

## Specifications

SYSTEM	
ZYGO P/N	6314-0100-01
Configuration Options	Manual 100x50 mm XY Motion Kit Motorized 100x100 mm XY Motion Kit Extended work volume head mounting
Measurement Technique	Non-contact, three-dimensional, coherence scanning interferometry
Scanner	Long range z-stage
Objectives	1X – 50X magnification; Standard and long working distance
Objective Mounting Options	<ul style="list-style-type: none"> <li>• Single objective dovetail (standard)</li> <li>• Manual or motorized 4 obj. turret (option)</li> </ul>
Field of View	Objective dependent See the Nexview NX2 / NewView 9000 / ZeGage Pro Objective Chart for details
Illuminator	Integrated long-life white light LED with computer controlled light level
Measurement Array	Selectable 1600 x 1200, 1000 x 1000, 1000 x 600, 1000 x 200
Part Viewing	Integrated view window in Mx software
Focus Assist	Mx powered Part Finder with Fast Focus Technology
Z-Drive (Focus) Stage	100 mm travel; head may be mounted at either of 2 heights for optimal work volume Manual Tip/Tilt Stage with $\pm 4^\circ$ travel, and integrated t-slot fixture plate (standard on all configurations)
Part Stage	<ul style="list-style-type: none"> <li>• Manual XY w 50 x 100 mm x/y travel</li> <li>• Motorized X/Y w/ 100 x 100 mm x/y travel</li> </ul>
Stage Control	ZYGO XYZ pendant with joystick, speed control, z-stop and emergency stop
System Controller	i7 class PC with 23 in. 1080P display
Software	ZYGO Mx software running under Microsoft Windows 7 (64-bit)
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	$\leq 20$ mm (limited by objective working distance)
Surface Topography Repeatability <sup>(1)</sup>	$\leq 3.5$ nm
Repeatability of RMS <sup>(2)</sup>	0.1 nm
Optical Lateral Resolution <sup>(3)</sup>	0.52 $\mu$ m (50X objective)
Spatial Sampling	0.17 $\mu$ m (50X objective)
Data Scan Speed <sup>(4)</sup>	32 $\mu$ m/sec @ 1600 x 1200 42 $\mu$ m/sec @ 1000 x 1000 64 $\mu$ m/sec @ 1000 x 600 171 $\mu$ m/sec @ 1000 x 200
Step Height Repeatability <sup>(5)</sup>	$\leq 0.3\%$ @ $1\sigma$
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 $< 1.0^\circ$ 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  $\mu$ m/sec scan speed, 1 million image points, 3x3 pixel denoising filter.
- (2) Repeatability of the RMS surface roughness parameter  $S_q$ , under the same conditions as for (1). Note that the repeatability of the  $S_q$  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)  $1-\sigma$  Step height repeatability verified using 1.8  $\mu$ m and 24  $\mu$ m NIST-traceable step height standards.

Specifications subject to change without prior notice.