

NewView™ 7300

Specifications

SYSTEM

Measurement Technique	Non-contact, three-dimensional, scanning white light interferometry
Scanner	Closed-loop piezo-based, with highly linear capacitive sensors
Objectives	1X, 2X, 2.5X, 5X, 10X, 20X, 50X, 100X; objectives available in standard and long working distances Refer to the NewView Objective Chart for objective specifications
Objective Mounting Options	<ul style="list-style-type: none"> • Single objective dovetail • Manual 6-position turret • Motorized 6-position turret
Field Zoom Lenses	High-quality discrete zoom lenses; 0.5X, 0.75X, 1.0X, 1.5X, 2.0X
Image Zoom	Motorized 3-position system zoom
Field of View	From 0.03 to 14 mm; larger area imaged with field stitching; objective and zoom dependent
Illuminator	Unique single white-light LED design with superior life, uniform imaging and high efficiency
Controls	Filter Tray, Aperture Stop, and Field Stop (Focus-aid)
Measurement Array	Selectable, includes standard-640x480, 320x240, 160x120; optional- 992 x 992 (1K)
Part Viewing	Secondary LCD monitor
Focus	Motorized manual and auto focus
Z-Drive (Focus) Stage	DC brushless microstepper motor with ballscrew drive, 4 in. range, and 0.1 μ m resolution
Part Stage Options	<ul style="list-style-type: none"> • Manual Tip/Tilt/X/Y with $\pm 6^\circ$ tip/tilt, ± 2 in. x/y • Motorized Tip/Tilt/X/Y with $\pm 4^\circ$ tip/tilt, ± 3 in. x/y • Motorized Tip/Tilt/X-Theta (or Y-Theta) with $\pm 4^\circ$ tip/tilt, ± 3 in. linear travel
Computer	High-performance Dell PC with LCD monitor
Software	ZYGO MetroPro software running under Microsoft Windows XP

PHYSICAL

Dimensions (H x W x D)	<p>Overall System: 62 x 52 x 35 in. (157 x 132 x 89 cm)</p> <p>NewView: 32 x 23 x 16 in. (81 x 58 x 41 cm)</p> <p>Vibration Isolation Table: 30 x 24 x 24 in. (76 x 61 x 61 cm)</p> <p>Workstation Table: 33.5 x 52 x 35 in. (85 x 132 x 89 cm)</p>
Weight	<p>System: \approx 950 lb (430 kg)</p> <p>NewView: \approx 200 lb (90 kg)</p> <p>Vibration Isolation Table: \approx 600 lb (272 kg)</p>



PERFORMANCE

Vertical Scan Range	150 μ m (5906 μ m); Extended scan range to 20 mm (0.79 in.)
Vertical Res.	< 0.1 nm (0.004 μ m)
Lateral Res.	0.36 to 9.5 μ m; objective dependent
Data Scan Rate	\leq 135 μ m/sec, user-selectable; camera and scan mode dependent
Maximum Data Points	307,200; 984,064 (optional); camera dependent
RMS Repeatability	< 0.01 nm (0.0004 μ m) RMS σ
Step Height	Accuracy \leq 0.75% Repeatability \leq 0.1% @ 1 σ

TEST PART CHARACTERISTICS

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

ENVIRONMENTAL REQUIREMENTS

Temperature	15 to 30°C (59 to 86°F)
Rate of Temp. 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

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