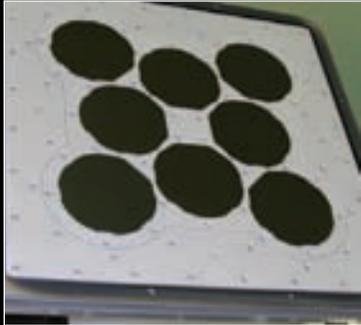




HEDA 2460 / 2480
SPUTTER DEPOSITION TOOLS

RF DIODE DIELECTRIC SPUTTER TOOL



For over 30 years MeiVac

has been responding to the need for increasingly sophisticated thin film manufacturing process equipment. The HEDA RF Diode sputtering system family was developed as a high throughput batch deposition system for thick alumina layers. It has become the industry standard for alumina deposition in the Worldwide Magnetic Storage marketplace. Created more than 25 years ago; generations of this family have lead and tracked Magnetic Storage Technology. MeiVac's Application Organization works closely with customers to optimize existing processes and assist in the process development effort for newly required applications, including wafer size changes.

With more than 200 systems shipped; these production proven tools deliver the process repeatability and equipment reliability that customers have learned to depend upon. Support includes worldwide service, parts, and field upgrades.

Today's HEDA generation includes the 2460 and 2480 sputter systems.

2460

The HEDA 2460 RF diode, batch load, alumina deposition tool utilizes a 17 inch square RF diode target and biased substrate carrier. HEDA sputter tools are fully characterized tools designed to deliver high-quality, high-yield substrates in large batch sizes. Utilizing an RF diode sputter-up static configuration, the system deposits highly uniform, low particulate films that provide reproducibility essential to large volume production applications.

2480

Superior Uniformity at a Higher Capacity. The HEDA 2480 is a scaled up version of the 2460 with a larger 20 inch target and biased substrate carrier. Combined with larger generators the result is a 30% increase in deposition area and throughput along with superior uniformity. The 2480 was developed especially for larger diameter wafers. Consistent with the architecture of the HEDA family, the 2480 shares a large number of interchangeable sub-systems with the 2460. For example, both systems utilize the same pumping system options as well as vacuum measuring components and the system controller.

Product Enhancement

MeiVac continually strives to improve product performance and flexibility. Integration of advanced features such as state-of-the-art pumping, RF power delivery with reduced RFI, and substrate cooling have kept HEDA systems producing while lesser tools have been scrapped.



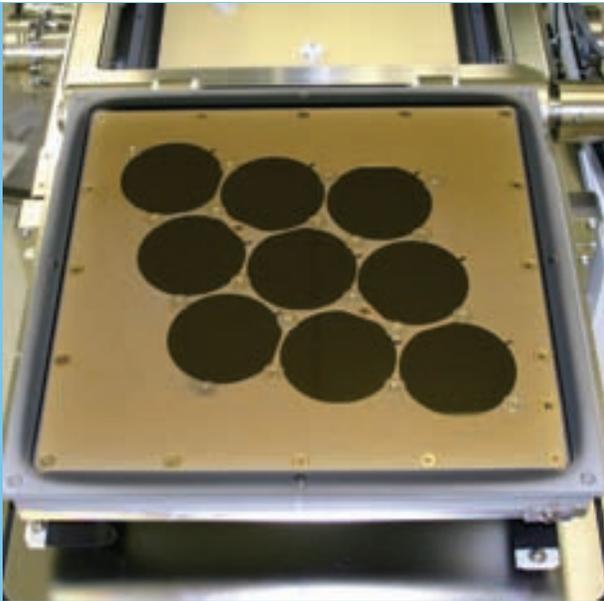
Helium Backside Cooling: High deposition rates in an RF diode system could create unacceptable heat loads. MeiVac offers helium backside cooling to replace InGa (Indium Gallium) liquid metal cooling interface. Helium backside cooling is standard on new 2480s and 2460s and available as a retrofit in the field. The retrofit provides a more uniform cooling capability. By eliminating InGa, a source of hazardous waste, it reduces scrap caused by improper application and does away with potential tooling contamination.

Pumping Upgrades: Depending upon process characteristics, both Cryo pumping and Turbo pumping / Cryo water pumping are available as delivered or retrofitted. We have standard pumping configurations but have the ability to configure the pump stack to meet customer's requirements. Field upgrades are available.

RF Power Delivery: Advanced RF power supply technology has been integrated into systems to improve performance and meet increasingly stringent safety and RFI emission requirements.

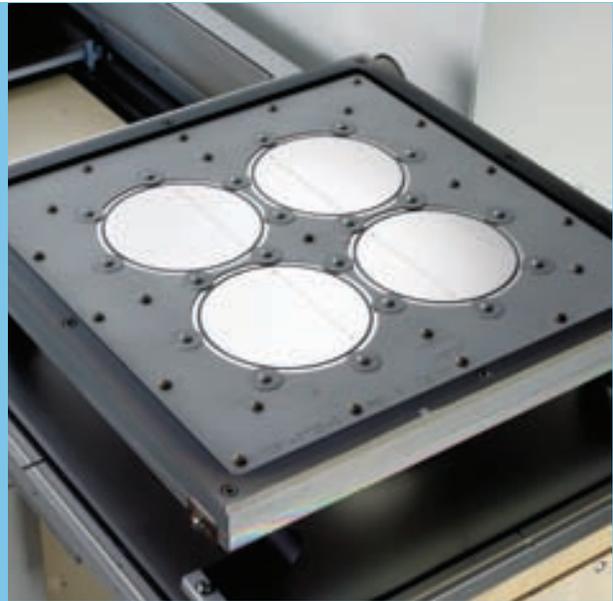
Control System: Upgrades to current Windows™ Professional and SECS/GEM are available.

Standards: HEDA systems may be prepared and third party certified to CE Mark or other international and corporate standards.



Basecoat Application

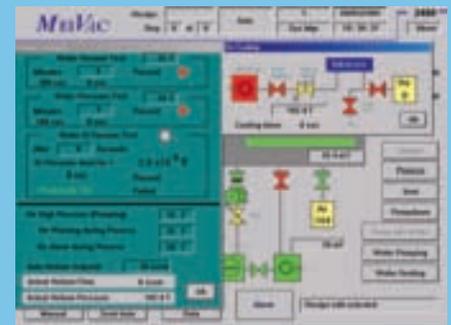
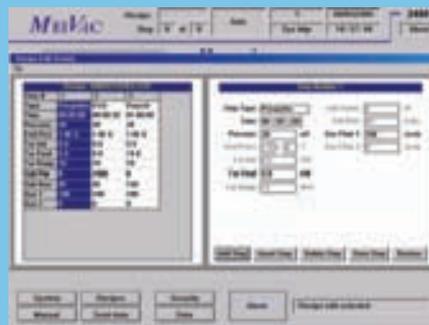
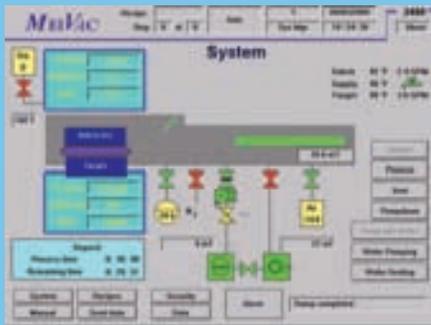
One of the first processes in head fabrication is to deposit a layer of alumina. Today, the thickness of basecoat layer is decreasing which in turn requires more stringent uniformity and defect density levels.



Overcoat Applications

Uniform Films can eliminate the need to lap the wafer to a final overcoat thickness prior to cutting each wafer into bars.

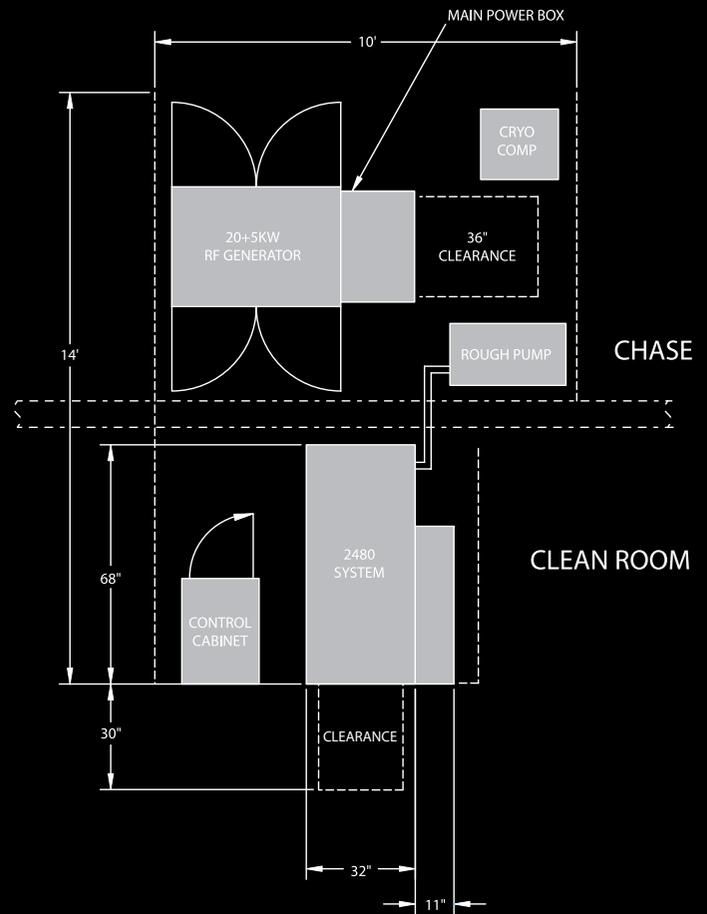
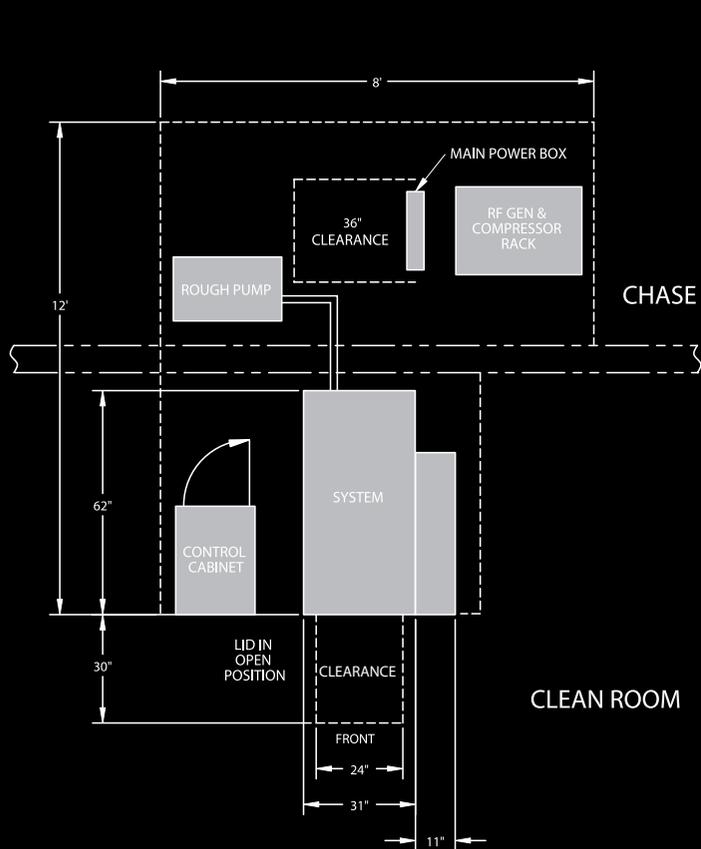
CONTROL SYSTEM



The Hard Disk Drive industry is in a period of unprecedented change, therefore the ability to accurately control precise layers is key to continued progress.

HEDA system control and monitoring are accomplished through a computer-based InTouch Graphical User Interface (GUI) operating system, working with a Programmable Logic system controller. The Windows™ based control system combines simplicity with rugged sophistication. An advanced point-and-click GUI provides a user-friendly operator interface for control of the software and hardware. Multi-level password protection allows restricted operational access levels while maintaining ease of functional control.

- Point-and-click actuated intuitive icon-driven GUI for ease of operation and high functional visibility
- Nested screen hierarchy with command buttons appropriate to operational security mode
- Data Logging capabilities for storing process parameter values, with auto data logging and self cleanup features
- Four levels of automation and control, from fully automated to fully manual
- Interlock control (both hardware and software) configured appropriately to chosen operational mode
- Complete Recipe Management System



	HEDA 2460	HEDA 2480
Throughput	Typically 2 hours of overhead for wafer loading, pumping and venting plus deposition time @ 3+ microns/hour	Typically 2 hours of overhead for wafer loading, pumping and venting plus deposition time @ 3+ microns/hour
Wafer capacity	Twenty 3 inch round Twelve 100 mm round Nine 125 mm round Five 150 mm round	Nine 125 mm round Five 150 mm round Four 200 mm round
Ultimate pressure	2×10^{-7} Torr	2×10^{-7} Torr
Sputtering process	RF diode	RF diode
Target size	17 inch square	20 inch square
Uniformity	3% 1 sigma (10 mm edge exclusion)	3% 1 sigma (10 mm edge exclusion)
Etching	Sputter etch in process chamber	Sputter etch in process chamber
System Weight	Approximately 6000 pounds	Approximately 8000 pounds



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