

Specialty Plastics & Fabrication can build a fully automated exhausted chemical process line to meet your requirements. Our systems are designed to maintain rigid process control and maximize clean room floor space. The system is a modular design with copy exact modules. Each module can be moved in the process line. Also, copy exact process tank fixturing allows tanks to be moved from one module to another. This design has helped our customers reduce the cost of ownership and allowed for flexibility in the process line.

The process modules can be run with or without an enclosure. The open design can be run in a manual mode with no robot intervention. Enclosed systems offer more environmental control and lower exhaust requirement. All modules have a time tested and proven high velocity down draft exhaust that take advantage of cleanroom laminar flows. Your wafers are in a high velocity laminar flow when they are moved from one process tank to another. This system minimizes particle contamination and maximizes exhaust efficiency.

Our automated systems provide a wafer handling platform that is capable of 200mm, 300mm or a mix of both. SP&F custom manufactured wafer handling fixtures make it possible to use your existing process cassettes. This allows for quick and easy integration into your current manufacturing process flow.

If you are ready to automate your chemical process line, we can help. Automated chemical process lines offer better process control, lower contamination from operator handling and higher through put.

Automation removes the operator from the wafer handling process which reduces the risk of chemical exposure. Automated systems provide a safer work environment and allow the operator to perform other tasks while the system is running. Safety, improved yields and fewer operators to run the process add up to lower cost of ownership.



Features:

- Operates in Manual or Automated mode
- Access to process bath for operators
- 12 station wafer cassette cleaning tool
 - CMP area load station
 - Staging area
 - 8 process baths
 - 2 IPA dryers
- Cleans 200 and 300 mm wafers
- 3-axis programmable motion
- Independent functionality
- Operation alarms
- Time sequencing sensors
- Fully automated chemical bath, rinse and dry processes
- Heated SC1 w/ mega-sonic and SC2 baths and rinses
- Conforms to Semi clean-room standards
- Hi-tech chemical exchange, with smart liquid analysis system

Capabilities/ Specifications:

- Number of cleaned wafers per hour
 - 200 x 200 mm
 - 100 x 300 mm
- Number of silicon wafers per cycle
 - 50 x 200 mm
 - 26 x 300 mm
- Single cycle time requirement: 15 min
- Maximum velocities
 - x-direction: 1000"/min
 - y- and z- directions: 400"/min
- Average in-process travel velocity
 - 300"/min (5"/sec)
- Overall robot arm range of motion
 - x-axis: 23' 6" (282")
 - y-axis: 3' ¾" (36-¾")
 - z-axis: 2' 11" (35")
- Overall system dimensions
 - length: 25' 5" (305") (includes track)
 - width: 4' 7-¾" (55-¾") (additional 12" for clearance to rear wall)
 - height: ~ 43" frame, ~81- ½" (includes arm) (exact height depends on leg leveler adjustment)