

UltraMap 200-BP

Thickness Measurement System

MicroSense's UltraMap 200-BP measurement system utilizes MicroSense proprietary backpressure, auto positioning probe technology to measure wafers of any material up to 200mm in diameter.

The system can measure wafers ranging from 50um to 3mm thick without any mechanical adjustment of the probe positions. Additionally, the system can measure wafers with high bow and warp.

The UltraMap is available as a standalone (UMS20-BP) semi-automated measurement system or as a fully automated system (UMA200-BP) with wafer handling robot and multiple input output cassettes.

Wide Measurement Range

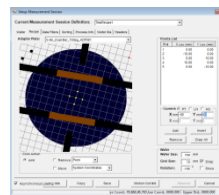
- 50um to 3mm thickness
- Warp range +/- 2500um

Precise accurate Measurements

- 0.5um absolute accuracy
- Integrated calibration standards
- Air Bearing Stage for precise repeatable measurements

Production Friendly

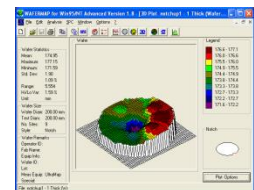
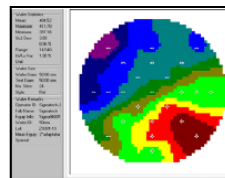
- Sawn, Lapped and Polished wafers
- Non clean room environment
- Easy data export



Flexible Recipe Setup



**NIST Traceable
Calibration Standards**



2D / 3D Wafer Mapping

UltraMap 200-BP System

Measurement Parameters	Accuracy ¹	Repeatability ² 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	3µm + 1% range	+/- 3 µm	0.1µm

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

2 Repeatability one sigma specification based on wafer load and unload.

Measurement Technology

The UMS/UMA200-BP uses an exclusive patented backpressure sensing probe for precise measurement of all materials conductive or non-conductive. The advantages of this sensing probe technology include:

- Autocalibration of backpressure sensors (no need for master wafers)
- No need to adjust for different materials
- Automatic adjustment to material thickness

Wafer Specifications

Wafer Size: 50mm, 100mm, 150mm, 200mm, and Custom

Diameter Tolerance: +0.2mm, -0.5mm

Thickness Range: 50µm - 3000µm

Surfaces:

Sawn, Lapped, Polished

System Configuration

Wafer Handling: Manual and Robotic

Measurement Positioning: Precision Air Bearing

Pre-aligner: Optional

OCR Reader: Optional

SECS/GEM: Optional

Cassette Stations: Up to 6

Calibration: Automated

Reliability (MTBF): 10,000

Facilities Requirements

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: ¼" compression fitting

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