nosepiece	6 position fully motorized
Sample reflectivity	0.05 % to 100%

Sample weight	Up to 3 kg
Sample height[2]	Up to 100 mm
User management rights	Administrator, supervisor, advanced operator, operator
Advanced Software Analysis	Inc: SensoVIEW; Op: SensoPRO, SensoMAP
Computer requirements	Intel Core i5/i7 processor, Ethernet connectivity, minimum 1920 x 1080 display resolution
Operating system	Microsoft Windows 10 or higher
Dimensions	330x450x540 mm
Weight[3]	34 kg
Power	Line Voltage 100-240 V AC; frequency 50/60 Hz single phase
Environment	Temperature 10 ºC to 35 ºC; Humidity <80 % RH; Altitude <2000 m

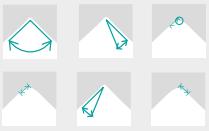
Dimensional measurements



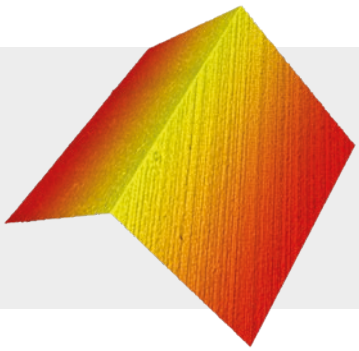
ADVANCED MANUFACTURING
Molding

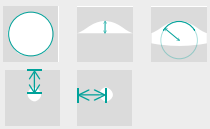


AUTOMOTIVE
Battery film

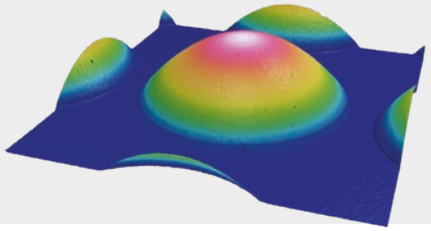


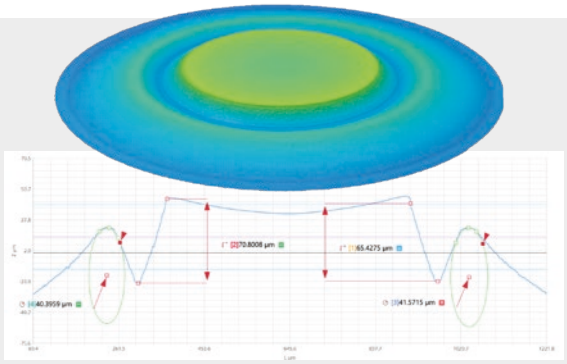
TOOLING
Insert





OPTICS
Microlenses





CONSUMER ELECTRONICS
MEMs

Objective lenses

	Brightfield					Interferometric				
Magnification	5X	10X	20X	50X	100X	2.5X	5X	10X	20X	50X
NA	0.15	0.30	0.45	0.80	0.90	0.075	0.13	0.30	0.40	0.55
WD (mm)	20	15.8	3.0	1.0	2.0	10.3	9.3	7.4	4.7	3.4
FOV[4] (µm)	2820 x 2820	1410 x 1410	700 x 700	280 x 280	141 x 141	5650 x 5650	2820 x 2820	1410 x 1410	700 x 700	280 x 280
Spatial sampling[5] (µm)	2.76	1.38	0.69	0.27	0.13	5.52	2.76	1.38	0.69	0.27
Optical resolution[6] (µm)	1.11	0.55	0.37	0.21	0.15	2.32	1.34	0.58	0.44	0.32
Measurement noise[7] (nm)	120	45	10	4	3			< 5		
Maximum slope[8] (°)	9	17	27	53	64	4	7	17	24	33

Accuracy and repeatability[9]

Standard	Value	Uncertainty (U)	Repeatability (σ)	Technology
Step height (H)	<10 µm	U= (0.005 + H/50) µm	<10 nm	Confocal, Ai FV and CSI
	>10 µm	U = (0.120 + H/120) µm	>10 nm	Confocal, Ai FV and CSI
Area roughness (Sa)	0.79 µm	40 nm	6 nm	Confocal, Ai FV and CSI

1 With the 2.5XTI objective. **2** Size for top positions of the regulable column and motorized Z stage. **3** Without objectives, or antivibration table. **4** Maximum field of view with 2/3" camera and 0.25X optics. **5** Pixel size on the surface. **6** L&S: Line and Space, half of the diffraction limit according to the Rayleigh criterion. Values for blue LED in brightfield objectives and for white LED in interferometric objectives. **7** Measurement noise is measured as the difference between two consecutive measurements of a calibration mirror placed perpendicular to the optical axis. Values obtained in a VC-E vibration environment. **8** On smooth surfaces. Up to 86° on rough surfaces. Other objectives are available. **9** Values obtained in a VC-E vibration environment. Objective used for Confocal and Ai Focus Variation 50X 0.80 NA and for CSI 50X 0.55NA. Resolution 1024×1024 pixels. Extended uncertainty (U) according to ISO/IEC guide 98-3:2008 GUM:1995, K=1,96 (level of confidence 95%). σ according to 25 measures.

SENSOFAR

METROLOGY

SENSOFAR is a leading-edge technology company that has the highest quality standards within the field of surface metrology

Sensofar provides high-accuracy optical profilers based on confocal, interferometry, and focus variation techniques, from standard setups for R&D and quality inspection laboratories to complete non-contact metrology solutions for in-line production processes. The Sensofar Group has its headquarters in Barcelona, a European technology and innovation hub. The Group is represented in over 30 countries through a global network of partners and has its own offices in Asia, Germany, and the United States.

HEADQUARTERS

SENSOFAR | BARCELONA - Spain | T. +34 93 700 14 92 | info@sensofar.com

SALES OFFICES

SENSOFAR ASIA | SHANGHAI - China | T. +86 21 61400058 | info.asia@sensofar.com

| TAIPEI - China | T. +886 988106002 | info.asia@sensofar.com

SENSOFAR DACH | LANGEN - Germany | T. +49 151 14304168 | info.germany@sensofar.com

SENSOFAR USA | CONNECTICUT - United States | T. +1 617 678 4185 | info.usa@sensofar.com

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