



Revolution

Automated Rotary Wet Processing Systems



Small Footprint, Multi-Step Processing

MEI's Revolution multi-step wet processing systems combine ease of process control with a rotary robot design and precision engineering to create powerful, flexible tools with minimal fab footprints. The rotary robotics handle carriers of 100–300 mm wafers through multiple process steps. The Revolution's modular system can link multiple robots so it can process multiple lots with multiple recipes via a central rinse tank hand-off. Configurability, up time, yield, maintainability and throughput are the hallmarks of an MEI wet processing system.

- Tailored. Systems to fit your process and fab design.
 - Minimal footprint for bay and chase fabs

- Modular system can process multiple lots and recipes simultaneously with central rinse tank
- Wide variety of clean, etch and strip applications
- Production Ready. Quality, ergonomics and safety are designed and built right in.
 - Easy to use and well controlled with MEI's IDX Automation Software (SECS/GEM compliant)
- Precise. MEI's advanced process controls provide closed loop monitoring/control using software recording.
- Designed for Safety and Maintainability.
 - Conforms to SEMI-S2 standard

MEI's Line of Wet Processing Systems

- **Evolution**
In-line, fully-automated, high throughput, wet processing systems
- **Revolution**
Rotary, automated, multiple-step, modular, wet processing systems
- **Advancer (and Advancer Gemini)**
Semi-automated, single-step, modular, wet processing systems
- **Achiever**
Manual wet benches, fume hoods and parts cleaning benches

MEI Products & Services

- Wet Process Systems
- Chemical Delivery & Handling Systems
- IDX Control Automation Software
- Used Semiconductor Systems Reconditioning
- Cleanroom Safety & Ergonomic Equipment
- Field Repair & Service

REVOLUTION: Rotary Automated Wet Processing Systems

Tailored Design & Custom Built

- Partnership Design Process—built to your process requirements from a wide array of options
- Modular system can link multiple robots so it can process multiple lots with multiple recipes with a central rinse tank hand-off
- Etch, strip and clean systems from 100–300 mm
- Smallest possible footprint for 3–5 tank designs
- Controlled by MEI's IDX Automation Software with touchscreen interface, configurable, SECS/GEM compliant (see IDX datasheet)
- Multiple tank options: static and recirc, megalsonic/ultrasonic, (PVDF, stainless, Quartz, Halar or natural poly)
- Heater, chiller and dryer options, including solid state
- Chemical spiking, in-tank blending, filtration concentration monitoring, bulk fill, agitation, DI flush and drain options

Maintenance Friendly

- Thoughtful design includes easy access to all major component areas
- MEI robots are designed and built in house for reliability, ease of maintenance and service
- Easy access plumbing, pneumatics and electrical compartments (front or rear)
- Semi-automated sequences for drain, flush, fill and setup
- Ability to manually control robot and on/off of individual valves
- Separate exhaust connection for plumbing compartment, prohibiting fumes from leaking to or from process area

Production Ready

- Fully integrated modules ready to ship and install for fast start up
- Advanced process controls; concentration, Exhaust, DI water injection, and flow rate monitoring
- Small footprint, high throughput and low cost of ownership
- Quality, ergonomics and safety built in
- Unlimited production recipes with easy editing
- SEMI-S2 and FM certified systems
- UL listed electrical components
- Interlocks with EPO buttons and exhaust pressure sensors
- Fully tested before shipping with DI water and to customer requirements
- Installation and start up included

Reliability

- Reliable, field-proven robotics and controls
- Nitrogen purged electrical compartments
- Designed to provide MTBF > 1,500 hours - E1092
- Uptime > 95 percent
- Maintenance friendly
- Durable OEM components

World-Class Service & Support

- Standard one-year parts and labor warranty
- Two-year optional warranty
- Full field service support and on-site warranty coverage
- Upgradable modular design



EPO & Resistivity Exhaust Monitors

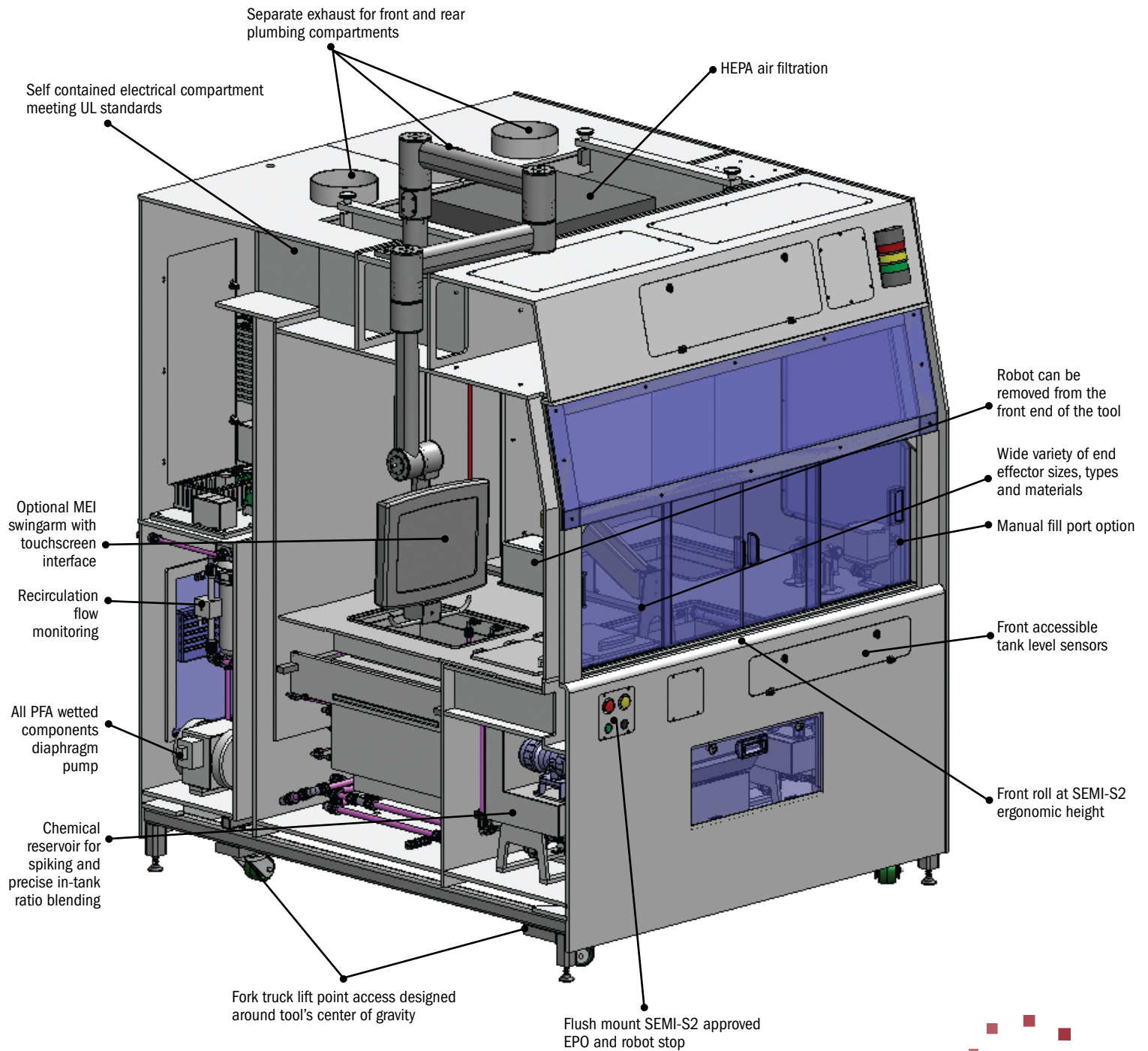


Electrical Control Board—UL Listed



Easy Access Plumbing Compartment

REVOLUTION: Rotary Automated Wet Processing Systems



877-858-3270



Electrical Compartment—UL Listed



Most MEI Benches Use IDX Automation Software



Robot & Custom Cassette End Effector



MEI, LLC
 3838 Western Way NE
 Albany, OR 97321
[www.meillc.com/
 wet_processing_systems.asp](http://www.meillc.com/wet_processing_systems.asp)

Phone 541-917-3626
 Toll free 877-858-3270
 Fax 541-917-3623
 Sales 541-704-2424
 Sales Fax 541-917-0174

Revolution Specifications

General

System type:	Revolution Rotary Wet Process System
Shell style:	Front Access, Rear Access Automated Wet System with multiple robot configuration.
Exhaust:	All configurations airflow modeled for lowest exhaust with complete fume capture using Cosmos®.
Access doors:	Clear PVC, hinged with tool-required access, plumbing/wet area doors lift-out style to prevent leakage.
Transfer robot:	MEI-made 2-axis, passive gripper design mounted in front of the process area, smooth multi-axis moves with programmable agitation. Pneumatic/hydraulic and rotary/linear options available, configuration dependent.
Control system:	MEI IDX Automation Software running on a standard PC host with Windows XP® providing easy-to-use, flexible and configurable controls.
Safety interlocks:	Front/rear EMO buttons, process and plumbing cabinet plenum float switches, exhaust photohelic, electrical compartment N2 purge, tank liquid level heater interlocks, door position sensor interlock on operator access to load areas.
Electrical protection:	Main power disconnect with individual branch circuit protection devices.
Status notification:	Audible/visual alarm.
DIW manifold:	Loop style, Teflon, minimal dead-legs.
Documentation:	Operation manual (hard copy and CD ROM versions with hypertext links), all OEM equipment cut-sheets, electrical and plumbing schematics (hard copy and CD ROM versions).
Process enclosure:	Simplified design ready to assemble and install in shortest time possible.

Options

Wafer sizes:	100–300 mm wafer sizes.
Process cassette:	Customer specified, with queue-pass on cassette options.
Load method:	Many options available from input/output queues to manual loading.
Fire suppression:	Available upon request.
Shell material:	Choice of FM4910 (Halar, CPVC, PVDF), polypropylene or stainless steel.
Bath options:	Custom tank and process bath options include megasonic or ultrasonic bath, chemical spiking, recirculation, and filtration. Heater (including solid state), chiller and dryer options are also available.
End effector:	PVDF/PTFE, Halar, quartz or stainless.
Filtration:	HEPA filtration, shell configuration dependent.

Facility Requirements

Facilities:	Bottom-rear mounted plenum drains, top or rear exhaust connections available, low exhaust requirements; shared facilities and electronics. UL compliant electrical components.
-------------	--

Typical Facility Table

(Will change to specifications)

Description	Connection	Requirement
N2 supply	3/8" Swagelok	40–60 PSI @ 5–7 ACFM
CDA supply	1/2" Swagelok	60–80 PSI @ 50 SCFM
Cold DI water input	1" Flaretek	45–60 PSI 10 GPM
Front plenum rinse drain	2" male pipe	N/A
Rear plenum drain	3/4" Flaretek/2" male pipe	N/A
Process tank drain	3/4" Flaretek	N/A
Cold DI return	1/2" Flaretek	N/A
Process exhaust	8" duct	150 CFM @ 1" static *minimum*
Rinse exhaust	8" duct	200 CFM @ 1" static *minimum*
Hot DI input (module 1 only)	1" Flaretek	Connect to water heater
Chem bulkfill	3/4" Flaretek	N/A
Electrical input (module 1 & 3)	5-wire	208V 80A 3P
Electrical input (module 2)	5-wire	208V 100A 3P
Ozone injection	1/4" Swagelok	N/A
CO2 connection	TBD	CO2 bottles per fire system spec