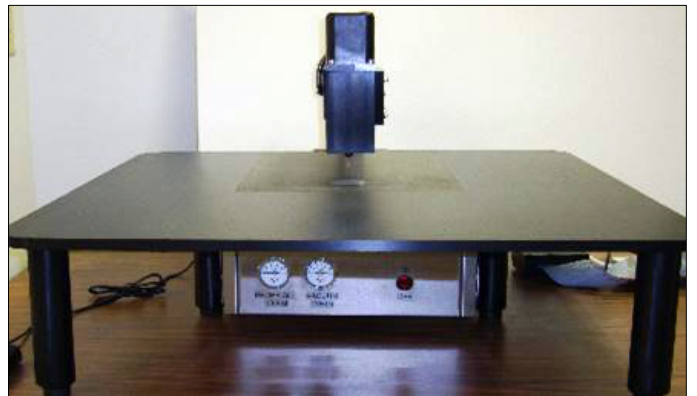
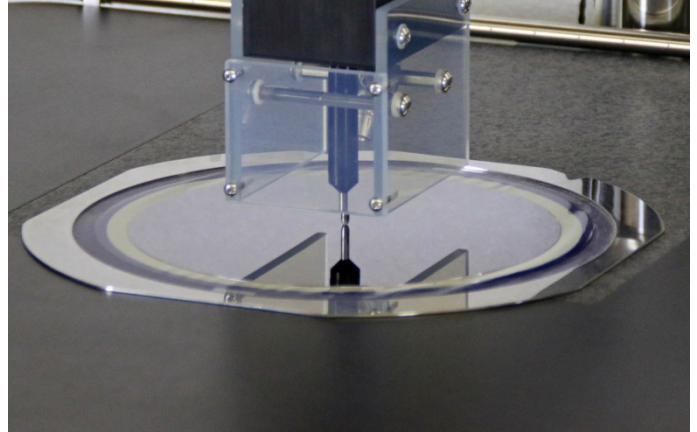


# UltraMap UMM-BP1-X30

## Precision Thickness Measurement System for Thinned Wafers and Wafers on Saw Frame

**This flexible system is ideal for non-contact thickness measurement of wafers, with sub-micron resolution, during wafer backgrind processing**

The MicroSense UltraMap UMM-BP1-X30 measurement system features a MicroSense proprietary auto-positioning backpressure probe to measure wafer thickness, of any material, up to 300mm in diameter, including diced wafers that are mounted to saw frames. The system automatically measures wafers ranging from 50µm to 5mm thick without mechanical adjustment of the probe position. The operator manually positions the wafer to the measurement point, with assistance from a laser pointer. The number of measurement points is freely programmable - 5, 9 or 21 points per wafer is typical, depending on customer requirements.



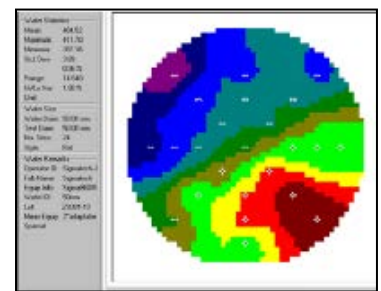
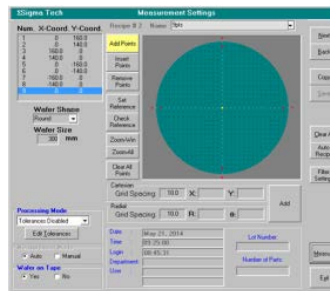
MicroSense UltraMap UMM-BP1-X30

### Measure the Thickness of a wide range of Wafers -

- Thin wafers down to 50µm thick
- Wafers on saw frame down to 10µm thick
- Thick wafers up to 5mm thick
- Measure total stack thickness of bonded wafers or wafers on temporary carrier
- Accepts wafers with up to 100µm warp
- Measures almost any wafer material

### Precise, Accurate Thickness Measurements

- Non-contact measurement sensor
- 0.1µm measurement resolution
- Sub-micron measurement repeatability
- Includes NIST traceable verification standard or gauge block



MicroSense UltraMap – recipe setup (l) and data display (r)

# UltraMap UMM-BP1-X30 System

Measurement Parameters	Accuracy <sup>1</sup>	Repeatability <sup>2</sup> One Sigma	Resolution
<b>Thickness: Flat Wafers (&lt;100µm Bow)</b> Thickness: Center, Minimum, Maximum, Average	0.5µm	+/- 0.15 µm	0.1µm

1 Accuracy to a known standard, such as NIST traceable verification standard or gauge block. Multiple UltraMap-BP metrology systems will match to within the accuracy spec.

2 Repeatability one sigma specification based on measuring a flat, SEMI standard thickness polished silicon wafer, operator positioning uncertainty excluded.

## Measurement Technology

The UltraMap Backpressure system uses a patented backpressure sensing probe for precise measurement of all materials, whether conductive or non-conductive. The advantages of this sensing technology includes:

- Autocalibration of backpressure sensors (no need for master wafers)
- No need to adjust the sensor system for different materials or material thicknesses
- Customer programmable auto height seeking range; minimize measurement time when using the system to measure wafers of similar thickness.

## Wafer Specifications

Wafer Size: Any wafer size up to 300mm diameter, including saw-frame mounted wafers.

Wafer Thickness Range:

- Standard Wafers: 50µm - 5000µm thick
- Saw Frame Mounted Wafers: > 10µm thickness

Measurement surface condition

- Wafers - As Sawn, Lapped, Polished, Patterned
- The system also measures wafers mounted to tape

Wafer warp must be < 100µm.

## System Configuration

**The system includes measurement unit with automated back pressure sensor and Windows system computer with UltraMap measurement software for data reporting and data export**

Wafer Handling: Manual, by operator

Wafer Positioning: Manual, by operator

Calibration: Automated

Reliability (MTBF): 50,000 Samples

## Facilities Requirements

Dimensions: 765mm (30") width, 865mm (34") depth, 508mm (20") height.

Separate PC, Monitor, Keyboard, and Mouse

Weight: 69 kg (150lbs)

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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