

SYSTEM	
ZYGO P/N	6321-0101-01 NX2 Head Only 6321-0101-02 NX2 Head w/Z Stage
Measurement Technique	3D coherence scanning interferometry, SureScan™ technology, and phase shifting interferometry
Scanner	Precision Piezo drive with Closed loop capacitance gauge control and crash protection
Objectives	1.0X – 100X magnification; Standard and long working distance; See the Nexview & NewView 9000 Series Objective Chart for more details
Objective Mounting Options	<ul style="list-style-type: none"> <li>• Single objective dovetail</li> <li>• Manual Encoded 4-position turret</li> <li>• Motorized 4-position turret</li> </ul>
Optical Zoom	Motorized 3-position encoded zoom <ul style="list-style-type: none"> <li>• 0.5X, 1.0X, 2.0X included</li> <li>• 0.75X, 1.5X optional</li> </ul>
Field of View	Objective and zoom selectable from 0.04 x 0.04mm to 17.49 x 17.49mm, Integrated field stitching for larger areas
Illuminator	Proprietary solid-state white light source with software-selectable field stop, aperture stop and spectral filters
Measurement Array	Selectable 1600 x 1200, 1000 x 1000, 1000 x 600, 1000 x 200
Part Viewing	Selectable Monochrome and Color imaging with available fringe-free viewing mode
Focus	Motorized manual or auto focus with through-the-lens focus aid
Z-Drive (Focus) Stage	100 mm range with 0.1 µm resolution (optional)
System Controller	Standard Option (p/n 6300-0239-11) i7 class controller with 23" monitor High Performance Option (p/n 6300-0239-13) Xeon class workstation with 27" monitor
Software	ZYGO Mx software running under Microsoft Windows 10 (64-bit)
PHYSICAL	
Dimensions (HWD)	31 x 30 x 16 cm (Head only, no Z Stage) 31 x 30 x 24 cm (Head w/ Z Stage)
Weight	9.3 kg (Head only, no Z Stage) 14.3 kg (Head w/ Z Stage)
UTILITY REQUIREMENTS	
Input Voltage	100 to 240 VAC, 50/60 Hz

Customer reference drawings available upon request.  
Contact ZYGO for current system controller configurations as they are updated regularly.

PERFORMANCE	
Vertical Scan Range	150 µm with precision Piezo drive; 20 mm with extended scan
Surface Topography Repeatability <sup>(1)</sup>	0.06 nm
Repeatability of RMS <sup>(2)</sup>	0.005 nm
Optical Lateral Resolution <sup>(3)</sup>	0.34 µm (100X objective)
Spatial Sampling	0.04 µm (100X objective 2X zoom)
Maximum Data Scan Speed <sup>(4)</sup>	53 µm/sec @ 1600 x 1200 69 µm/sec @ 1000 x 1000 107 µm/sec @ 1000 x 600 171 µm/sec @ 1000 x 200
Step Height Repeatability <sup>(5)</sup>	0.1%
Step Height Accuracy <sup>(6)</sup>	0.3%

TEST PART CHARACTERISTICS	
Material	Opaque, transparent, coated, uncoated, specular, rough
Maximum Sample Height	89mm; increase by using head and or gantry risers
Maximum Surface Slope	55° – smooth part @ 100X 85° – scattering surface
Sample Reflectivity	0.05% - 100%
Max. Sample Mass	10 kg

ENVIRONMENTAL REQUIREMENTS	
Temperature	15 to 30°C with rate of change <1.0°C per 15 min
Humidity	5 to 95% relative, noncondensing
Vibration Isolation	Required for vibration in the range of 1 Hz to 120 Hz
Vibration Criterion	VC-C or better
Acoustic Criterion	NC30 or better

#### FOOTNOTES

- Performance specifications under laboratory conditions using standard specimens, according to ISO 25178-601, 25178-604 and 5436-1.
- (1) Surface Topography Repeatability for SmartPSI mode, 1-sec acquisition, full FOV with 3x3 median filter, in a laboratory environment.
  - (2) Repeatability of the RMS surface roughness parameter Sq, under the same conditions as for (1). Note that the repeatability of the Sq is sometimes referred to informally as "vertical resolution."
  - (3) Lateral Resolution=Sparrow criterion, objective dependent.
  - (4) Data scan speed depends on the measurement array and data acquisition mode.
  - (5) 1-σ Step height repeatability verified using 1.8 µm and 24 µm ZYGO certified step height standards.
  - (6) Instrument contribution to uncertainty for step height measurements using the piezo drive.

Distribution in the UK & Ireland



**Lambda Photometrics Limited**  
Lambda House Batford Mill  
Harpenden Herts AL5 5BZ  
United Kingdom

**Characterisation, Measurement & Analysis**  
**E:** info@lambdaphoto.co.uk  
**W:** www.lambdaphoto.co.uk  
**T:** +44 (0)1582 764334  
**F:** +44 (0)1582 712084