Deposition Technology Datasheet

EVOS

PVD Cluster Tool

The EVOS® PVD Cluster Tool is a modular and flexible designed PVD system with a small footprint and flexible architecture that can accommodate from 100mm – 200mm wafer sizes and carriers for multiple samples/pieces. Modern design, industry standard components and ease of use make for reliable and affordable Cost of Ownership.

The EVOS cluster system is suitable for both R&D and full manufacturing due to the ease and repeatability of the fully automated EVOS control system, simple recipe building and repeatability mean reliable processes.

The system footprint is smaller than similar capability cluster PVD systems, meaning you can utilize cleanroom floorspace more efficiently. The load and unload cassette chambers can also be wall integrated to allow the system and ancillary equipment to be located chase side and the load/unload in the cleanroom. The innovative wafer handling design means it is perfectly set up for processing thin and non- standard wafers.

Multiple configurations and options available on request, such as heating, cooling, plasma cleaning, de-gas, RF/DC, reactive deposition, valve and pumping options to suit process and budget.

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DEPOSITION TECHNOLOGY LTD

EVOS RANGE

Deptec manufacture the EVOS range of PVD systems, plus support/refurbish/upgrade Varian PVD and Novellus PECVD toolsets.

DEPTEC TECHNICAL CENTRE

Fairmont House
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WEBSITE: deptec.com

OPENING HOURS

Monday – Friday
8:30am – 5pm

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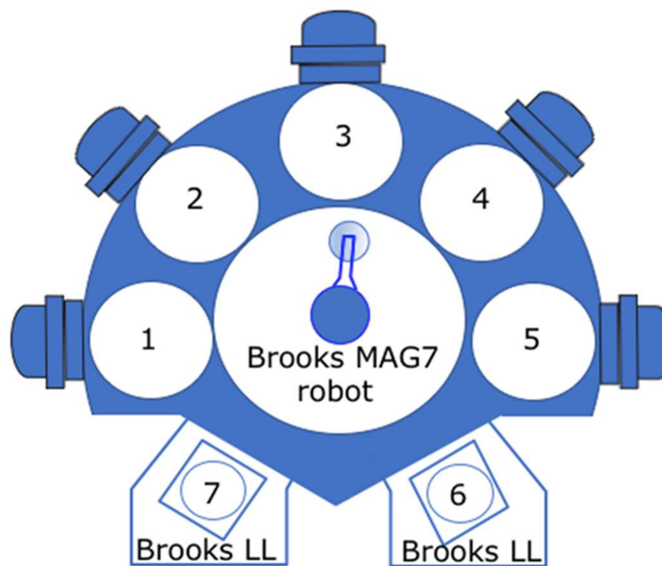

Example Configuration

1. HT Degas and RF Etch Pre-clean
2. PVD.
3. PVD
4. PVD
5. PVD, or Hot/Cold
6. Wafer Size 1
7. Wafer Size 2

Robot – Single or Dual Blade

Control System and Integration

- Graphic User Interface based in Windows environment, with built-in training notes. Operators, equipment and process engineers.
- Control system based upon latest DeviceNet™ and PLC based system.
- Brooks wafer and cassette handling is proven, reliable, flexible and used industry-wide.
- All files are fully accessible with logon and permission control. Data logging, parameter tracking, data management and easy maintenance.
- EVOS has been running in a production fab USA environment for > 2 years, over 1.4 million wafer passes

DeviceNet

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Specifications

ITEM	STANDARD	OPTION
Wafer Size	150mm	100, 125, 200, or carriers. Standard cassettes. SMIF compatible
Loadlocks	Dual Brooks VCE	Single loadlock Dual Wafer Size possible Wafer mapping Slide detection
Robot	Brooks Magnatran 7	Single or Dual blade Minimum contact blades
System Pumps	LL turbo pump Cryo fast regen	XXX or similar CTI – 1 transfer chamber, 1 per process chamber
Process Chambers	1 – 5 chambers 1; preclean 2-5; PVD	Degas chamber Orient chamber Wafer flip chamber
Base Pressure	< 10 e-8 T	Transfer chamber. Single chamber PVD vacuum isolation optional.

ITEM	STANDARD	OPTION
Footprint	W. 2.14m L.1.81m	Chamber lids closed. Each chamber serviceable with system online
DC Power	AE Pinnacle, Pinnacle Plus	DC or Pulsed DC <12KW, one supply per chamber
RF Etch	13.56MHz, 600W Automatch, Ar gas	2nd gas for chemical etch
PVD Chamber pedestal	Minimum contact Edge Hold	Pedestal (ambient temp) Heater (<450 C) Bias – available both
Facilities	Power 208 3-ph Mainframe 80A PCW 5l/min CDA 300l/min	2nd Etch gas for RIE 25A per 12KW DC Ar 500sccm 99.995% N 50l/min
Support equipment	Controller rack PSU rack Cryo compressor	Mains Transformer 2nd PSU rack

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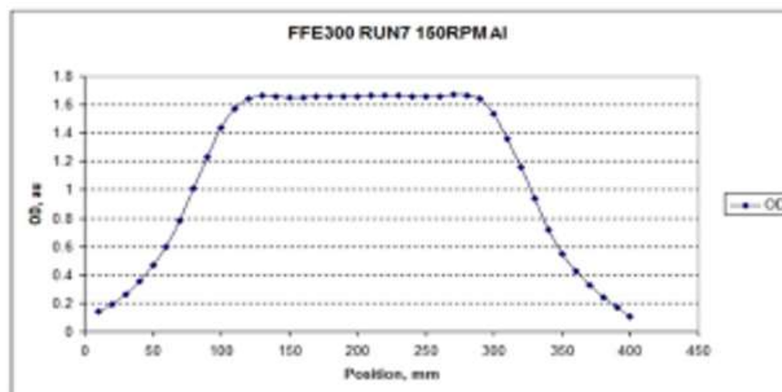
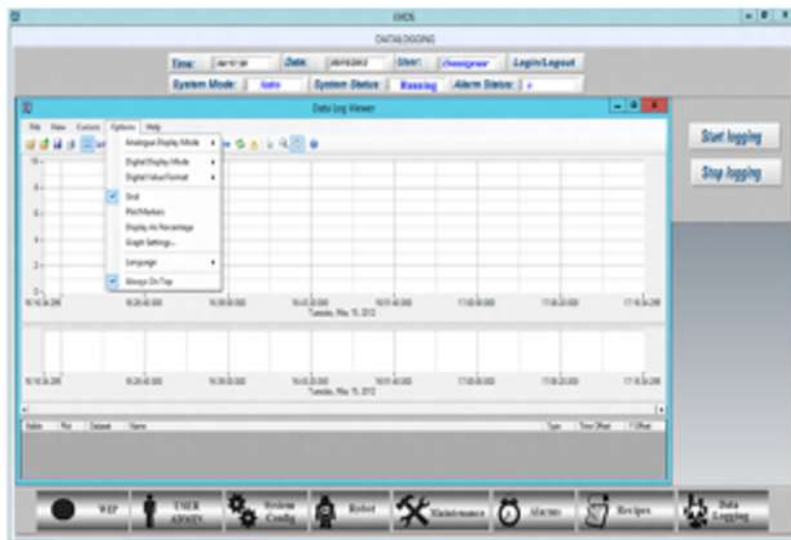
Process Capability





PRIVATE AND CONFIDENTIAL TO DEPTEC

- DC and pulsed DC PVD Sources
- Base pressure transfer chamber better than 10 e-8 T
- HT Degas and Pre-clean RF sputter etch and optimal RIE chemical etch
- PVD chamber process kits for wafer pedestal, cooled, heated, biased
- Typical dep rates > 1 micron/minutes
- Typical thickness uniformity > 1% WIW
- Optimal chambers for orient, wafer flip

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