

Orbis

Chemical Mechanical Polishing System

The Orbis CMP system is a precision engineered, floor standing CMP tool ideally suited for R&D environments where the main purpose or application is to conduct pilot production tests with optimum analytical capabilities and enhanced processing performance.

Multi use processing capability

The Orbis has been designed to be readily adaptable as an enabling technology in pre-production testing, though it also has the ability to suit a range of processing uses. The system's capabilities can be adapted to include back-end IC manufacturing, Micro-Electromechanical Systems (MEMS) fabrication, Opto-MEMS and Bio-MEMS fabrication.

Low cost solution – high value results

The ability to conduct pilot process tests would normally require the use of expensive production level systems, yet the Orbis achieves this capability in a cost effective system. Incorporating enhanced features and high-tech functionality, the Orbis achieves superior processing capabilities to those usually offered in a system of this size. Incorporating an array of sophisticated software based analytical and data collection modules, the Orbis system will increase and significantly enhance your CMP research capabilities.

Advanced design configuration

The design system employed in the Orbis allows for a bespoke approach to the machine set-up and operation. The standard machine offers the operator a range of configurable parameters, thereby making it highly functional and adaptable to a variety of application uses. This flexibility allows the system to be easily configured, offering a high level of operational control whilst also allowing the monitoring and control of optimum process conditions. In this way, process monitoring configurations such as CoF and carrier load allow the operator to adapt the system to suit their individual requirements, whilst attaining optimal accuracy and repeatability of results.

Flexible use of operation

In addition to its ability to replicate production level environments, the Orbis is also eminently suitable for more traditional R&D usage such as small batch production and pilot production testing such as blue light applications. The system is capable of processing all die, wafer and part wafers up to 200mm / 8" diameter using a dedicated carrier. As with previous Logitech CMP equipment, templates and shims can be utilised or the samples can be mounted directly to the sample carriers.

Consistent, reliable yields

The Orbis system comes supplied with an industry standard CMP diamond pad conditioner which fits on the 2nd motor driven carrier, allowing pad conditioning to be carried out



- *Designed for R&D environments and Pilot Process Testing*
- *Downloadable data for analysis of process parameters*
- *Laboratory scale footprint*
- *Industry standard pad conditioning maintains optimum pad life*
- *High capacity workspace allowing sample capability up to 2 x 200mm/8"*

effortlessly during sample processing. The primary benefit of this is greater wafer yields, increased process reliability and a lower cost of ownership. The twin peristaltic pumps control slurry capacity & deliver equal volumes of slurry through two separate nozzles. Different slurries can be used in each pump for different processing needs if required.

Enhanced ease of use

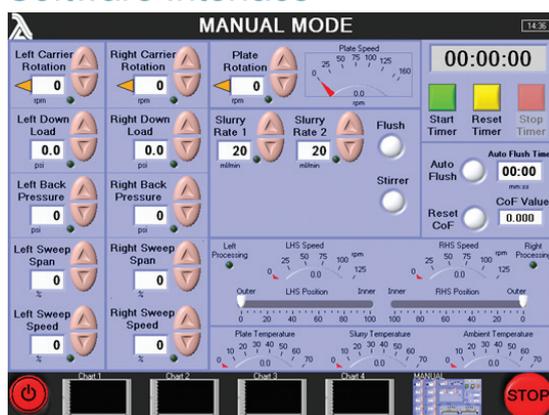
The Orbis was designed with greater usability and increased operator control as its driving force. This concept is reflected in both its construction and spacious user working area, allowing full access to the internal process area whilst retaining a laboratory scale footprint. In addition, ultra-lightweight components such as the chemical resistant plates and carrier heads, which enable easier handling, ensure that the system can be easily operated by one person. The Orbis main electronics are housed above the work area, ensuring optimal safety while the processing area has a drained base to dispose of the waste fluids.

Technical Specifications

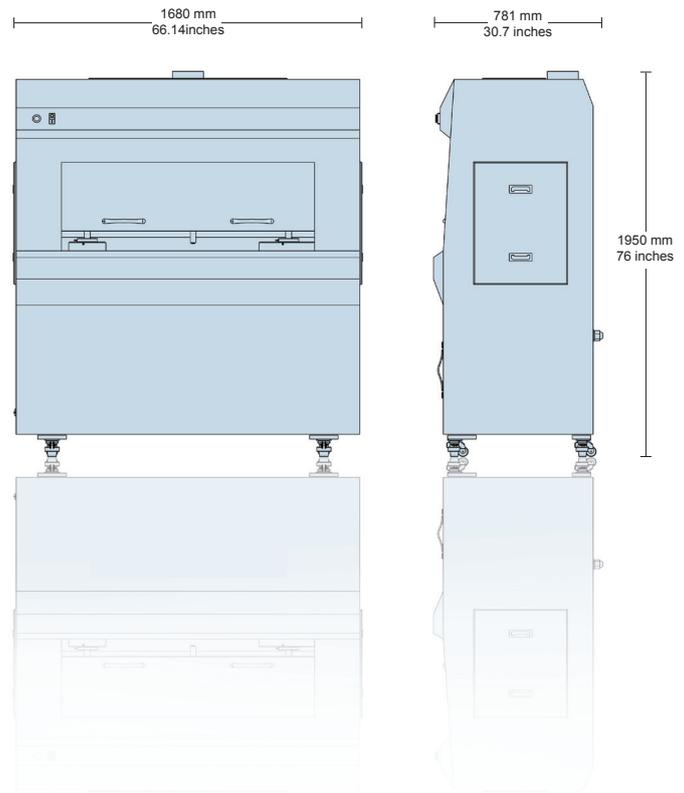
Power supply	1Phase + Neutral + Earth 220Vac-240Vac 25 Amps 50/60Hz
Plate speed	0 - 160rpm
Plate diameter	600mm
Plate rotation	Clockwise & counter clockwise
Carrier 1 speed	10 – 125rpm
Carrier 2 speed	10 – 125rpm
Max. Carrier back pressure	0 - 50psi / 344kPa
Max. Carrier down pressure / load	9psi / 62kPa
Min. Carrier down pressure / load	0.4psi / 2.8kPa
Carrier sizes available	4", 6", 8" (wafer sizes)*
Height	1950mm
Depth	781mm (736mm without front rib)
Width	1680mm
Packed weight	730Kg
Machine weight	501Kg
Polishing Plate weight	18.5Kg
Max. Slurry flow rate	500ml/min
Min. slurry flow rate	20ml/min
Chemical compatibility	Acidic & alkaline
Cabinet details	Self contained chemical resistant, floor standing cabinet

* Templates can be used to allow partial and other smaller sizes.

Software Interface



Real time analysis and process data is provided to the user via an array of sensors, resulting in full system control and optimal performance.



Ordering Information

1CM61 Orbis CMP Machine

Accessories & Components

1CDP45	4" / 100mm Ø Polishing Carrier
1CDP65	6" / 150mm Ø Polishing Carrier
1CDP85	8" / 200mm Ø Polishing Carrier
1TMPL41-0100	CMP Wafer Template Kit for 4" head
1TMPL61-0100	CMP Wafer Template Kit for 6" head
1TMPL61-0200	CMP Wafer Template Kit for 8" head
CM61-1401	4" Carrier Body for CMP Tribo / Orbis
CM61-1501	6" Carrier Body for CMP Orbis
CM61-1601	8" Carrier Body for CMP Orbis
1PCMA6-0100	Additional Polishing Plate for Orbis

Consumables

0CON-357	Chemcloth Polishing Pads, 24" / 610mm Ø (x 10)
0CON-369	Crosshatched Grooved Expanded Polyurethane Polishing Pad, 24" / 610mm Ø
0CON-137	SF1 Polishing Fluid, 25 ltrs

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