

AW Plasma Asher

ALLWIN21 CORP.



AW-1008

Introduction

The AW-1008 single-wafer photoresist asher is an automated tool designed as a flexible downstream Microwave plasma photoresist removal system for high-volume wafer fabrication. The AW-1008 is in direct response to manufacturer's concerns for wafer sensitivity to processing RF damage, uptime, reliability and production-proven technology.

AW-1008 Key Features

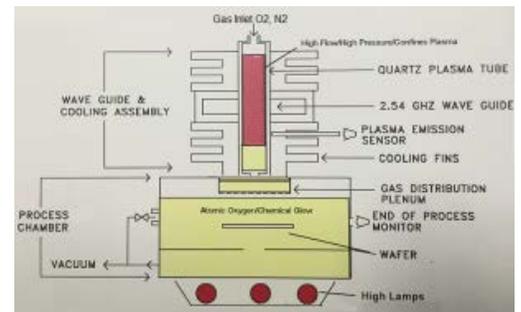
- ⊕ Production-proven plasma stripper/Asher system technology.
- ⊕ 5-15% Uniformity. (Process & Hardware dependent. Optional.)
- ⊕ Fast strip/ash rate. (Process & Hardware dependent. Optional.)
- ⊕ Increased throughput with 3-Axis Integrated Robust Solid Robot.
- ⊕ Frontside and backside isotropic removal.
- ⊕ 3x 1kW IR Lamp for uniform heating up to 500C.
- ⊕ 75mm-150mm wafer capability.
- ⊕ Endpoint detection w/Allwin21 SLOPE technology (Optional)
- ⊕ 2 wafer sizes capability without hardware change if necessary.
- ⊕ Two Fixed cassette stations. Or, one Fixed & one centering station.
- ⊕ Can handle 50um thickness wafer
- ⊕ PC controller with Advanced Allwin21 Software Package
- ⊕ Up to 4 gas lines with MFC's
- ⊕ 2.45GHz 1000W Microwave
- ⊕ Pressure control with Throttle Valve
- ⊕ Touch screen monitor
- ⊕ EMO, Interlocks, and Watchdog function
- ⊕ GEM/SECS II interface, Optional
- ⊕ Small Footprint : 35"W x 40"D x 55"H (250LBs)
- ⊕ Made in U.S.A.



Integrated Robust Solid Robot

AW-1008 Applications

- ▶ Downstream ashing for NO device damage
- ▶ Frontside and backside isotropic removal
- ▶ Bulk resist removal
- ▶ Single wafer process
- ▶ High-dose implanted resist
- ▶ Non-oxidizing metal processing
- ▶ Descum



Production-proven Reactor

AW-1008 Software Key

- Real time graphics display, process data acquisition, and analysis.
- Closed-loop process parameters control.
- Precise parameters profiles tailored to suit specific process requirements.
- Programmable comprehensive calibration of all subsystems from within the software. This allows faster, easier calibration, leading to enhanced process results.
- Recipe creation. It features a recipe editor to create and edit recipes to fully automate the processing of wafers inside the process chamber.
- Validation of the recipe so improper control sequences will be revealed.
- Storage of multiple recipes, process data and calibration files so that process and calibration results can be maintained and compared over time.
- Passwords provide security for the system, recipe editing, diagnostics, calibration and setup functions
- Simple and easy to use menu screen which allow a process cycle to be easily defined and executed.
- Troubleshooting features which allows engineers and service personnel to activate individual subassemblies and functions. More I/O, AD/DA "exposure".
- DB-25F parallel (printer) port. The computer interfaces to the Allwin21 system with only one cable: the control interface cable.
- The control board inside the machine that translates the computer commands to control the machine has a watchdog timer. If this board loses communication with the control software, it will shut down all processes and halt the system until communication is restored.
- GEM/SECS II function (Optional).
- Advanced Allwin21 EOP function (Optional)

AW-1008 Specifications*

- ❖ Wafer Size: 3, 4, 5, 6 inch Capability. Multiple wafer size without hardware charge.
- ❖ Temperature: 150-350 °C (±2 °C) capability
- ❖ Gas Lines: Up to four gas lines with MFCs. Popular MFC Range: 510 SLM O2 and 1 SLM N2.
- ❖ Asher Rate: 1.5u-5u/min. positive photoresist; >8u/min. negative photoresist
- ❖ Uniformity: 15%, Process Dependent
- ❖ Particulate: <0.05 /cm² (0.03um or greater)
- ❖ Damage: CV: <0.1 V CV-shift for 250A gate oxide
- ❖ Selectivity: >1000:1
- ❖ MTBF/MTTA/MTTR: 450 Hours/100 Hours/3.5 Hours or Better. 95% uptime

*Contact Allwin21 sales for other applications and specifications

AW-1008 Configuration

- ❖ Main Frame with Breakers, Relays and Wires
- ❖ Pentium Class PC with AW Software
- ❖ Keyboard, Mouse, USB with SW backup and Cables
- ❖ Quartz Tray
 - ① 3-4 inch; ② 4-6 inch; ③ 5 inch; ④ 6 inch; ⑤ Others
- ❖ Fixed Cassette Station
 - ① Two Cassette Stations; ② One Cassette Station
- ❖ Lamp Heat Module and Quartz Window (3 of 1000W IR lamp)
- ❖ 6 inch Quartz showerhead and 5 inch Diffusion Disk
- ❖ Chamber Top Plate and Body with TC for Close Loop Temperature Control (CLTC)
- ❖ Main Control, Distributor PCB and DC
- ❖ H1-7X10.5 Integrated Solid Robot
- ❖ Waveguide and Quartz Plasma Tube
- ❖ Blower for Magnetron and Waveguide
- ❖ Capacitor, Two Transformers, HV Diode
- ❖ 1000W Air cooling magnetron
- ❖ 1-4 Gas Lines w/ Pneumatic Valve, and MFC
 - ① One MFC; ② Two MFCs; ③ Three MFCs; ④ Four MFCs
- ❖ AC Box and Lamp Control PCB for Close Loop Temperature Control (CLTC)
- ❖ Main Vacuum Valves. Two, one for Fast and one for slow pump down
- ❖ MKS Baratron
- ❖ Throttle Valve
- ❖ Front EMO, Interlocks
- ❖ 15-inch Touch Screen GUI

Options:

- ◆ EOP Module with PCB
- ◆ GEM/SECS II function (Software)
- ◆ Lamp Tower Alarm function
- ◆ 1.25kW "Absolute" MW Magnetron with water-cooled Waveguide with AGL Power Generator.
- ◆ Vacuum Pump



Main Menu Screen

Allwin21 Corp.

Address: 220 Cochrane Circle, Morgan Hill, CA95037, U.S.A.

Tel.: +1-408-778-7788

Fax: +1-408-904-7168

Email: sales@allwin21.com

All specification and information here are subject to change without notice and cannot be used for purchase and facility plan.