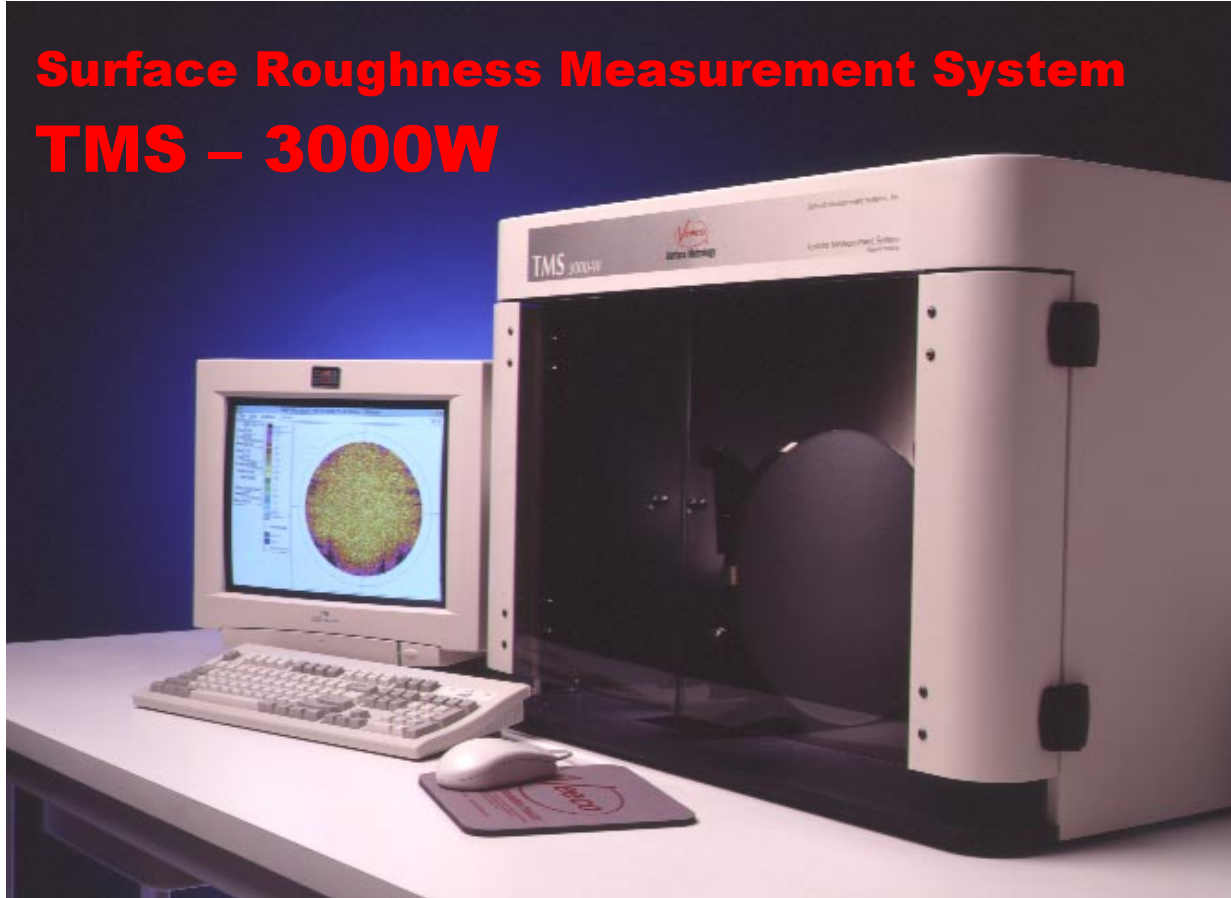


# ***The Ultimate Wafer Measurement System***

## **Surface Roughness Measurement System TMS – 3000W**



### **Non-Contact ■ Fast ■ Accurate ■ Repeatable**

The fastest, most accurate, non-contact texture measurement system in the world. Laser technology of today for the future. Currently being used successfully by major wafer manufacturers. Discover the ultimate solution to fast, accurate measurements in wafer manufacturing on wafers up to 300mm.

#### **Features:**

- **Non-Contact Measurements** cannot harm test surfaces
- **Results** – RA, RMS roughness from 0.2Å up to 5,000Å
- **Cost** – Lower costs than Profilometer, AFM or Interferometers
- **Precision** – Resolution of 0.01Å reproducibility +/-0.5Å or 1% and repeatability: +/-0.2 Å or 0.5%
- **Speed** – 50 measurements per second★

#### **Benefits:**

- Quadruple Production Throughput
- Measures Haze and Emissivity
- Increase Performance/Quality
- Unaffected by outside environmental conditions
- Minimal operator training required
- Lowest cost per measurement of any system
- Correlates to other measurement instruments

# The Ultimate In Metrology Roughness Characterization

The fastest, highest resolution, most stable non-contact microroughness measurement system in the world. Advanced laser-based system ideally suited for quantifying and mapping full surface, interrupted, and zone

scans. Now used by major disk and wafer manufacturers. Discover the ultimate answer to fast, reliable microroughness measurements in disk and wafer manufacturing, with systems that simplify lab to manufacturing correlation.

## ■ Measurements

**Source:** Class II Laser, 670 nm  
**Spot Size:** ~1mm diameter  
**Primary Results:** Ra or RMS (Rq)  
 Microroughness  
**Secondary Results:** Peak-to-Valley (P-V), RMS Slope, TIS, Diffuse Reflectance, Specular Reflectance, Total Reflectance, Emissivity, Haze, and Gloss  
**Speed:** 100 measurements per second ★  
**Range:** from 0.2Å up to 5,000Å (RMS or Ra)

## Technical Specifications

**Resolution:** 0.01Å  
**Repeatability:** ±0.2 Å or 0.5% ★★  
**Reproducibility:** ±0.5 Å or 1% ★★★  
**Spacial Filtering Frequency:**  
 Low Band: 0.026 to 0.129  $\mu\text{m}^{-1}$  (7.8 to 38  $\mu\text{m}$ )  
 High Band: 0.129 to 1.14  $\mu\text{m}^{-1}$  (0.88 to 7.8  $\mu\text{m}$ )  
 Full Band: 0.026 to 1.14  $\mu\text{m}^{-1}$  (0.88 to 38  $\mu\text{m}$ )

★ Varies with Scan and User Setup  
 ★★ Whichever is greater (same sample, same machine)  
 ★★★ Whichever is greater (same sample, different machine)

## ■ Rotary Stage

Repeatability: ±0.01°  
 Accuracy: ±0.05°

## ■ Linear Stage

Repeatability: ±0.0005 inch (±0.01 mm)  
 Accuracy: ±0.001 inch (±0.03 mm)

## ■ Data Generation

ASCII data files (detailed), SPC data files (production statistics), Color plots and sample statistics

## ■ Computer

Pentium class, with optional Color Printer

## ■ Sample - Holders

125mm, 150mm, 200mm and 300mm

## ■ Materials

Bare Silicon (etched, ground, polished, etc.) and other various coated silicon

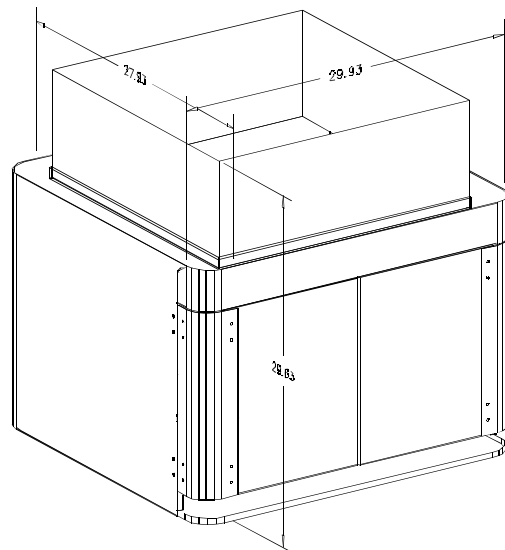
## ■ Installation

Electrical Requirements: 100-240 VAC – 50/60Hz  
 Meets Class ten clean room requirements.

## ■ Shipping Weights

Total w/packing: 180 lbs. (82 kg.)

## ■ Dimensional Drawing



**SCHMITT  
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 SYSTEMS, INC.**

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