

NewView™ 8300

Specifications

SYSTEM	
ZYGO P/N	6307-0100-01 NV 8300 w/ isolation 6307-0100-11 NV 8300 w/o isolation
Measurement Technique	3D coherence scanning interferometry including SureScan™ technology
Scanner	Precision Piezo drive with Closed loop capacitance gauge control and crash protection
Objectives	1X, 2X, 2.75X, 5.5X, 10X, 20X, 50X, 100X Standard and long working distance See separate specification sheet for details
Objective Mounting Options	• Single objective dovetail • Manual Encoded 4-position turret • Motorized 4-position turret
Optical zoom	Motorized 3-position encoded zoom • 1.0X included • 0.5X, 0.75X, 1.5X, 2.0X optional
Field of View	Objective and zoom selectable from 0.04 to 16 mm, Integrated field stitching for larger areas
Illuminator	Proprietary solid-state white light source with manual field stop, aperture stop and spectral filters
Measurement Array	Selectable 1024 x 1024, 512 x 512, 1024 x 160
Part Viewing	Integrated view window in Mx software
Focus	Motorized manual or auto focus with through-the-lens focus aid
Z-Drive (Focus) Stage	100 mm range with 0.1 µm resolution
Part Stage	Manual stage travel range: • XY: 100 mm; Tilt: ±4° Motorized stage travel range: • XY: 150 mm; Tilt: ±4° Encoded XYZ options available
System Controller	i7 class PC with 23 in. 1080P display
Software	ZYGO Mx software running under Microsoft Windows 7 (64-bit)

PHYSICAL	
Dimensions (HWD)	75 x 64 x 56 cm (main unit, benchtop configuration) 151 x 73 x 61 cm (on stand, max. height, doors closed) Optional Workstation: 83 x 73 x 61 cm (drawer closed)
Weight	NewView System: 91 kg NewView System & Stand: 229 kg

UTILITY REQUIREMENTS	
Input Voltage	100 to 240 VAC, 50/60 Hz
Compressed Air for table	4.1 to 5.5 bar (60 to 80 psi); dry and filtered; ¼ in. hose input

PERFORMANCE	
Vertical Scan Range	150 µm with precision Piezo drive 20 mm with extended scan
Surface Topography Repeatability ⁽¹⁾	0.2 nm
Repeatability of RMS ⁽²⁾	0.01 nm
Optical Lateral Resolution ⁽³⁾	0.34 µm (100X objective)
Spatial Sampling	0.04 µm (100X objective 2X zoom)
Maximum Data Scan Speed ⁽⁴⁾	96 µm/sec
Step Height Repeatability ⁽⁵⁾	0.1%
Height Response Linearity ⁽⁶⁾	≤30 nm
Step Height Accuracy for Extended Scans ⁽⁷⁾	0.8%

TEST PART CHARACTERISTICS	
Material	Opaque, transparent, coated, uncoated, specular, rough
Maximum Size (HWD)	89 x 203 x 203 mm max for 150 x 150 mm coverage; larger sample sizes possible with partial coverage
Maximum Surface Slope	55° – smooth part @ 100X 86° – scattering surface
Sample Reflectivity	0.05% - 100%

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	Included and required for vibration in the range of 1 Hz to 120 Hz
Vibration Criterion	VC-C or better

FOOTNOTES

Performance specifications under laboratory conditions using standard specimens, according to ISO 25178-601, 25178-604 and 5436-1.

- (1) Single measurements at 7.2 µm/sec scan speed, 1 million image points, 3x3 pixel denoising filter.
- (2) Repeatability of the RMS surface roughness parameter Sq, under the same conditions as for (1).
- (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 NIST-traceable step height standards.
- (6) Maximum deviation with respect the best fit linear response.
- (7) Instrument contribution to uncertainty for step height measurements in extended scan mode.

Specifications subject to change without prior notice.



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TYPICAL OBJECTIVES CHART *

Power	Type	WD (mm)	FOV (mm) 0.5X 1.0X 2.0X	Optical Res (µm) Sparrow Criterion	Spatial Sampling (µm) 0.5X 1.0X 2.0X	NA	ZYGO P / N
1X	LWD	8.0	16.81 × 16.81 8.34 × 8.34 4.20 × 4.20	9.50	16.42 8.15 4.10	0.03	6300-0318-01
2X	LWD	20.5	8.41 × 8.41 4.17 × 4.17 2.10 × 2.10	5.18	8.21 4.07 2.05	0.055	6300-0245-01
2.75x	STD	4.5	6.05 × 6.05 3.00 × 3.00 1.51 × 1.51	3.56	5.91 2.93 1.48	0.08	6401-0100-01
5X	LWD	20.0	3.36 × 3.36 1.67 × 1.67 0.84 × 0.84	2.04	3.28 1.63 0.82	0.14	6300-0249-01
5.5x	STD	9.6	3.02 × 3.02 1.50 × 1.50 0.76 × 0.76	1.90	2.95 1.47 0.74	0.15	6401-0101-01
10X	STD	7.4	1.68 × 1.68 0.83 × 0.83 0.42 × 0.42	0.95	1.64 0.82 0.41	0.30	6300-0194-01
10X	LWD	18.8	1.87 × 1.87 0.93 × 0.93 0.47 × 0.47	1.02	1.82 0.91 0.46	0.28	6300-0263-01
20X	STD	4.7	0.84 × 0.84 0.42 × 0.42 0.21 × 0.21	0.71	0.82 0.40 0.21	0.40	6300-0595-01
50X	STD	3.4	0.34 × 0.34 0.17 × 0.17 0.08 × 0.08	0.52	0.33 0.17 0.08	0.55	6300-0597-01
100X	STD	0.5	0.17 × 0.17 0.08 × 0.08 0.04 × 0.04	0.34	0.16 0.08 0.04	0.85	6401-0102-01

*For a complete list of Zygo interferometric objective specifications, see the Nexview & NewView 8000 Objective Selection Guide.



Distribution in the UK & Ireland



**Characterisation,
Measurement &
Analysis**

Lambda Photometrics Limited
 Lambda House Batford Mill
 Harpenden Herts AL5 5BZ
 United Kingdom
E: info@lambdaphoto.co.uk
W: www.lambdaphoto.co.uk
T: +44 (0)1582 764334
F: +44 (0)1582 712084