

## 200mm & 300mm Pre-diffusion Cleaning



### NAURA AKRION TECHNICAL ADVANTAGES

Front-end-of-line (FEOL) cleaning is the most critical step in many applications. Particle removal must be complete and etch rates must be tightly controlled. NAURA Akrion has several products for your critical cleaning needs.

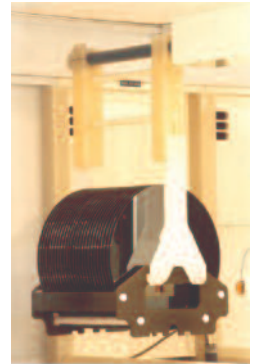
Our technical staff is capable, experienced and willing to work with you to refine *your* process.

### THE NAURA AKRION DIFFERENCE:

- Worldwide process support
  - 24 x 7 technical support
  - Experienced service staff
- High Reliability (> 1500 hours MTBF)
  - Customer configurable flexible platforms

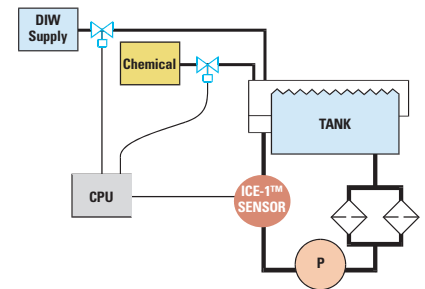
### FLEXIBLE PLATFORMS:

- Smallest footprint in the market
- Proven performance in fabs worldwide
- Lowest annual consumable parts cost
- Modular platforms adaptable to your need
- SPC Host Interface/Trending
- Easily reconfigured for your changing process requirements
- Engineered for safety (S2, S8, CE, FM7-7)
- Minimized tank sizes for excellent flow dynamics
- Bi-directional processing capability
- Class 1 mini-environment (GAMA)
- OmegaPlus low mass carrier:
  - allows reduced tank volumes
  - provides better flow dynamics with optimized tank fit
  - minimal 3mm edge exclusion



### ICE-1™ CONCENTRATION CONTROL:

NAURA Akrion tool sets utilize concentration control systems to maintain uniform chemical baths and uniform processing. Longer bath lives are an added benefit.



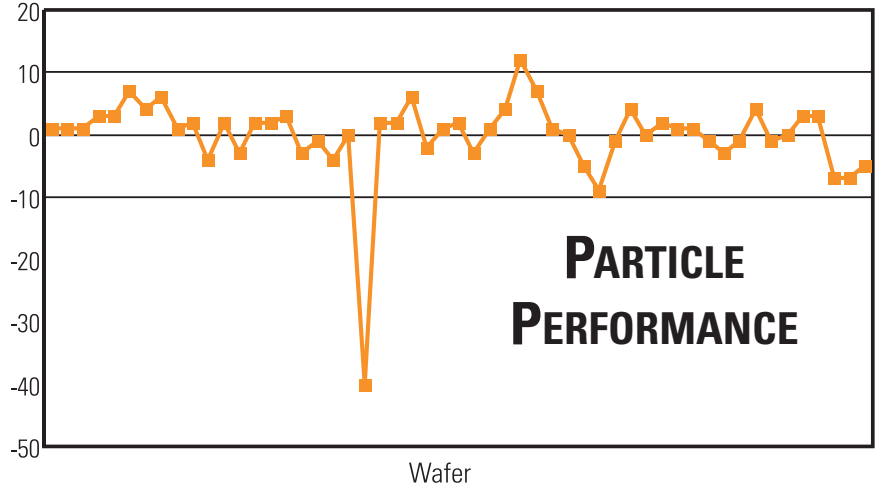
PARAMETER	SPECIFICATION
Particles (@ ≥ 100-nm) (90% of all data points; 3 mm EE)	≤ 20 adders (initial count ≥ 50 ppw)
Oxide Etch Rate Uniformity (500-1000 Å)	1% (1σ) across wafer; 1% (1σ) wafer-wafer; 1% (1σ) lot-to-lot
Metallics (full clean)	< 2 e10 atoms/cm <sup>2</sup> per element (Fe, Cu, Zn, Ni, Cr)
Throughput (50 wafer lot)	≥ 220 wph (recipe dependent)
System Uptime (SEMI Spec)	≥ 97%
System MTBF (SEMI E10-96)	> 1500 hours (within 3 months after installation)
Safety Compliance	SEMI S2-0200; S2-0701; Factory Mutual (FM)-4910; CE

# FEOL cleaning with **GAMA**<sup>plus</sup>

## GAMA<sup>PLUS</sup> ADVANTAGES:

- Single use chemical processing with in situ rinsing
- **DILUTE CHEMISTRY RESULTS IN 25% SHORTER RINSE TIMES**
  - **REDUCES DI WATER CONSUMPTION BY 15%**
  - **INCREASES THROUGHPUT BY 20%**
- **FEOL PROCESS FOOTPRINT REDUCED 25%**
- Recipe driven chemical concentration control
- Fresh chemistry allows for lower process temperature

Particles Added On (@ 120nm)



## TYPICAL CONFIGURATION:

