

Wyko NT3300 Optical 3D Profiling System

- Next-generation, high-performance system for rapid production measurement
- Gauge-capable, non-contact measurement with subnanometer resolution
- Powerful Wyko Vision32™ software for complete analysis, automation and control

Customer-Focused Metrology for R&D and Production

The Wyko® NT3300™ combines non-contact interferometry with advanced automation for highly accurate, fast, 3D surface topography measurements from 0.1 nm up to several millimeters.

Building on the design of the industry-standard Wyko NT2000, the gauge-capable NT3300 has twice the data acquisition rate for maximum flexibility. New system features provide push-button simplicity and fast throughput while eliminating operator variability. Rigid construction offers superior vibration dampening for unmatched repeatability on the production floor. For advanced materials, precision surfaces, MEMS, semiconductor packaging, films, optics, and many more applications, the Wyko NT3300 is the tool of choice for accurate surface measurement.



Wyko NT3300 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, 2.0X, 2.5X, 5.0X, 10X, 20X, 50X; optional auto-sensing manual or motorized turret
- Measurement Array: user-selectable, maximum array: 736 x 480 standard; 1k x 1k optional; 640 x 480 with high-speed option
- Light Source: tungsten halogen lamp (user-replaceable); automated filter selection
- Stages: manual: ± 2 inches (± 50.8 mm) X/Y translation, $\pm 90^\circ$ rotation, $\pm 6^\circ$ tip/tilt
Options include:
– automated ± 4 in. (101.6 mm) X/Y translation
– automated R/ θ , 360° rotation, 4 in. (101.6 mm) or 8 in. (203.2 mm) radius
– automated stages have optional feedback positioning encoders
– motorized or automated tip/tilt head
- Optical Assembly: integrated, computer-controlled illuminator; automated discrete zoom with magnification sensing; closed-loop precision vertical scanning assembly
- Video Display: 9 in. (230 mm) RS170 monochrome monitor
- Computer System: PC with latest Pentium® processor, 17 in. (430 mm) SVGA monitor; optional printers and network cards
- Software: Wyko Vision32™ software running under Microsoft® Windows NT®

PERFORMANCE

- Vertical Measurement Range: 0.1 nm to 1 mm standard; optional to 2 mm
- Vertical Resolution: $< 1 \text{ \AA}$ Ra
- RMS Repeatability: < 0.01 nm
- Scan Speed: up to $7.2 \text{ } \mu\text{m}/\text{sec}$ (288 $\mu\text{in.}/\text{sec}$) standard; up to $14.4 \text{ } \mu\text{m}/\text{sec}$ (576 $\mu\text{in.}/\text{sec}$) optional
- Lateral Spatial Sampling: 0.08 to $13.1 \text{ } \mu\text{m}$
- Field-of-view: 8.24 mm to 0.05 mm
- Maximum Slope: 25° to 1.8°
- Reflectivity: 1% to 100%

ENVIRONMENT

- Temperature Range: between 15 and 30°C (59 to 86°F)
- Humidity Range: $\leq 80\%$, non-condensing

DIMENSIONS

- Microscope: 28.5 in. W x 26 in. D x 58.6 in. H (724 mm W x 660 mm D x 1488 mm H)
- Microscope with cart: 65.8 in. W x 31.6 in. D x 58.6 in. H (1671 mm W x 803 mm D x 1488 mm H)

WEIGHT

- Microscope does not exceed 1020 lbs (464 kg)
- Microscope with cart does not exceed 1225 lbs (557 kg)
- Shipping Weight: 1725 lbs (783 kg)

POWER REQUIREMENTS

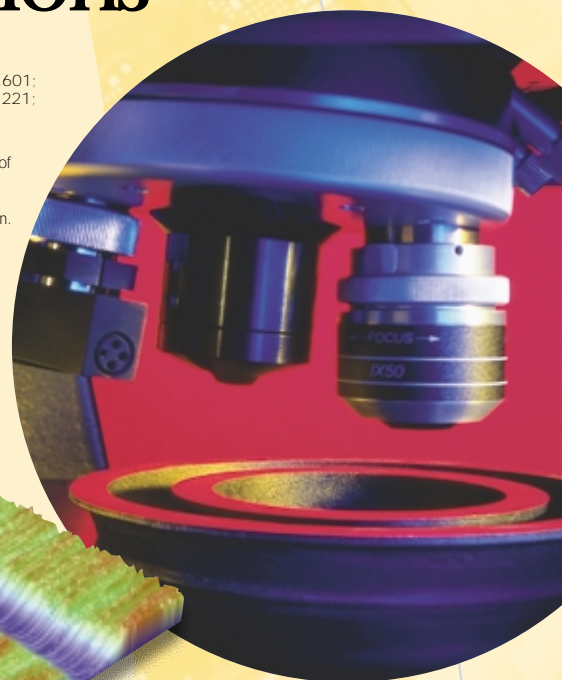
- Input Voltage: user-selectable 100–120 VAC / 200–240 VAC, 50–60 Hz
- Power Consumption: $< 300 \text{ W}$; $< 400 \text{ W}$ with stages
- Compressed Air: 60–100 PSI

U.S. Patents: 4,931,630; 5,133,601; 5,204,734; 5,122,648; 5,335,221; 5,471,303; 5,446,547

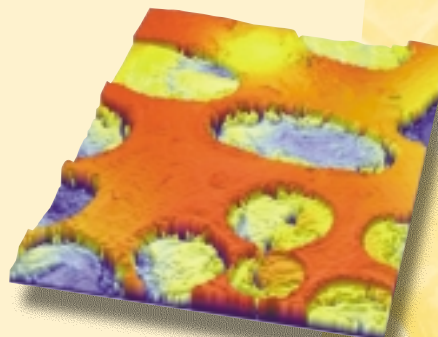
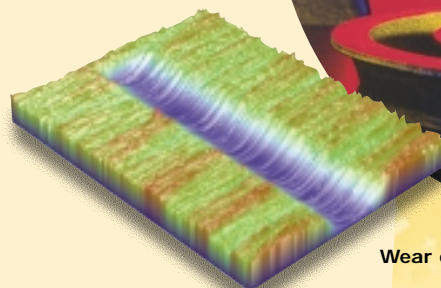
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Specifications are subject to change without notice.

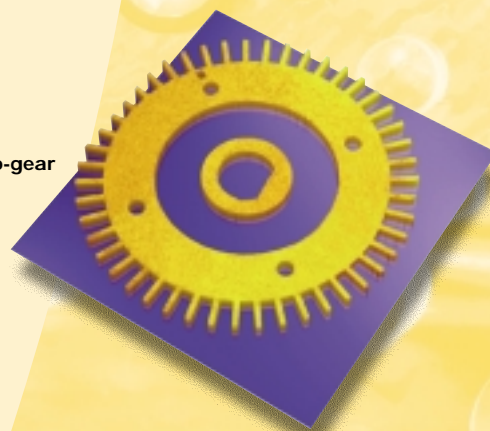
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NT3-4-0201



Wear on steel



Biomedical film



Micro-gear