The FEOL In situ Advantage:

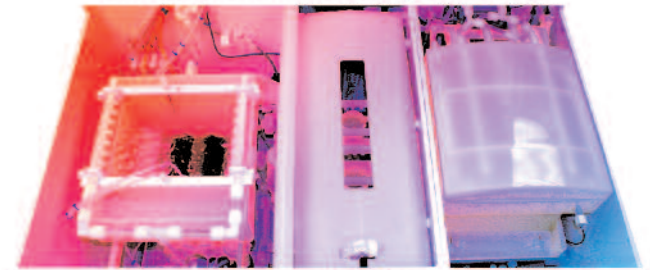
Smallest Footprint; Lowest COO; Great Performance; Great Price

I-Clean Pre-Thermal Cleaning:

I-Clean in situ modules are the lastest enhancement to the GAMA Series Immersion Batch System. This module addresses customers who require an airless step between process and rinse, in a footprint 50% smaller than traditional modules.

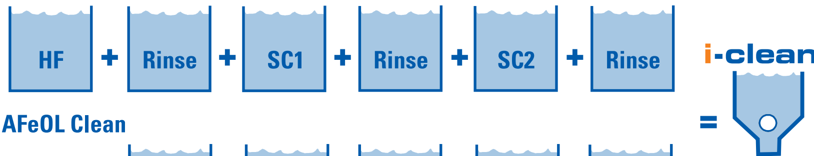
i-clean

Full RCA Clean: 56" [1422mm]



ONE MODULE: *Two Processes*

Traditional FEOL Clean



AFeOL Clean

The three-in-one *I-Clean* module does a complete RCA clean in one tank: HF for oxide etching and Photo- resist softening; an SC1 for particle removal and an SC2 for metallic removal. This module can be intermixed with standard GAMA Series modules to provide the greatest flexibility with the smallest footprint. GAMA is proven in the field for leading edge processing.

I-Clean

Typical FEOL Configuration: 307" [7800mm]

56" [1422mm]

Target Process Specifications (200/300mm)

PARAMETER	SPECIFICATION
Particles (@ ≥ 100-nm) (90% of all data points; 3 mm EE)	≤ 40 adders (initial count ≥ 10 ppw) 0 adders (initial count ≥ 100 ppw)
Oxide Etch Rate Uniformity (500-1000 Å)	1% (1σ) across wafer; 1% (1σ) wafer-wafer; 1.5% (1σ) lot-to-lot
Metallics (full clean)	< 2 e10 atoms/cm^2 per element (Fe, Cu, Zn, Ni, Cr)
Throughput (50 wafer lot)	≥ 90 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

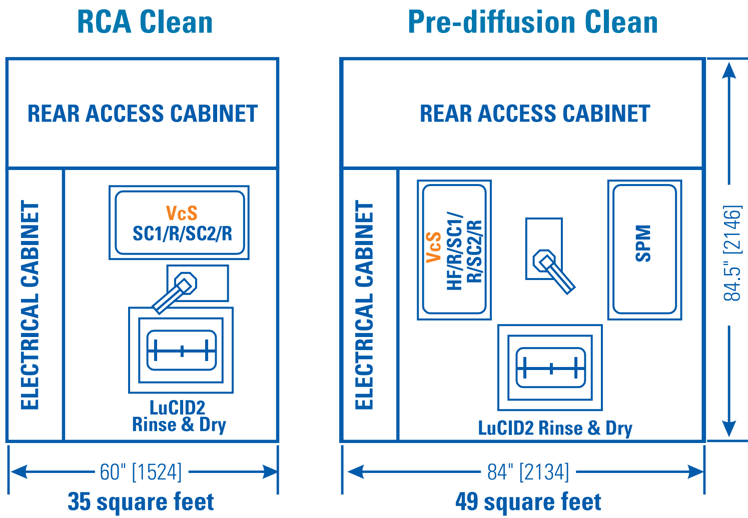
The FEOL In situ Advantage:

Smallest Footprint; Lowest COO; Great Performance; Great Price

V3PLUS PRE-THERMAL CLEANING:

VcS in situ technology results in minimal footprint and high performance.

FLEXIBLE CONFIGURATIONS

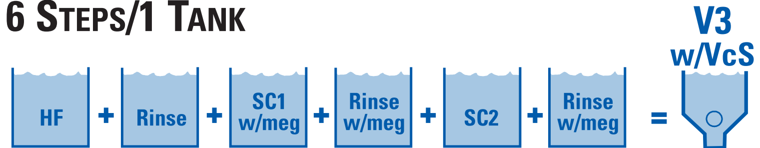


V3™

RELIABLE PRODUCT, EASILY SERVICED

- V3 uses the same components as our highly reliable GAMA Series product line for MTBF ≥ 2000 hours (E10-96)
- Easy access serviceability (electrical slide-out panel)
- S/W interface for full system control
- Robust automation

6 STEPS/1 TANK



PARAMETER	SPECIFICATION
Particles (@ ≥ 160-nm) (90% of all data points; 5 mm EE)	≤ 35 adders (initial count ≥ 10 ppw)
Particle Removal Efficiency (@ ≥ 160-nm)	97% – Initial particle counts > 3,000 (deposited on bare wafers)
Pre-diffusion Clean Oxide Etch Rate Uniformity (500-1,000Å)	2% (1σ) across wafer; 2% (1σ) wafer-wafer; 2% (1σ) lot-to-lot
Metallics (full clean)	< 5 e10 atoms/cm² per element (Fe, Cu, Zn, Ni, Cr)
Safety Compliance	SEMI S2-0200; S2-0701; Factory Mutual (FM)-4910; CE

NAURA AKRION

6330 Hedgewood Drive, #150
Allentown, PA, USA 18106

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