

# KINETICS AERIS™

## AUTOMATED WET PROCESS SYSTEM FOR SURFACE PREPARATION AND ELECTROCHEMICAL DEPOSITION (ECD) APPLICATIONS

- **Flexible** - supports any chemical and substrate size
- **Configurable** - meets process and factory specifications
- **Reliable** - delivers field-proven, high-volume manufacturing



### SYSTEM OVERVIEW

The Aeris automated wet process tool from Kinetics is an innovative, production-proven system ideally suited to support both surface preparation and plating applications. Aeris is a fully enclosed automated system where process control, repeatability, throughput and safety are ensured. Standard and custom configurations are available.

#### KEY FEATURES:

- Advanced process solutions
- Flexible configurations to support any wet chemical application
- Production-proven design
- Supports both single-wafer and batch processing
- 100mm to 300mm wafers plus custom substrates

#### SURFACE PREPARATION APPLICATIONS:

- Gate Module
  - Pre-diffusion clean, metal etch, polymer removal, photoresist strip, nitride strip, silicon etch, oxide etch
- BEOL—Interconnect Module
  - Post-etch clean, photoresist strip, develop, metal liftoff, post-ash clean, post-CMP clean
- Packaging Module
  - UBM etch, photoresist strip, flux removal

#### MARKETS SERVED:

- Advanced Packaging
- MEMS
- Semiconductor
- Photovoltaic
- Compound Semiconductor
- Data Storage
- Medical Device
- BioFluidics

#### ECD PLATING APPLICATIONS:

- Advanced Packaging
  - TSV, Copper Pillar, RDL, WLP, UBM
- MEMS Pattern Plating
  - Cu, Au, Ni, Pt, Ru
- Magnetic Deposition
  - NiFe, NiFeCo
- Electro-etch
- E-less Deposition

## SPECIFICATIONS

PARAMETER	CAPABILITY
Applications	Etch, Strip, Develop, Clean, Plating, Electroless
Chemicals	Acids, Bases, Solvents
System Material	FM4910, Stainless Steel, Polypropylene
SP Process Baths	Recirculating, Heated, Static
Process Bath Material	PFA Teflon™, Quartz, PVDF, Stainless
ECD Process Baths	Electroplate, Electropolish, Electrotech, Paddle Planting Cells
ECD Power Supply	Single- or Multichannel, DC, Pulse
Rinse Baths	QDR with spray options, Cascade
Substrates	Semiconductor Wafers from 100mm to 450mm, Optic Lens, Vascular Stents, Flat Panels, Custom Substrates
Process Bath Capacity	Single-Wafer and Batch Processing
Third-Party Certifications	SEMI S2/S8, Seismic, CE, Electrical
Automation Options	Load Drawer, Load Port, EFEM

## CONTROLS:

- PLC control system with HMI touchscreen GUI
- Recipe editor and storage capability
- Data logging with historical and real-time data charting
- Integrated UPS backup protection
- Multilevel password protection
- Out-of-tolerance condition alarms
- Network and Ethernet capability

## SAFETY FEATURES:

- Segregated electrical and chemical compartments
- Access doors and robot interlocks
- Audible and visual warnings and alarms
- Leak detection and over-temperature protection
- Local and remote EMO

## BUILT TO COMPLY:

- FM-4910
- SECS/GEM
- SEMI S2 and S8
- CE

## FACILITY REQUIREMENTS

UTILITY	REQUIREMENT	CONNECTION TYPE
DI Water	2-5 GPM @ 30-80 psi	Supply 1" FNTP (Return 1/2")
N <sub>2</sub>	5-10 SCFM @ 70-100 psi	1/2" Quick Connect Bulkhead
CDA	10-20 SCFM @ 70-100 psi	1/2" FNTP
Exhaust	750-1000 SCFM	10" Diameter
Power	208-400 VAC, 3 phase, 15-60 A	3/4" Conduit

*Will vary to meet customer specifications*

