CORNING

Tropel® UltraSort II

A fully automated wafer flatness metrology platform with customizable measurement components

For more information about the UltraSort II or any other of our Tropel® Metrology Instruments, please contact:
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Tropel® UltraSort II

The UltraSort II is a flexible, high-throughput, fully automated platform that incorporates any Tropel wafer flatness measurement system, providing full surface bow, warp, TTV, and stepper simulation parameters as described in SEMI M1. The UltraSort II can also accept additional modules including additional cassettes, another interferometer, OCR, ROA, and many more. The system modularity allows you to get more value out of your automated wafer flatness inspection system. The UltraSort II platform is designed to enable full factory automation including SECS/GEM, GEM 300 host systems, along with other custom data export systems.

Family of Products

Key Specifications

CE Compliance
Semi S2/S8 Compliance
ISO 9001:2015, 9014:2015, 14001
NIST traceability on all Tropel® metrology systems

Available Wafer Configurations

2”-6” Open Cassettes
4”-8” Open Cassettes
300mm FOUP

Throughput

FlatMaster clamped/ unclamped	150 wph
FlatMaster clamped/ unclamped/thickness	120 wph
FlatMaster MSP clamped/ unclamped/ thickness	60 wph

Wafer Thickness

The FlatMaster product lines can measure the absolute wafer thickness as well as thickness variation, and free state flatness parameters. This technology enables you to control more measurement parameters with a single metrology tool. Requires tight environmental control for best results.

OCR

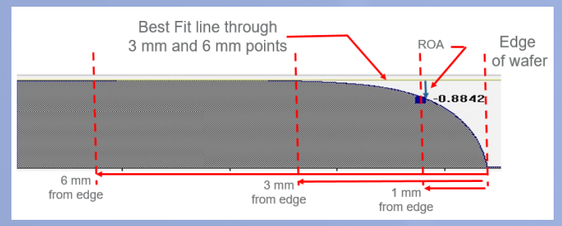
The OCR option fully integrates a Cognex OCR system into the UltraSort II. This allows the user to automatically store the wafer ID with every measurement in the measurement database and all data export formats, ensuring proper wafer measurement results tracking.

Custom Exports

Measurements in and of themselves are not useful unless the information is available where and when it is needed. Custom reports and exports allow the data to be shared throughout your company and enable process improvement and tracking. Export options include visual reports, database output, Microsoft Excel, and others.

Roll-Off/ROA

Roll-Off/ROA gives direct polishing process feedback for improved near edge flatness, which is critical to edge site yield. Roll-Off measurements are defined by SEMI M69-0307 (preliminary).

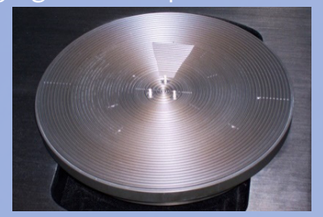


SECS/GEM

Available with full factory automation that is SECS/GEM compatible and GEM300 compatible. Integrates your measurement system right into your factory host system to ensure perfect tracking of everything.

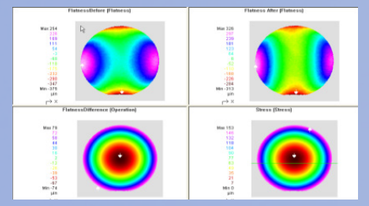
Universal Chuck

Identical in principle to a stepper chuck, but with zones to allow measurements of all wafer sizes from 2”-8” on the same chuck. Both clamped and unclamped measurements are possible with the same recipe – no unloading/changing chuck required.



Film Stress

Film stress can be calculated from the change in wafer curvature before and after a coating process, and is proportional to the wafer sag. Measuring the change of sag leads to an indirect measurement of the film stress. Material properties for the wafer and the film thickness must be known.



Flexible Cassette station

Flexible number of cassette stations (4-16), configured for 2-6 in. or 4-8 in. cassettes. Auto-detects cassette sizes, then scans for number of wafers per cassette and ensures no cross-slotted wafers.