

# MicroSense UMA-200-WL

Automated Thickness and Shape Metrology System

MicroSense UMA-200-WL measurement systems provides precise wafer measurements using chromatic confocal optical sensors.

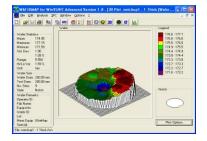
MicroSense white light systems measure a wide range of wafer materials including Si, SiC, Sapphire, GaS, GaN, Glass, Quartz and many other transparent and non transparent substrates.

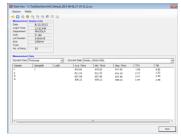
MicroSense White Light systems are available in both a low cost bench top system as well as a fully automated sorting configuration with up to six cassettes.

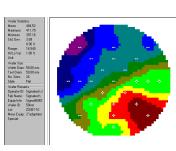


#### **OverView**

- Non-contact dual probe wafer measurement system.
- Dual White Light Chromatic Confocal Probes.
- · Dual probe system with White Light Chromatic coding.
- · Measures bare and patterned wafers, polished, non-polished, transparent and non-transparent.
- Automated X-Y air bearing stage with X-Y encoders and a wide range of available wafer adapters.
- Thickness measurement range for wafers 10µm 3mm.
- Store hundreds of recipes for each wafer size. User-generated measurement patterns.
- Results available in table format or wafer mapping software for 2D and 3D display.
- Vibration resistant granite block measurement base.
- Integrated Prealigner for 4" through 8".
- · Simple, menu driven Windows W7 user interface.
- Standard operating software package for Thickness, TTV, LTV, TIR, Sori, Taper, Bow and Warp, and a host of Semi-defined parameters.







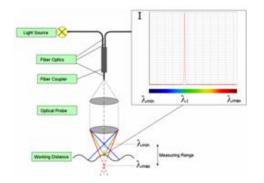
## **UMA-200-WL**

Measurement Parameters	Accuracy <sup>1</sup>	Repeatability <sup>2</sup> One Sigma	Resolution
Thickness: Flat Wafers (<500um Bow) Thickness: Center, Minimum, Maximum, Average	0.5μm	+/- 0.15 μm	0.1μm
Thickness: Bow > 500um and < 1000um			
Thickness: Center, Minimum, Maximum, Average	1.5μm	+/- 0.25 μm	0.1μm
Bow/Warp	1μm + 0.5% range	+/- 1 μm	0.1μm

<sup>1</sup> Accuracy to a known standard. Multiple UMS/UMA200-WL metrology systems will match to within the accuracy spec.

#### **Measurement Technology**

A white light source is used to illuminate the surface of a part. The light travels via fiber from the control unit to an optical probe which separates the light into different focal distances as a function of wavelength, as shown in the graph. Based on the wavelength of the reflected light, a very precise distance measurement can be taken. The optical probe determines the measuring range. Because of the high numerical aperture of the probes and dynamic range of the sensor, it is possible to measure on a wide range of materials.



#### Wafer Specifications System Configuration

### **Features**

Wafer Size:
50mm to 200mm, Custom
Diameter Tolerance:
+0.2mm, -0.5mm
Thickness Range:
10μm - 3000μm
Surfaces: Sawn, Lapped, Polished

Facilities Requirements

Sample Positioning:
Precision Air Bearing
Auto Probe Positioning:
Optional
Pre-aligner: Optional

OCR Reader: Optional SECS/GEM: Optional

Wafer Handling: Manual and Robotic

100µm and above
High-Bow up to 5mm
Cassette Stations:

Up to 6 Calibration: Automated

Reliability (MTBF): 10,000 h

Dimensions: 63" wide (UMA) or 28.5" wide (UMS) + 22" swivel monitor, 34" deep, 65" tall

Weight: 1000lbs – Fully automated system with 2 cassettes

Voltage: 110V for US, 200 – 250V options available single phase grounded polarized outlet required

Frequency: 50/60 Hz

Current: 2A nominal, 10A peak

Circuit Breaker: 10A UL489A certified breaker Air supply: Clean dry air or Nitrogen 40 – 60 PSI

Fittings: 1/2" compression fitting

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<sup>2</sup> Repeatability one sigma specification based on wafer load and unload.