

NewView™ 700s Specifications



SYSTEM

ZYGO P/N	6301-0280-01
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
Illuminator	Integrated long-life white-light LED with computer-controlled light level
Objective Mounting	Quick mount single objective dovetail; Motorized or manual turret optional
Controls	Optical Filter Tray and Focus Aid
Measurement Array	640x480
Part Viewing	On-screen live display
Fine Focus Stage	Medium and fine manual control, with 30 mm (1.2 in.) of travel
Coarse Z-Stage	Coarse, large range manual control, with 250 mm (10 in.) of travel; actual travel is configuration dependent
Part Stage	Manual Tip/Tilt/X/Y, with $\pm 6^\circ$ tip/tilt, 100 mm x/y travel
Computer	High-performance Dell PC with widescreen LCD monitor
Software	ZYGO MetroPro software running under Microsoft Windows XP

PHYSICAL

Dimensions (HWD)	Overall System:	146 x 132 x 89 cm (58 x 52 x 35 in.)
	NewView:	70 x 30 x 42 cm (28 x 12 x 16.5 in.)
	Vibration Isolation Table:	76 x 61 x 61 cm (30 x 24 x 24 in.)
Weight	System: ~ 400 kg (880 lb)	
	NewView: ~ 32 kg (70 lb)	
	Vibration Isolation Table: ~ 272 kg (600 lb)	

PERFORMANCE

Vertical Scan Range	$\leq 150 \mu\text{m}$ (5906 μin)
Vertical Resolution	$< 0.1 \text{ nm}$ (0.004 μin)
Optical Resolution	0.36 to 9.50 μm (14.2 to 374 μin); objective dependent
Data Scan Rate	$\leq 15 \mu\text{m/sec}$ (591 $\mu\text{in/sec}$)
Maximum Data Points	307,200
RMS Repeatability	$< 0.01 \text{ nm}$ (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
Reflectivity	1-100%

ENVIRONMENTAL REQUIREMENTS

Temperature	15 to 30°C (59 to 86°F)
Rate of Temperature Change	$< 1.0^\circ\text{C}$ (1.8°F) 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