

NewView™ 7100

Specifications

SYSTEM

ZYGO P/N	6301-0281-01
Measurement Technique	Non-contact, three-dimensional, scanning white light interferometry
Scanner	Closed-loop piezo-based, with highly linear capacitive sensors
Objectives	Infinite conjugate interferometric objectives; 1X, 2X, 2.5X, 5X, 10X, 20X, 50X, 100X. Refer to the NewView Objective Chart for objective specifications
Field of View	Objective dependent; from 0.07 to 9.3 mm standard; larger area imaged with field stitching
Illuminator	Single white-light LED with superior life, uniform imaging and high efficiency
Objective Mounting	Quick mount single objective dovetail; Motorized or manual turret optional
Controls	Filter Tray and Field Stop (Focus-aid)
Measurement Array	640x480 standard; 992x992 (1K) optional
Part Viewing	On-screen live display
Focus	Motorized manual and auto focus
Z-Drive (Focus) Stage	DC brushless microstepper motor with ballscrew drive, 100 mm range, and 0.1 μm resolution
Part Stage Options	<ul style="list-style-type: none"> Manual Tip/Tilt/X/Y with $\pm 6^\circ$ tip/tilt, 100 mm x/y travel. Motorized Tip/Tilt/X/Y with $\pm 4^\circ$ tip/tilt, 152 mm x/y travel Motorized Tip/Tilt/X-Theta (or Y-Theta) with $\pm 4^\circ$ tip/tilt, 152 mm linear travel
Computer	High-performance Dell PC with widescreen LCD monitor
Software	ZYGO MetroPro software running under Microsoft Windows XP

PHYSICAL

Dimensions (HWD)	Overall System:
	157 x 132 x 89 cm (62 x 52 x 35 in.)
	NewView:
	81 x 58 x 41 cm (32 x 23 x 16 in.)
	Vibration Isolation Table:
	76 x 61 x 61 cm (30 x 24 x 24 in.)
	Workstation Table:
	85 x 132 x 89 cm (33.5 x 52 x 35 in.)
Weight	System: ~ 430 kg (950 lb)
	NewView: ~ 90 kg (200 lb)
	Vibration Isolation Table: ~ 272 kg (600 lb)



PERFORMANCE

Vertical Scan Range	150 μm (5906 μin); Extended scan range to 20 mm (0.79 in.)
Vertical Resolution	< 0.1 nm (0.004 μin)
Optical Resolution	0.36 to 9.5 μm (14.2 to 374 μin); objective dependent
Data Scan Rate	$\leq 26 \mu\text{m}/\text{sec}$, user-selectable; camera and scan mode dependent
Maximum Data Points	307,200 (VGA camera) 984,064 (1K camera)
RMS Repeatability	< 0.01 nm (0.0004 μin) $\text{RMS}\sigma$
Step Height	Accuracy $\leq 0.75\%$ Repeatability $\leq 0.1\%$ @ 1σ

TEST PART CHARACTERISTICS

Material	Various surfaces: opaque, transparent, coated, uncoated, specular, nonspecular
Maximum Size (HWD)	89 x 203 x 203 mm (3.5 x 8 x 8 in.); larger sample sizes possible
Reflectivity	1-100%

ENVIRONMENTAL REQUIREMENTS

Temperature	15 to 30°C (59 to 86°F)
Rate of Temperature Change	<1.0°C per 15 min
Humidity	5 to 95% relative, noncondensing
Vibration Isolation	Required for vibration frequencies in the range of 1 Hz to 120 Hz
Vibration Criterion	VC-C or better

UTILITY REQUIREMENTS

Input Voltage	100 to 240 VAC, 50/60 Hz
Compressed Air	60 to 80 psi (4.1 to 5.5 bar); dry and filtered source; 1/4 in. input; for vibration isolation table