



# Highest flexibility compatible with Cleanroom

# 4x4

## 4-in-1 technologies

AI Focus Variation | Confocal Interferometry | SR

## 4 LEDs

Red | Green | Blue | White

The **S neox Cleanroom** is a technological milestone without precedent in optical metrology. This version of the S neox has been carefully engineered to overcome the strict test to be ISO Class 1 and ESD compatible. The S neox Cleanroom has all the versatility that comes with an S neox and matches with the production environments typical of medical devices, microfluidics, and semiconductors industries.

AUTOMATIC  
3D

0.01  
nm

Measurement noise



Fraunhofer  
TESTED®  
DEVICE  
SENSOFAR METROLOGY  
SNEOX 090 CR  
Report No. SE 2110-1269

## Objective lenses

MAG	Brightfield						Interferometry					
	5X	10X	20X	50X	100X	150X	2.5X	5X	10X	20X	50X	100X
NA	0.15	0.30	0.45	0.80	0.90	0.95	0.075	0.13	0.30	0.40	0.55	0.70
WD (mm)	23.5	17.5	4.5	1.0	1.0	0.2	10.3	9.3	7.4	4.7	3.4	2.0
FOV <sup>1</sup> (µm)	3378x2826	1689x1413	845x707	338x283	169x141	113x94	6756x5652	3378x2826	1689x1413	845x707	338x283	169x141
Spatial sampling <sup>2</sup> (µm)	1.38	0.69	0.34	0.13	0.07	0.05	2.76	1.38	0.69	0.34	0.13	0.07
Optical resolution <sup>3</sup> (µm)	0.94	0.47	0.31	0.18	0.16	0.148	1.87	1.08	0.47	0.35	0.26	0.20
Measurement noise <sup>4</sup> (nm)	100	30	8	5	3	1	PSI/ePSI 0.1 nm (0.01 nm with PZT) CSI 1 nm					
Maximum slope <sup>5</sup> (°)	9	17	27	44	64	72	4	7	17	24	33	44

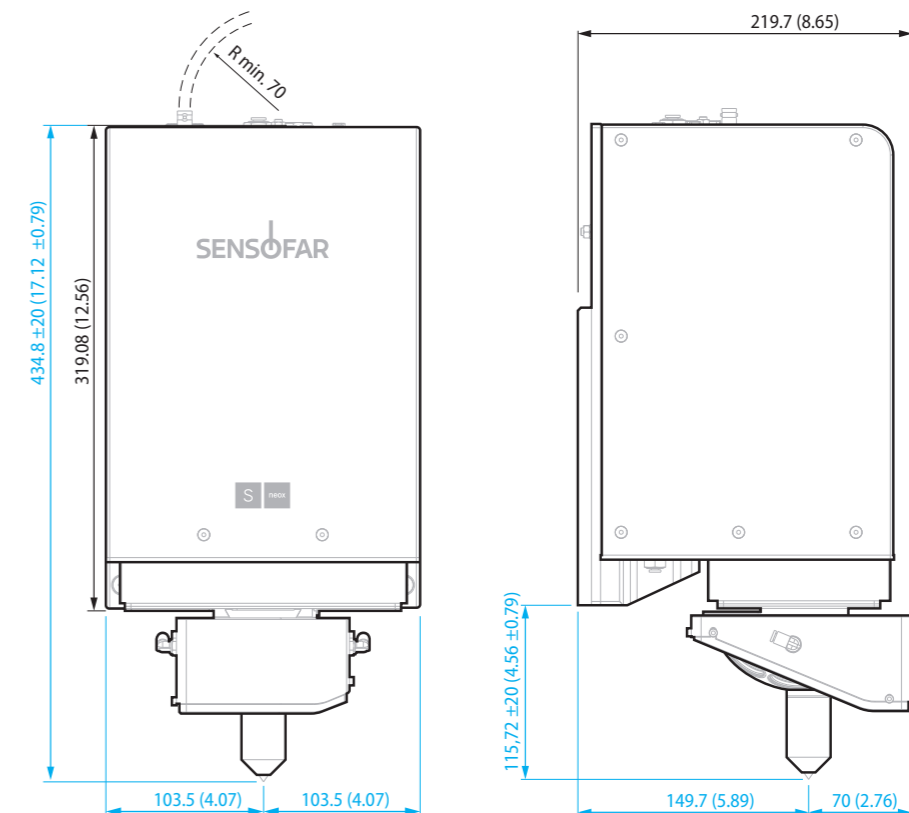
## System specifications

Measuring principle	Confocal, PSI, ePSI, CSI, Ai Focus Variation and Thin Film	Sample reflectivity	0.05 % to 100%
Measurement types	Image, 3D, 3D thickness, profile and coordinates	Advanced Software Analysis	Inc: SensoVIEW; Op: SensoPRO, SensoMAP
Camera	5Mpx: 2448x2048 pixels (60 fps)	Communication protocol	DLL; XML (optional)
Confocal frame rate	60 fps (5Mpx); 180 fps (1.2 Mpx)	Computer	Latest INTEL processor
Vertical scan range coarse	Linear stage: 40 mm range; 5 nm resolution	Operating system	Microsoft Windows 10®, 64 bit
Vertical scan range fine	Piezoelectric scanner with capacitive sensor: 200 µm range; 1.25 nm resolution	Cable Length	3 m (5 m, 10 m optional)
Max. Z measuring range	PSI 20 µm, ePSI 10 mm, CSI 10 mm; Confocal & Ai Focus Variation 34 mm	Environment	Temperature 10 °C to 35 °C; Humidity <80 % RH; Altitude <2000 m
LED light sources	Red (630 nm); green (530 nm); blue (460 nm) and white (575 nm; center)		
Nosepiece	6 positions fully motorized		

## Dimensions

mm (inch)

Weight<sup>6</sup>: 8.3 Kg  
(18.4 lbs)



Head dimensions

Working distances

<sup>1</sup> Maximum field of view with 3/2" camera and 0.5X optics. <sup>2</sup> Pixel size on the surface. <sup>3</sup> L&S: Line and Space, half of the diffraction limit according to the Rayleigh criterion. Spatial sampling could limit the optical resolution for interferometric objectives. Values for blue LED. <sup>4</sup> Measurement noise measured as the difference between two consecutive measures on a calibration mirror placed perpendicular to the optical axis. For interferometry objectives, PSI, 10 phase averages. The 0.01 nm are achieved with Piezo stage scanner and temperature-controlled room. Values for green LED (white LED for CSI). Values obtained in a VC-E vibration environment. <sup>5</sup> On smooth surfaces. Up to 86° on rough surfaces. <sup>6</sup> This is the weight of the sensor head with one objective in the turret.