

NewView™ 7100

Specifications

SYSTEM

Measurement Technique	Non-contact, three-dimensional, scanning white light interferometry
Scanner	Closed-loop piezo-based, with highly linear capacitive sensors
Field of View	From 0.07 to 9.3 mm standard; from 0.15 to 14.5 mm with optional 1K camera; larger area imaged with field stitching; objective dependent
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
Dimensions (HWD)	System: 157 x 132 x 89 cm NewView: 81 x 58 x 41 cm
Weight	System: \approx 430 kg (950 lb) NewView: \approx 90 kg (200 lb)
Input Voltage	100 to 240 VAC, 50/60 Hz
Computer	High-performance Dell PC with widescreen LCD monitor
Software	ZYGO MetroPro software running under Microsoft Windows XP

ACCESSORIES (OPTIONS)

Objectives	Infinite conjugate interferometric objectives; 1X, 2X, 2.5X, 5X, 10X, 20X, 50X, 100X. Refer to the NewView Objective Chart for objective specifications
Turrets	<ul style="list-style-type: none"> Manual 6-position turret Motorized 6-position turret
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
Measurement Standards	<ul style="list-style-type: none"> Lateral Calibration Standard Precision Lateral Calibration Standard SiC Reference Flat Step Height Standards
Worktable	<ul style="list-style-type: none"> Wrap-around, 34 x 52 x 35 in. (HWD) (864 x 1321 x 889 mm); nests next to the vibration isolation table



PERFORMANCE

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

TEST PART CHARACTERISTICS

Material	Various surfaces: opaque, transparent, coated, uncoated, specular, and nonspecular
Maximum Size (HWD)	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
Compressed Air	For vibration isolation table, 60 to 80 psi (4.1 to 5.5 bar); dry and filtered source; 1/4 in. input



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