SURFACE

AXUS TECHNOLOGY

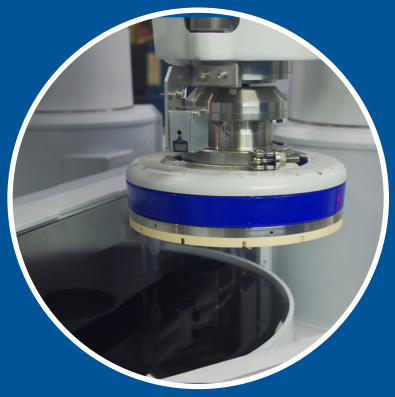
Your source for leading-edge surface processing solutions

The Surface is a fully automatic Cassette-to-Cassette system.

The Axus Surface wafer polisher is a fully automated, precision tool for CMP polishing of semiconductor wafers used to achieve flatness, uniformity and planarization on patterned/device wafers. The Surface, which is based on the IPEC 472 chassis, features automatic wafer handling and optimizes wafer throughput and quality on a two-platen, two-step polishing tool platform. Designed to planarize wafers from 100mm to 200mm, the Surface is ideally suited for material polishing applications that require repeatability with operational and processing flexibility. The Surface comes standard with a 4-pass pneumatic system for the control of the wafer carrier's multiple zones and the retaining ring, and is 200mm ready. Many membrane carrier options are available for the Surface making it a very versatile polishing tool for all types of substrates. This tool has a long list of options that are not offered with refurbished tools such as; final pad conditioning system, high pressure platen rinse, clear wafer sensing, improved wafer handling for thin substrates plus motor current and optical end point determination systems.

FEATURES

- Cassette-to-Cassette wafer handling provides for "hands-off" automatic processing
- Polishing pad conditioning system brings the primary polishing pad surface back to optimized condition
- Two-platen design provides for a buff step in oxide CMP and a two-step polishing process for metal CMP
- Multiple slurry feed capability incorporates a programmable metering system to bring polishing slurry to the polishing pads ensuring consistency



Multiple membrane choices available

7001 WEST ERIE STREET, SUITE 1, CHANDLER, ARIZONA 85226
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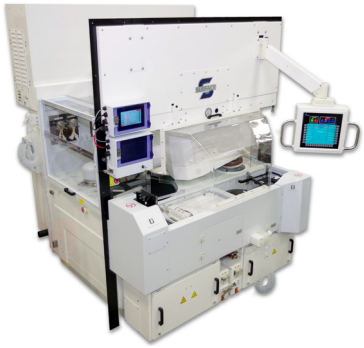

Bulkhead Mount Configuration

Ballroom Configuration

OPTIONS	BENEFITS
Concentra membrane wafer carrier for 100mm, 150mm and 200mm wafers; 3-zone membrane carrier	Multi-zone pressure control and control of the retaining ring pressure helps to improve WIWNU and reduce the edge exclusion area
Avalon membrane wafer carrier for 150mm and 200mm wafers; 4-zone membrane carrier	Multi-zone pressure control and control of the retaining ring pressure helps to improve WIWNU and reduce the edge exclusion area
Crystal membrane wafer carrier for 150mm and 200mm wafers; 4-zone membrane carrier for handling thin wafers of 300 microns and thinner	This carrier is specifically designed to safely handle thin wafers and incorporates the multi-zone pressure control and the control of the retaining ring pressure
Optical End Point Determination System (EPD) for the primary polishing platen	The optical EPD controls the polishing process by calling end point and stopping the polishing process at the predetermined point
Motor Current End Point Determination System for the primary polishing platen	Controls the polishing process to reduce over-polishing which can otherwise cause excessive dishing and erosion on the thin film surface. Especially valuable in the metal CMP process
High Pressure Platen Rinse	Delivers high pressure D.I. water to the polishing pad to enhance the removal of the used polishing slurry and worn-away thin film material to reduce the possibility of follow-on scratches
Final Platen Pad Conditioner system	This system applies pressure against the final platen polishing pad to help remove used slurry particles and worn away thin film material to optimize polishing performance and bring consistency and repeat-ability to the polishing process wafer-to-wafer, and lot-to-lot
CMP Wet Idle Mode water recirculating system enables recirculation of wet-idle water flow by sensing idle tool, it filters, and recirculates D.I. H2O	This is a water conservation system designed to reduce the consump-tion of expensive D.I H2O and minimize waste water disposal challenges
Waste Segregation System	A two-drain system which allows for the separation and isolation of two different waste (slurry,water) materials to make waste disposal easier and more efficient
Clear wafer detection	This system provides a means to automatically handle and process clear wafers which otherwise could not be processed in an automatic load/unload system

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