

Specifications

SYSTEM	
ZYGO P/N	6301-0105-01 Manual XY Stage 6301-0105-02 Auto XY Stage 6301-0105-11 Manual XY; ext. head pos. 6301-0105-12 Auto XY; ext. head pos.
Measurement Technique	Non-contact, three-dimensional, coherence scanning interferometry
Scanner	Long range z-stage
Objectives	1X – 50X magnification; Standard and long working distance See the Nexview / NewView 8000 / ZeGage Objective Chart for more details
Objective Mounting Options	<ul style="list-style-type: none"> • Direct objective thread (standard) • Single objective dovetail (opt.) • Manual or motorized 4 obj. turret (option)
Field of View	Objective dependent See Nexview / NewView 8000 / ZeGage Objective Chart for details
Illuminator	Integrated long-life white light LED with computer controlled light level
Measurement Array	Selectable 1024 x 1024, 512 x 512, 256 x 256, 1024 x 160
Part Viewing	Integrated view window in Mx software
Focus Assist	Software controlled through-the-lens focus aid
Z-Drive (Focus) Stage	100 mm travel; head may be mounted at either of 2 heights for optimal work volume
Part Stage	Manual Tip/Tilt Stage with $\pm 4^\circ$ travel, and integrated t-slot fixture plate (standard on all configurations) <ul style="list-style-type: none"> • Manual XY w 50 x 100 mm x/y travel (-01, -11) • Motorized X/Y w/ 100 x 100 mm x/y travel (-02, -12)
Stage Control	USB Puck
System Controller	i5 class PC with 23 in. 1080P display
Software	ZYGO Mx software running under Microsoft Windows 7 (64-bit)
Safety	Integrated emergency motion stop
PHYSICAL	
Dimensions (HWD)	156 x 127 x 76 cm (ZeGage on workstation table) 82 x 53 x 53 cm (ZeGage) 74 x 127 x 76 cm (Workstation Table)
Weight	ZeGage: 54 kg Workstation Table: 37 kg
UTILITY REQUIREMENTS	
Input Voltage	100 to 240 VAC, 50/60 Hz

PERFORMANCE	
Vertical Scan Range	≤ 20 mm (limited by obj. working distance)
Surface Topography Repeatability ⁽¹⁾	≤ 0.15 nm
Repeatability of RMS ⁽²⁾	0.01 nm
Optical Lateral Resolution ⁽³⁾	0.52 μ m (50X objective)
Spatial Sampling	0.17 μ m (50X objective)
Data Scan Speed ⁽⁴⁾	≤ 73 μ m/sec
Step Height Repeatability ⁽⁵⁾	$\leq 0.3\%$ @1 σ
Step Height Accuracy	$\leq 3\%$

TEST PART CHARACTERISTICS	
Material	Opaque, transparent, coated, uncoated, specular, rough
Maximum Size (HWD)	87 x 100 x 100 mm for 100 mm XY coverage using std. head pos. 147 x 100 x 100 mm for 100 mm XY coverage using ext. head pos. Larger sample width and depth possible with partial coverage
Sample Reflectivity	0.05% - 100%

ENVIRONMENTAL REQUIREMENTS	
Temperature	15 to 30°C with rate of change $< 1.0^\circ\text{C}$ per 15 min
Humidity	5 to 95% relative, noncondensing
Vibration Isolation	No external isolation required
Vibration Criterion	VC-A or better (recommended)

FOOTNOTES

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

- (1) Single measurements at 7.8 μ m/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). 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 μ m and 24 μ m NIST-traceable step height standards.

Specifications subject to change without prior notice.