



# NANOMAP-1000WLI

## 3D OPTICAL SURFACE PROFILOMETER

THE POWER OF HIGH RESOLUTION  
INTERFEROMETRY



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## NANOMAP-1000WLI 3D OPTICAL SURFACE PROFILOMETER

The NanoMap-1000WLI 3D Optical Profilometer is a non-contact White Light Interferometer that generates high resolution 3D and 2D images of surfaces. The system brings high resolution, 4 million pixel image, large scanning range, customizable wavelength range to give users flexibility to image any kind of surfaces with ease.

The instrument comes with multiple objective lenses ranging in magnifications from 1x to 100x. While an LED is the primary light source, a **10-position Filter Wheel** is also available for analyzing materials that are wavelength dependent (anywhere from 400nm to 700nm). The high intensity LED allows users to image samples with almost < 0.4% to 100% reflectivity. A camera resolution of **1024 x 1024** comes standard with optional **1536 x 1536 and 1920 x 1920** also available. NanoMap-1000WLI comes with both PSI (phase shift interferometry) and WLI(white light interferometry) modes. Use depends on the range of displacements.

The NanoMap-1000WLI allows up to 150mm scanning area (larger scanning range options available) and comes with an anti-vibration table and acoustic enclosure to ensure complete noise elimination. Robust hardware includes 64 bit, multiple core processors. The parallel processor configuration allows data processing independent of the pixel. Tester comes with latest windows based OS. Intuitive once click easy to run interface. Post data analysis using powerful imaging



## NANOMAP-1000WLI (SPECIFICATIONS)

<b>Imaging</b>					
Camera Resolution:	Standard 1024 x 1024, Optional 1536 x 1536 or 1920x 1920				
Light Source:	Long life LED with 10-position filter wheel technology				
Objective Lens:	2.5x, 5x, 10x, 20x, 50x				
Turret:	Motorized, 5 objective positions				
Digital Zoom:	0.5x, 1x, 2x				
<b>Magnification and Field of View:</b>					
<b>Objective Magnification:</b>	<b>50x</b>	<b>20x</b>	<b>10x</b>	<b>5x</b>	<b>2.5x</b>
Numerical Aperture	0.55	0.4	0.3	0.13	0.075
Max Measurement Area (Field of View) (μm)	266 x 266	532 x 532	1064 x 1064	2128 x 2128	4256 x 4256
Spatial Sampling with 1920 x 1920 Camera (μm)	0.14	0.28	0.55	1.1	2.2
Optical resolution @ 550nm (μm)	0.5	0.69	0.92	2.12	3.67
Working distance (mm)	3.4	4.7	7.4	9.3	10.3
Depth of focus @550nm (μm)	1.16	2.19	3.89	20.72	62.25
Degrees of maximum surface slope	22.6	9.5	4.8	2.4	1.2
<b>Performance</b>					
Vertical Resolution:	0.001nm				
RMS Repeatability:	0.02nm				
Vertical Scan Speed:	software selectable from 3.75 to 26um/sec				
Max Vertical Measurement Range:	20mm				
Sample Reflectivity:	0.4% to 100%				
Step Height Repeatability:	0.1% or 0.1nm 1σ				
<b>System</b>					
XY Stage:	Computer controlled motorized stage with 150mm x 150mm travel (up to 620mm available)				
Z Stage:	Computer controlled motorized stage with 100mm travel.				
Sample Rotation Stage:	360 degree manual adjustable				
Sample Tilt Stage:	8 degree manual adjustable				
Sample Platform:	Standard 150mm dia, optional 200mm dia (up to 620mm available)				
Vibration Isolation Table:	Optional TMC or Kenetic Systems				
<b>Software</b>					
Windows Operating System:	Windows XP or Windows 7				
NanoMap Measurement Control Software:	Standard				
SPIP Analysis Software Basic Package:	Standard				

### **Facilities/Environment**

Humidity: 10-80%, relative humidity, non-condensing  
 Temperature: 65-85 degrees Fahrenheit (ΔT < 1 degree/hour)  
 Vibration: < 90 micro-in/sec (velocity) Acoustic: < 60 dB-A  
 Power Requirements: 110VAC 60 Hz, 110/240 VAC, 50/60 Hz

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