

The in-line precision cleaning system ideally suited for semiconductor assembly packaging suppliers processing delicate components and wafers.

MicroLine technology incorporates automated, in-line spray cleaning in a small footprint with on-board water recycling.



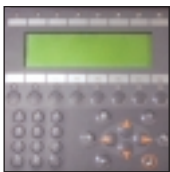
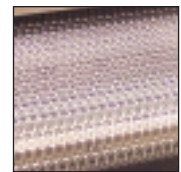
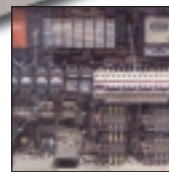
**Accel**<sup>®</sup>

MicroLine<sup>™</sup>

The Ultimate Precision In-line  
Cleaning System

# Accel

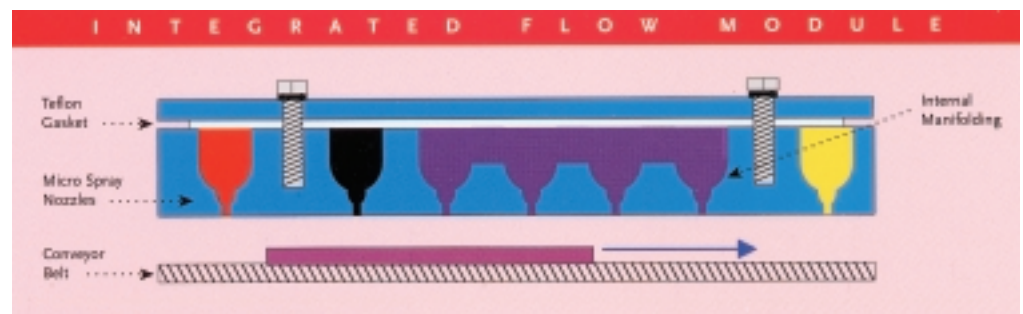
MicroLine™



Discover a level of engineering, quality and performance not found in large, in-line machines. With innovations like the patented Integrated Flow Module, MicroLine is the ideal system for critical cleaning applications, such as bumped wafers, CSPs/BGAs, Hybrids/MCMs, and complex mixed-technology modules.

## The MicroLine Precision Cleaning System

The MicroLine system is an automatic, in-line spray cleaner that uses state-of-the-art solvents or deionized water to remove fluxes, particulates, and other contaminants from small electronic assemblies. It is uniquely designed to hold parts in their handling carriers, such as JEDEC trays or Auer® boats, during the cleaning process. Of course, the MicroLine unit can also process parts individually on its 316 stainless steel mesh conveyor system.



### Small Footprint

Why use a large machine to clean small parts? The MicroLine measures only 84" (213 cm) long by 52" (132 cm) deep, including the Zero Discharge Option. This small footprint provides flexibility in equipment layout and reduced facility costs.

### Touch-Free Cleaning

When parts are cleaned in carriers, they are reliably retained, damage free, in the carrier from system inlet to outlet. An adjustable "ceiling" is positioned above the carrier in such a manner that the parts cannot escape. This provides the user with the ability to clean parts in carriers in-line.

### Zero-Discharge

The MicroLine unit's Zero-Discharge System is an automatic, on-board, closed-loop waste water treatment system. When using solvents, which separate from water, the Zero-Discharge System automatically removes the wash solvent from the used rinse water and returns it to the wash reservoir. The used rinse water is then reclaimed, including filtration, carbon adsorption, and mixed-bed deionizing resin, to restore the rinse water to its original purity level. This is an efficient waste treatment system contained within the footprint of the MicroLine unit with no drain required and no waste water regulation concerns.

### Operates On Demand

The MicroLine system is idle until an upstream unit directs it to start and its inlet sensors detect parts to be cleaned. The PLC then turns on/off each section of the system, as required, to assure good cleaning and energy savings, as well as reduce wear and tear on the machine.

### Powerful PLC Control

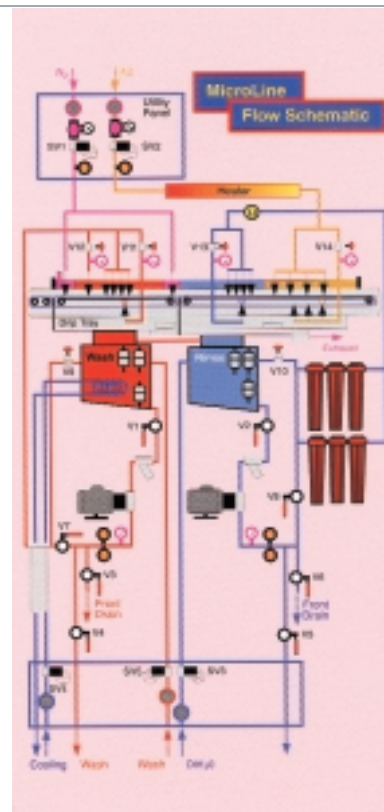
The MicroLine unit uses a powerful, modular PLC to control and monitor all parameters of the system. It provides process control through multiple recipes. In addition, the system has PLC prompts to direct the activity of maintenance personnel, interlocks for all safety issues, and monitoring of process liquids purity. It even turns on the interior lights when a door is opened. The MicroLine system offers full automation to reduce labor costs.

### Automatic Fill/Drain

Static and dynamic wash and rinse levels are automatically maintained when supplied under pressure. At a PLC prompt and the touch of a button, wash and rinse solutions are automatically drained and replenished, reducing downtime and eliminating liquid spills.

### Easy Filter Change

Carbon and DI resin cartridges slide out for easy draining and replacement. The accessibility to the filtration media is gained quickly and easily from the front of the system.



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### ACCEL MICROLINE SPECIFICATIONS

#### PROCESS WINDOW

Maximum accepted part	12" x 14" x 1.375" (305mm x 355mm x 35mm)
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#### FACILITIES

Machine Dimensions	84" x 49" x 52" (2.13m x 1.25m x 1.32m)
Power	208/230 VAC, 70 Amps, 3-PH, 50 or 60 Hz
Exhaust	400 cfm @ 2" of H2O
Air	80-125 psig
Nitrogen (if required)	60-90 psig @ 6.2 cfm

#### CHEMICAL COMPATIBILITY

Semi-aqueous solvents, saponified solutions, detergent wash additives or DI water

#### ABOUT SPEEDLINE TECHNOLOGIES

Speedline Technologies is the global leader in process knowledge and expertise to the PCB assembly and semiconductor industries. Based in Franklin, Massachusetts, the company sells five, best-in-class brands – ACCEL microelectronics cleaning, CAMALOT dispensing systems, ELECTROVERT wave soldering, reflow soldering, and cleaning equipment, MPM stencil and screen printing systems, and PROTECT global services, support, and training solutions. For more information, visit us at [www.speedlinetech.com](http://www.speedlinetech.com).

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