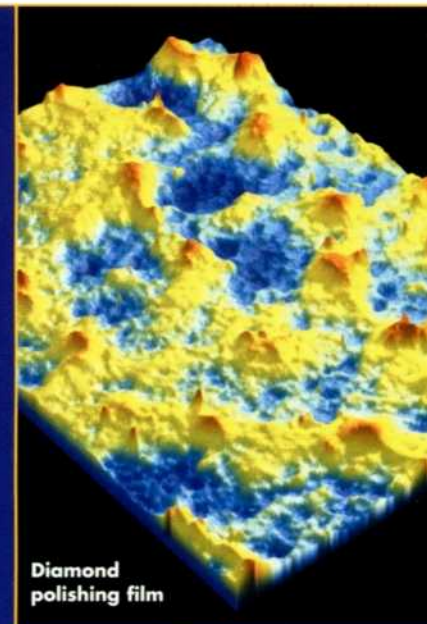
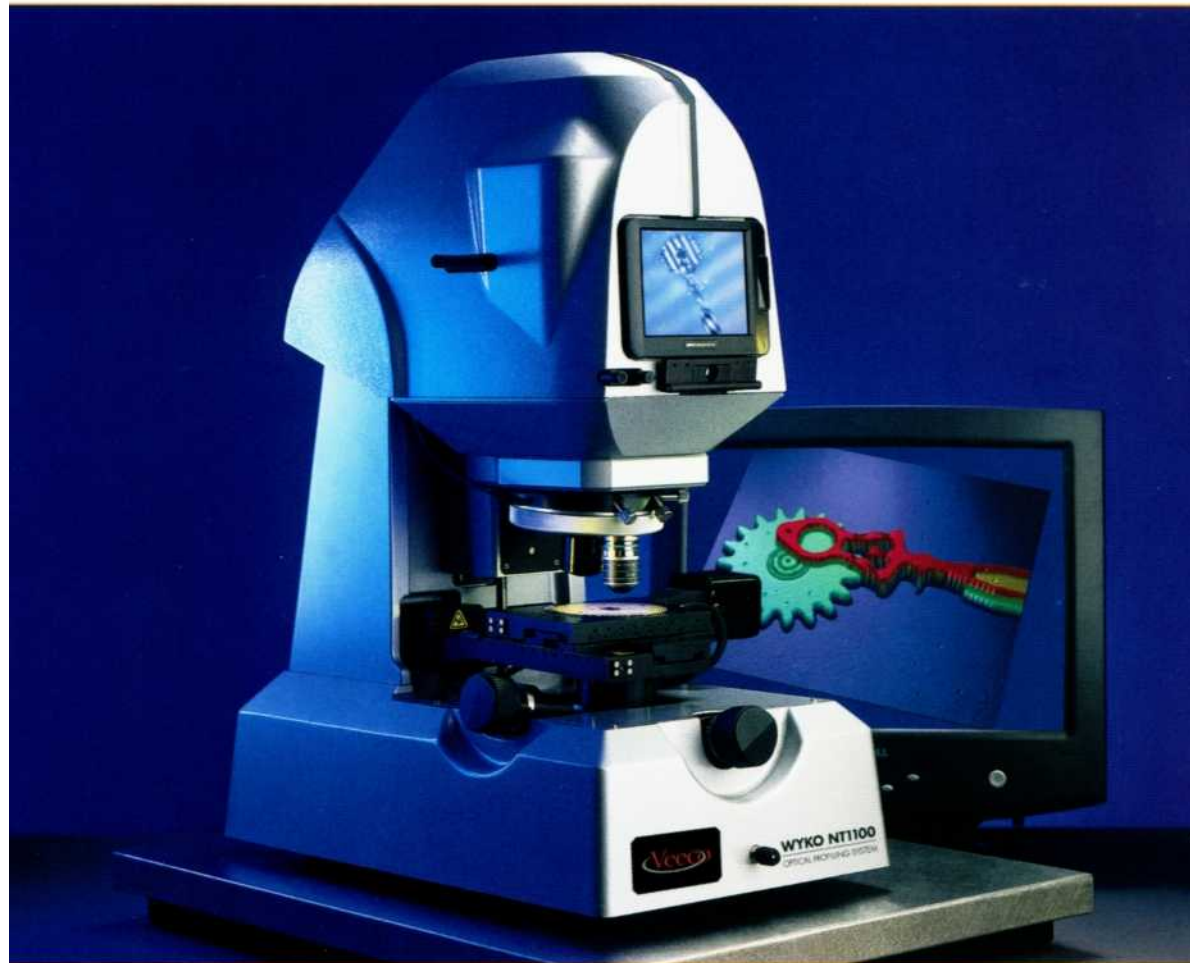
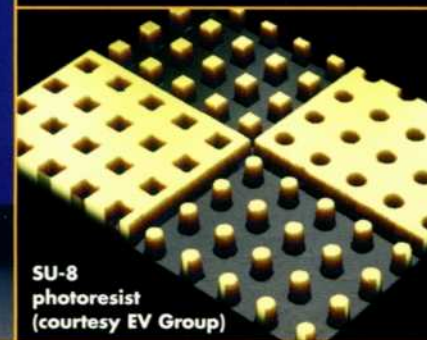


# Wyko NT1100 Optical Profiling System

## Quantitative 3D Topography for Research and Low-Volume Production



Diamond polishing film



SU-8 photoresist (courtesy EV Group)

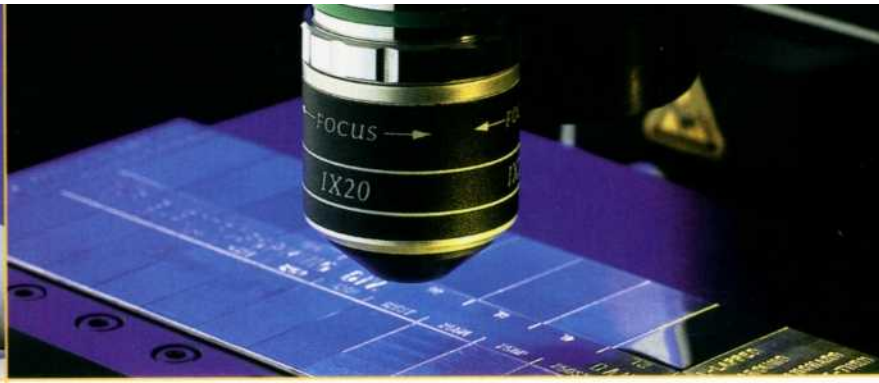
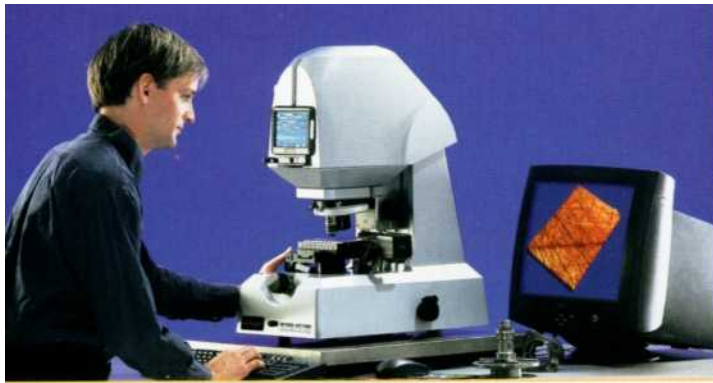


Stitched dataset:  
1 Euro coin

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 Vision®32 analysis software





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 Vision<sup>®</sup>32 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**  
 Fax: 520.294.1799 • www.veeco.com  
 2650 E. Elvira Road • Tucson, AZ 85706 USA

<sup>1</sup>As demonstrated by a PSI measurement with nulled fringes on a SiC reference mirror.

<sup>2</sup>As demonstrated by taking the one sigma Rq value of 30 PSI repeatability measurements on a SiC reference mirror.

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## 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; long working distance objectives available; 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; ± 50.8mm (± 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

127mm (5 in.) monochrome monitor

#### Computer System

PC with latest Celeron<sup>®</sup> processor, 430mm (17 in.) SVGA monitor; optional printers and network cards

#### Software

Wyko Vision<sup>®</sup>32 software running under Microsoft<sup>®</sup> Windows XP<sup>®</sup>

### PERFORMANCE

#### Vertical Measurement Range

0.1 nm to 1 mm

#### Vertical Resolution<sup>1</sup>

< 1 Å Ra

#### RMS Repeatability<sup>2</sup>

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

8.24mm to 0.05mm (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

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

### WEIGHT

#### Microscope

does not exceed 56.7kg (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

4.2–7.0kg/cm (60–100PSI) for optional isolation system