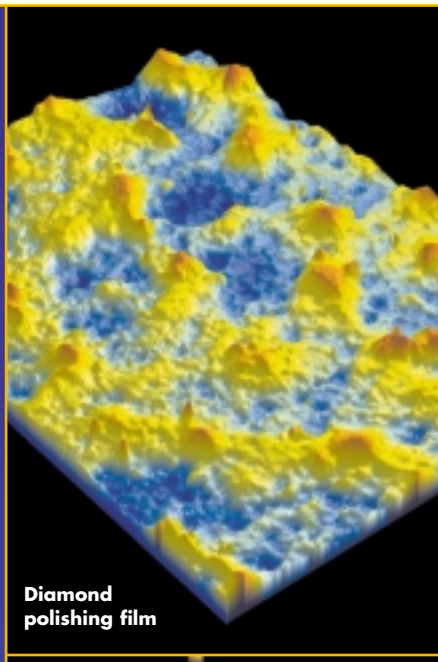
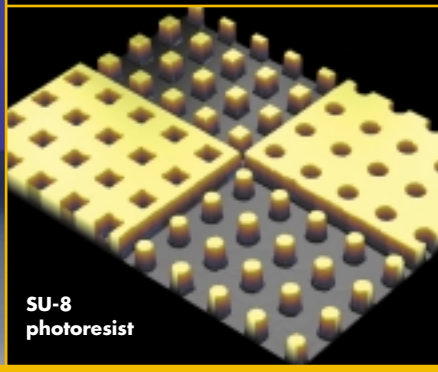
Wyko NT1100 Optical Profiling System

Quantitative 3D Topography for Research and Low-Volume Production


Diamond polishing film

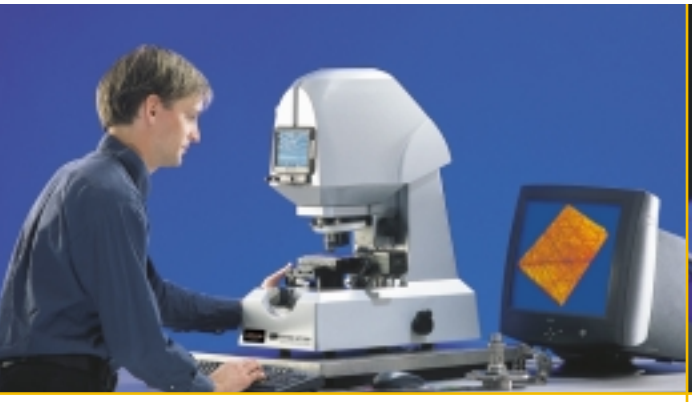

SU-8 photoresist

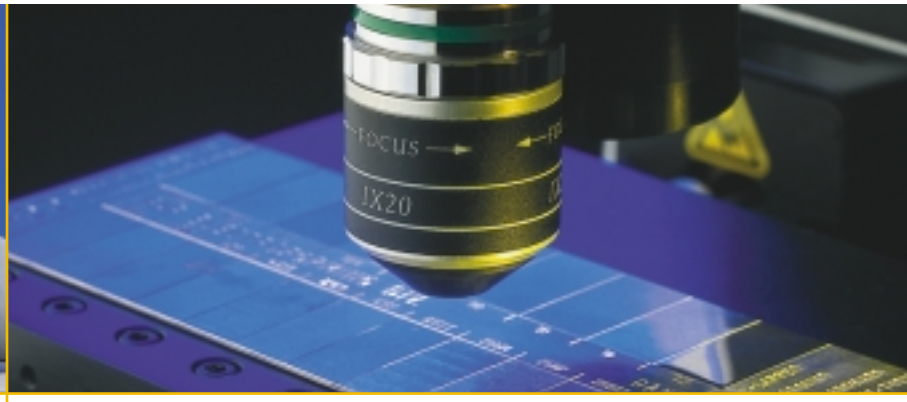

Stitched dataset: 1 Euro coin

The Wyko® NT1100 provides accurate, non-contact surface metrology for applications in MEMS, thick films, optics, ceramics, advanced materials and many more.

- Accurate surface topography in a small footprint
- Sub-nanometer vertical resolution at all magnifications
- Motorized stage for stitching large area measurements
- Complete system including Wyko Vision32® analysis software

Veeco





Fast and repeatable, the NT1100 utilizes white light interferometry for high resolution 3D surface measurements, from sub-nanometer roughness to millimeter-high steps. On super-smooth or rough surfaces, the versatile NT1100 provides repeatable surface measurement for R&D, wear and failure analysis, and process control.

The cost-effective NT1100 offers all the advantages of industry-standard Wyko optical profiling, including the full Wyko Vision32® analytical software package. Vision32, the industry's most comprehensive analysis program, provides over 200 tools to quantify and visualize surface data — all standard.

The NT1100 has the performance features of larger NT Series instruments: easy measurement setup, fast acquisition, comprehensive analysis and Angstrom-level repeatability. The Data Stitching option adds a motorized stage and support software to rapidly scan large surface areas.

Call 520.741.1044 or 1.888.24.VEECO
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[1] As demonstrated by a PSI measurement with nulled fringes on a SiC reference mirror.

[2] As demonstrated by taking the one sigma Rq value of 30 PSI repeatability measurements on a SiC reference mirror.

Specifications

SYSTEM

Measurement Techniques	optical phase-shifting and white light vertical scanning interferometry
Measurement Capability	three-dimensional, non-contact, surface profile measurements
Objectives	1.5X, 2.5X, 5.0X, 10X, 20X, 50X; optional manual turret
Field-of-View Lenses	0.5X, 0.75X, 1.0X, 1.5X, 2.0X
Measurement Array	user-selectable, maximum array 736 x 480
Light Source	tungsten halogen lamp (user-replaceable); manual filter selection
Stages	manual; ±50.8 mm (±2 in.) X/Y translation, ±4° tip/tilt; optional automated stitching stage, ±50.8 mm (2 in.) X/Y
Optical Assembly	integrated illuminator; interchangeable discrete field-of-view lenses; closed-loop precision vertical scanning assembly
Video Display	127 mm (5 in.) monochrome monitor
Computer System	PC with latest Celeron® processor, 430 mm (17 in.) SVGA monitor; optional printers and network cards
Software	Wyko Vision32® software running under Microsoft® Windows XP®

PERFORMANCE

Vertical Measurement Range	0.1 nm to 1 mm
Vertical Resolution[1]	< 1Å Ra
RMS Repeatability[2]	0.01 nm
Vertical Scan Speed	up to 7.2 µm/sec (288 µin./sec)
Lateral Spatial Sampling	0.08 to 13.1 µm
Field-of-View	8.24 mm to 0.05 mm (larger areas with Data Stitching option)
Reflectivity	1% to 100%

ENVIRONMENT

Temperature Range	between 15 and 30 °C (59 to 86 °F)
Humidity Range	≤ 80%, non-condensing
Vibration	optional isolation system (recommended)

DIMENSIONS

Microscope	399 mm W x 508 mm D x 737 mm H (15.5 in. W x 20 in. D x 29 in. H)

WEIGHT

Microscope	does not exceed 56.7 kg (125 lbs)
Shipping Weight	204.1 kg (450 lbs)

POWER REQUIREMENTS

Input Voltage	user-selectable 100–120 VAC / 200–240 VAC, 50–60 Hz
Power Consumption	< 300 W
Compressed Air	4.2–7.0 kg/cm (60–100 PSI) for optional isolation system