



## Iso-Lok 200<sup>®</sup> ICP PLASMA SYSTEM

### THE AFFORDABLE HIGH-PERFORMANCE DRIE AND LOW TEMPERATURE PECVD PLASMA PROCESSING SYSTEM

The AXIC **Iso-Lok 200<sup>®</sup>** Inductively Coupled Plasma (ICP) Load-Locked Processing System from AXIC, Inc. defines a new concept in Deep Reactive Ion Etch (**DRIE**) and low temperature-low damage Plasma Enhanced Chemical Vapor Deposition (**ICP-PECVD**) plasma processing. The system is based on a modular design starting with a universal chamber and cabinet unit with ICP etch or deposition bottom electrodes available for easy installation into the chamber unit combined with a load-lock. We are confident you will find the ease of use, variety of plasma processes, serviceability and attractive pricing unsurpassed by any other plasma product in the market.



### SYSTEM DESCRIPTION

In the research and development of plasma processing, there has always been a great demand for a highly versatile and reliable load-locked tool. With the ever-changing requirements in plasma research, any system must offer the widest range of process parameters and a high degree of repeatability for process verification. It also must be easily modified for new process requirements. We believe that our **Iso-Lok 200<sup>®</sup>** ICP Etch/Deposition plasma system satisfies these very demanding requirements.

The **Iso-Lok 200<sup>®</sup>** ICP system is a plasma tool that can be used in research, process development, or low volume production for precise etching and deposition on substrates up to 8" in diameter. The system can also accommodate pieces of wafers or substrates with proper fixturing.

In designing the **Iso-Lok 200<sup>®</sup>** ICP tool, a prime directive was to create a system that incorporates a load-lock staging area while maintaining quality and reliability. Retaining process control for dedicated production oriented systems, while drastically reducing cost and maintenance along with floor space, were critical requirements.

The **Iso-Lok 200<sup>®</sup>** Load-Locked ICP system's unique cabinet and electrode design allows for easy installation in a laminar flow module or clean room. The selection of proven quality components, modular subassemblies, versatile chamber and electrode design, compact size, automation, and field proven process recipes make the **Iso-Lok 200<sup>®</sup>** ICP system the engineer's "System of Choice".

## LOAD LOCK MODULE

The system comes with a vacuum load-lock module constructed from anodized aluminum. Load-lock systems are atmosphere to vacuum sample staging and entry modules. They are a convenient and practical method for transferring samples in and out of vacuum systems without having to vent the chamber to atmosphere. This significantly improves efficiency and throughput by reducing cycle time and more importantly reducing contamination. Load-lock allows samples to be exchanged under controlled environmental conditions.

The load-lock accommodates wafers from 4" to 8" in diameter with a specific end effector. An isolation valve is supplied between the load-lock and the process chamber to isolate the sample being transferred.

### FEATURES

- Single-piece Al chamber construction
- Load-lock module
- 1,000W, 13.56MHz RF ICP Power
- 600W, 13.56 MHz RF Bias Power
- Auto RF matching
- Downstream pressure control
- Computer control with Win operating software
- Pumping: Mechanical and turbo pumps for etching; mechanical pump with roots blower for deposition
- All digital, field proven components
- Proven process recipes
- Endpoint detection (optional)
- Two MFC-controlled gas lines standard, expandable to eight

### APPLICATIONS

- **DRIE (Deep Reactive Etch)**
- High rate and low damage etching
- Submicron etching
- Polyimide etching
- Passivation etching
- Trench etch
  
- **PECVD**
- SiO<sub>2</sub> and Si<sub>3</sub>N<sub>4</sub>
- Low temperature-low damage
- Carbon nano-tube deposition
- DLC

## APPLICATIONS

With its generous selection of processing modules, the **Iso-Lok 200<sup>®</sup>** satisfies a broad range of plasma processing conditions, from sophisticated submicron 'DRIE' etching to deposition of high quality 'PECVD' low stress films at low temperatures.

Working closely with our customer base we have developed field-proven process recipes guaranteeing your system will be up and running from the day you install it. Only highest quality components are used in manufacturing, thus ensuring that your **Iso-Lok 200<sup>®</sup>** system will provide the highest possible uptime, reliability, repeatability and serviceability.

## FACILITY REQUIREMENTS

- Power 208-240V, 50-60 Hz, 20Amps
- Water 1.5 gallons (6 liters)/minute at 60 psi (4 bars)
- Gas N<sub>2</sub> vent + up to 8 process gases

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