

Aquastorm[®] In-line Aqueous Cleaning System



Aquastorm 200

Aquastorm 100

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.



Lead-Free Process Ready

Electrovert

Aquastorm

Versatile, Proven Cleaning Performance

The Aquastorm is considered the industry's best for precision cleaning, performance, quality construction and life cycle durability. Combined with innovative features and technologies, the Aquastorm continues to be the industry leader and benchmark for cleaners in the industry. Both the Aquastorm 100 and 200 are ideally suited to RMA and no-clean de-flux applications that require chemistry, as well as removal of water-soluble organic acid flux.

User Interface

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

- Quick and easy viewing of system pressures, water levels, pump and blower operation, temperature, and fill/drain operation
- 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.



The Aquastorm's appropriately sized modules and strategic manifold placement increase throughput while ensuring thorough removal of contaminants. The Aquastorm features 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.

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.

The applications and industries served include:

- Electronics and semiconductor
- Precision medical
- Aerospace/Military
- Automotive
- Industrial/parts cleaning
- Pallet/fixture cleaning
- Debris removal /surface preparation
- Lens Cleaning
- Renew/Rework



Electrovert Aquastorm

Features:



Mixed Spray Technologies

Through a combination of JIC jet impact cleaning, V-jet fan type nozzles, and Hurricane Jet™ spray technologies, maximum direct dynamic impingement is delivered to the product surface and effectively cleans under low stand-off components for difficult cleaning applications.



S-Jet™ Nozzle Technology

Patented nozzle technology 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.



Stainless Steel Plumbing

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.



Aquastorm 200
In-line Conveyor Cleaning

Aquastorm 100
In-line Conveyor Cleaning



Chemical Isolation

The optional Chemical Isolation (CI) is a multi-section module that efficiently removes chemistry from the product prior to the rinse section. The majority of the chemistry is removed in the 1st section, which is close-looped back into the wash tank reservoir.



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 Accessibility

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.



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.



Custom and Special Cleaning

With over 45 years of innovation and process leadership in the cleaning industry, Electrovert is committed to developing new products and services for most cleaning applications. No matter what the cleaning requirement or challenge may be, please contact our experts to discuss a complete and effective solution.



AQUASTORM SERIES SPECIFICATIONS

| Feature | | AS200 Stainless Steel | AS200 | AS100 | | |
|--------------------------------|----------------------------------|----------------------------------|--|--|---|---|
| Process | Process and Application | Straight DI and Chemistry | Straight DI and Chemistry | Straight DI and/or Chemistry | | |
| Physical Characteristics | Material Type | Construction | S | Stainless Steel | Polypropylene | |
| | | O | NA | Stainless Steel | Stainless Steel | |
| | Plumbing | | Seamless Welded Stainless Steel | | | |
| | Machine Dimensions | Length | 31.75' (9.7 m) | Dual Dryer: 23.9' (7.3 m) Torrid Zone Dryer: 26.5' (8 m) | 16' (4.9 m) | |
| | | Width | 72.6" (1.84 m) | 59.8" (1.5 m) | | |
| Height | | 51.3" (1.3 m) | | | | |
| Conveyor, Loading and Handling | Conveyor | Loading Type | | | In-line Conveyor | |
| | Process Width | Maximum Product Width | S | 20" (508 m) | | |
| | | | O | 24" (610 m) | | |
| | Maximum Weight | Standard | S | 1 lb/ft (0.45 kg) | | |
| | | Heavy Duty | O | 10 lb/ft (4.5 kg) | | |
| | | Industrial Duty | S | 25 lb/ft (11.3 kg) | | |
| | Throat Height, Product Clearance | Maximum Height | S | 4" (101.6 mm) | | |
| O | | | 8" (203.2 mm) | | | |
| O | | | 12" (304.8 mm) | | | |
| Operating Characteristics | Module Configuration | Pre Wash | Qty 1 | Qty 1 | Qty 1 | |
| | | Wash | Qty 2 | Qty 1 | Qty 1 | |
| | | Chemical Isolation | Qty 2 | Qty 1 (Optional) | Qty 1 (Optional) | |
| | | Rinse | Qty 1 | Qty 1 | Qty 1 | |
| | | Final Rinse | Qty 1 | Qty 1 | Qty 1 | |
| | | Torrid Zone Dryer | Qty 2 | Qty 2 | Qty 1 | |
| | | Dual Dryer | NA | Qty 2 | Qty 1 | |
| | Wash | Tank Capacity | 110 gal (416 liter) | 80 gal (303 liter) | 80 gal (303 liter) | |
| | | Maximum Operating Temperature | | 180°F (82°C) | Polypro: 160°F (71°C) St'stl: 180°F (82°C) | Polypro: 160°F (71°C) St'stl: 180°F (82°C) |
| | | Pump Size | S | 10 HP | 10 HP | 10 HP |
| | O | | 15 and 20 HP | 15 and 20 HP | 15 and 20 HP | |
| | Rinse | Tank Capacity | | 110 gal (416 liter) | 50 gal (189 liter) | Chemistry type 18 gal (68 liter) |
| | | Pump Size | S | 10 HP | 10 HP | Chemistry type 2 HP |
| | O | | 15 and 20 HP | 15 HP | | |
| | Dryer | Max Operating Temp | Dual Dryer w/Optional IR Heater | NA | 180°F (82°C) | 180°F (82°C) |
| | | | Torrid Zone Dryer | 300°F (149°C) | 300°F (149°C) | 300°F (149°C) |
| | User Interface and Controls | Easy User Interface and Controls | | Windows based PC with keyboard and mouse, Ethernet based I/O | | |
| Codes and Compliance | Codes and Compliance | S | UL Certified and Listed for Factory Automation Equipment is standard and included in the base machine on 440/480V systems. | | | |
| | | O | CE Labeled and Components in lieu of UL | | | |
| Country of Origin | Made in Camdenton, Missouri, USA | | Factory based R&D, Software Development, Applications/Training and Engineering and 24/7 Technical Support | | | |

See the Engineering Data Sheet for the full list of features and technical data.
Contact the factory for requests to accommodate special applications and/or products.

O = Optional; S = Standard

ITW EAE is a division of Illinois Tool Works, Inc. It is a consolidation of all of its Electronic Assembly Equipment and Thermal Processing Technology. The group includes world-class products from MPM, Camalot, Electrovert (Speedline), Vitronics Soltec and Despatch.