

**Electronic Assembly Equipment** 

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# Electrovert® Aquastorm®

## **In-line Aqueous Cleaning System**

Unsurpassed cleaning, high-efficiency drying, low cost of ownership, ease of maintenance, and minimum downtime all come together in the ELECTROVERT Aquastorm, a world-class printed circuit board cleaning system.

## **Electrovert Aquastorm**

### **Aquastorm:**

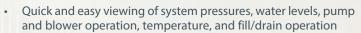
The Aquastorm is a versatile, high-performance cleaning system designed to optimize the PCB cleaning process while minimizing overall cost. Its compact footprint and patented cleaning and drying technologies make the Aquastorm an energy efficient and cost effective cleaning system.

#### Versatile, Proven Cleaning Performance

The Aquastorm series includes two models that accommodate virtually any cleaning requirement. The Aquastorm 200, with its dual-tank design, is ideally suited to RMA and no-clean flux applications that require chemistry, as well as removal of water-soluble organic acid flux. The Aquastorm 100 features a space-saving, single tank design and excels with water-soluble organic acid and water-based no-clean fluxes.

#### **User Interface**

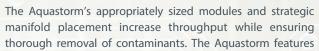
The Aquastorm is configured with a Windows®-based operating system that provides familiar pull-down menus and has datalogging and barcode capability. The system is easily networked for downloading of recipes and remote access to operating data.



- Process notes function
- Security password protection

#### **Cleaning Technology**

Functional sections of a cleaner are designed to accomplish different tasks in removing contamination. Some sections maximize flooding, while others maximize impact force for cleaning tight spaces. The Aquastorm uses proprietary pump and nozzle technology throughout the system to optimize performance.





perforated rails, curtain containment, and a cabinet designed to manage wash solution within the system for maximum conservation of costly chemistries. The wet chemical isolation module is powered by the recirculating rinse pump to ensure optimal prerinsing and to facilitate closed-loop recycling of the rinse section. Even the exhaust is separated between the wash and rinse modules to minimize chemical migration through the system.

#### **Drying Performance**

Efficient and complete drying is crucial to the cleaning process. An effective system will increase throughput, providing cost savings and superior return on investment. The Aquastorm series offers several drying options, including the high-performing Torrid Zone™ for unmatched flexibility in configuration and performance.

#### **Lead-Free Process Ready**

The importance of cleaning electronic assemblies increases dramatically with lead-free soldering. Higher temperatures are required in lead-free soldering, and wetting is much more difficult. To improve 'wettability', the flux compositions may require higher activation. High-solid flux formulations commonly leave more undesirable residue and require cleaning.



A successful cleaning system must be able to handle the harsh demands of the lead-free process. The Aquastorm's unique technologies, such as the patented Hurricane Jet™ and JIC nozzles, provide unmatched impact force to penetrate under and around components and clean even the most challenging flux residues.

## Aquastorm Features:



#### Hurricane Jet™

The Hurricane Jet's patented nozzle technology produces a coherent sheet of high-pressure water across the entire width of the conveyor belt. This unmatched high impact force allows water to penetrate under and around fine pitch components.



#### S-Jet™ Nozzle Technology

This unique patent-pending nozzle design produces large water droplets for enhanced cleaning performance when operating at a lower rate of pressure. The oscillating action of the S-Jet helps to better clean and flush flux residues in the prewash to reduce foaming in the recirculating wash.



#### **Simplified Plumbling**

Equipped with orbitally welded, stainless steel plumbing to eliminate pressure drops and leaks, all sections can be replaced or upgraded in minutes to maximize uptime and process flexibility. Plumbing sections have quick-disconnect fittings for ease of maintenance.





#### **Torrid Zone Drying Power**

Integrated into the machine cabinet, the Torrid Zone delivers superior drying power. Typical performance includes drying complex assemblies to within 0.1 gram of prewashed dry weight. The module reduces exhaust requirements by 44% and uses 15% less power when compared with conventional drying systems, providing a rapid return on investment.



#### Windows® Operating System

All process parameters are configured in the Aquastorm's computer-controlled operator interface. System pressure, water levels, and temperatures are easily accessed. Data logging and barcode capability are features that enhance and streamline the production process.





#### **Complete Accessiblity**

Rear panels can be easily removed for maintenance with the added benefit of single door removal to access the wash and rinse tanks. Front doors provide quick, access to electrical panels, computer, heaters, floats and thermocouples. The hinged, tempered glass windows provide optimum viewing and access.



#### **ElectroAir™ Knife**

The ElectroAir stainless steel airknife is a standard feature on the Aquastorm. This fully adjustable, corrosion resistant design delivers more efficient air flow while maximizing impact force

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# Speedline Electronic Assembly Equipment

#### **AQUASTORM STANDARD FEATURES**

Textured polypropylene, scratch-resistant exterior

Quick connect plumbing fittings

Removable front and rear panels

Windows® OS with monitor and keyboard

PC closed-loop conveyor speed

Orbitally welded stainless steel plumbing

Triple welded tanks

Standard Vee Jet spray nozzles

Hurricane Jet technology

Isolation module for aqueous-based chemistries (200)

Exclusive ElectroAir knife drying

30" adjustable incline conveyor (200)

Password protection

Auto standby photocell

Light tower

CE/UL listing

#### **AQUASTORM OPTIONS**

Dual Hurricane Jet technology

S-Jet nozzle technology

Torrid Zone dryer

5 micron filter system

24" process width

Prewash/final rinse flow meter

Chemical isolation package

Radiant panel dryers

15 HP blower upgrade

Checkmate hold-down conveyor

#### **AQUASTORM SPECIFICATIONS**

Machine Dimensions (L x W x H)	
Aquastorm 100	4910 mm (193") x 1518 mm (60") x 1302 mm (51")
Aquastorm 200	7333 mm (287") x 1518 mm (60") x 1302 mm (51")
Aquastorm 200 Torrid Zone	8045 mm (317") x 1518 mm (60") x 1302 mm (51")
Cleaning Dimensions	508 mm (20") x 102 mm (4") 610 mm (24") x 102 mm (4") - optional
Exhaust Requirements	Wet Section: One (1) 309mm (12.17") stacks: $34 \text{ m}^3/\text{min}$ (1200 SCFM) @ 25 mm (1") of $H_2O$ static pressure With Dual Dryer Option: One (1)309 mm (12.17") stacks: $34 \text{ m}^3/\text{min}$ (1200 SCFM) @ 25 mm (1") of $H_2O$ static pressure With Torrid Zone Option: One (1) 152.4 mm (6") exhaust #1: $14.1 - 19.8 \text{ m}^3/\text{min}$ (500 - 700 SCFM) @ 25 mm (1") of $H_2O$ static pressure; One (1) 152.4 mm (6") exhaust #2: $8.5 - 11.3 \text{ m}^3/\text{min}$ (300 - 400 SCFM) @ 25 mm (1") of $H_2O$ static pressure
Standard Utility Requirements	460 Volt, 60 Hz, 3 Phase, 198 amps maximum Alternate voltages available
Drain Plumbing Requirements	Main drain line: 1 ½" male pipe thread stainless steel Closed-loop drain: 1 ½" male pipe thread stainless steel

#### **ABOUT SPEEDLINE**

Speedline is a member of ITW EAE, a division of Illinois Tools Works, Inc. (NYSE: ITW). They are the global leader in process knowledge, services and manufacturing of capital equipment used in the printed circuit board assembly and semiconductor industries. Speedline markets best-in-class brands including: CAMALOT dispensing systems; ELECTROVERT wave soldering, reflow soldering and curing, and cleaning equipment; and MPM stencil printing systems. For more information visit www.itweae.com.