

The ideal wave
soldering system for
low-to-medium mass
soldering production
requirements.

Innovative subsystem
technologies

Advanced control
system

Exceptional system-
wide accessibility



Electrovert[®]

VectraES₂[™] Wave Soldering System
Repeatability, Reliability, Value

Electrovert

VectraES₂

Available with Foam and Spray Type Fluxing Systems

Capable of 6' top and bottom Preheat

UltraFill™ Nozzle with FloLift™ Technology

Solder Pot Height Adjustment

Wet Finger Cleaning System

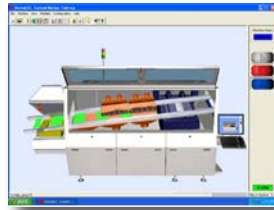
Manufactured at Speedline's North American facilities, the Electrovert VectraES₂ sets the industry standard for value leadership in wave soldering systems.



Advanced Process Capability

Like all Electrovert wave soldering systems, the VectraES₂ is designed to handle lead-free and difficult applications. As technology leaders, Electrovert incorporates a number of features to support difficult and challenging process environments. The cast iron solder pot and its components are resistant to the corrosive properties of lead-free solders, and are capable of withstanding temperatures up to 315°C (600°F). All stainless steel components that contact solder feature ElectroCoat™ corrosion-resistant surface conversion, and grade 1 (pure) titanium is available as an option.

- UltraFill with FloLift technology is the ideal nozzle for today's lead-free process, promoting positive hole fill, decreasing the potential for bridging, and reducing dross generation



Advanced Operator Interface

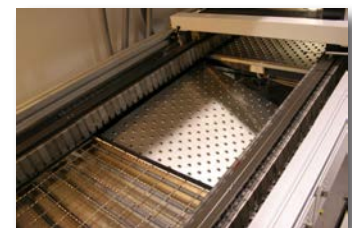
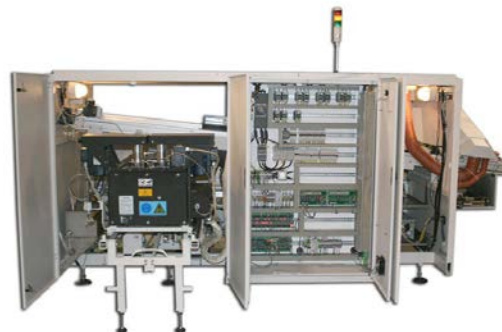
The VectraES₂ features the familiar Windows® operating system with user-friendly, pull-down menus. This system supports networking with other computers, downloading of recipes and remote access to operating data.

- Storage for 5000+ unique recipes
- Process notes function provides the operator with work and process instructions tied to the recipes via a data link to a storage server
- Datalogging traceability feature offers the capability to capture important process parameters, either board-based or time-based
- Security password protection prevents unauthorized changes to process recipes

System-Wide Accessibility

Complete front access is achieved with removable front doors. The rear of the system features multiple hinged doors providing access to electrical panels, fluxer, flux tank and solder pot.

- Drop-down preheaters for easy removal and maintenance
- Automated, roll-out solder pot
- Slide-out fluxer module



VectraES₂ Features



ServoSpray



ServoJet

ServoSonic

The VectraES₂ fluxing system is available with foam or spray type systems. A basic foam fluxer is standard with spray fluxing technologies that promote maximum deposition, control, through-hole penetration, and process flexibility are optional. The ServoSpray™, a servo-controlled, reciprocating spray module featuring air atomizing nozzle technology to ensure spray uniformity and positive hole penetration. A self-cleaning nozzle and pressure tank flux delivery system are also included.

The patented ServoJet™ with FluxJet™ and the ServoSonic™ spray fluxing systems are also available as options on the VectraES₂. Both high-performance fluxing systems ensure complete through-hole penetration, a repeatable process, and reduced flux usage.



Auto Lead Clearance

Auto Lead Clearance Adjustment is a standard feature on the VectraES₂. This recipe-driven solder pot height adjustment feature ensures accuracy and exceptional process repeatability. This automatic control also allows for quick and repeatable changeover when required.

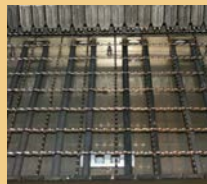


Unload Conveyor Extension

A robust finger conveyor with adjustable width from 2" to 18" (50mm to 460mm) supports various finger configurations. Optional automatic width adjust and an unload conveyor extension maximize performance and productivity.



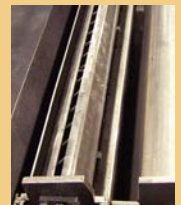
Low Mass Forced Convection Preheat Module



Radiant Preheat Module



UltraFill with FloLift



Rotary Chip with FloLift

With up to 6' (1.8m) of preheat capacity, the VectraES₂ is capable of delivering optimal topside temperatures while minimizing product ΔT 's. The VectraES₂ is available with both radiant (calrod) and convection (Low Mass Forced Convection) preheat technology. Each one-piece preheat module is designed to be interchangeable via optional quick-disconnect plugs and easy drop-down removal, promoting the ultimate in process flexibility. Radiant preheat provides fast reaction time and works well with alcohol-based fluxes, while the Low Mass Forced Convection preheat module is ideally suited to water-based, VOC-free fluxes. The combination of these two technologies provides exceptional thermal performance and process flexibility.

The solder module consists of a high-capacity cast iron roll-out solder pot and low-maintenance pump with AC motors. Configured with the UltraFill with FloLift technology, available for air or nitrogen operation, this system is ideal for process improvements in lead-free soldering. When used in conjunction with the optional Rotary Chip with FloLift technology, maximum wetting is achieved, virtually eliminating skips or misses.

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Knowledge in Process

An ITW company

VECTRAES₂ SPECIFICATIONS

Process Width	2" to 18" (50 mm to 460 mm)	
Machine Length	122.7" (3117 mm)	
Machine Length with External Fluxer	147.5" (3746 mm)	
Machine Width	61" (1557 mm)	
Machine Height	68" (1727 mm)	
Fluxer	Foam	S
	ServoSpray	O
	ServoJet	O
	ServoSonic	O
Preheat	Length	Up to 6' (1.8 m) with external fluxer
	I/R Preheat	S (2 bottom), additional preheaters optional
	Low Mass Forced Convection (LMFC)	O
	Combination Mix	O
Wave	UltraFill	S
	Rotary Chip	O
	Auto Lead Clearance	S
Conveyor	Automatic Width	O
	Finger Cleaner	S
Exhaust Requirements	Two (2) 8" (208 mm) stacks; port 1 - 450 cfm; port 2 - 650 cfm	
Air Requirements	60-120 psig (415 to 830 kPa)	

O - Optional; S - Standard



Process Knowledge and Support

At Speedline Technologies, we deliver world-class products, performance, and unparalleled service and support programs. With the VectraES₂ comes the proficiency of our Electrovert process experts that allows us to solve real-world applications issues. *Knowledge in Process* for superior performance.

ABOUT SPEEDLINE TECHNOLOGIES

Speedline Technologies, a division of Illinois Tools Works, Inc. (NYSE: ITW), is the global leader in process knowledge, services and manufacture of capital equipment used in the printed circuit board assembly and semiconductor industries. Based in Franklin, Massachusetts, USA, with Electrovert manufacturing based in Camdenton, Missouri, the company markets four best-in-class brands: ACCEL microelectronics cleaning equipment; CAMALOT dispensing systems; ELECTROVERT wavesoldering, reflow soldering and curing, and cleaning equipment; and MPM stencil and screen printing systems. For more information about Speedline Technologies visit www.speedlinetech.com.

Speedline Technologies maintains an ongoing program of product improvement that may affect design and/or price. We reserve the right to make these changes without prior notice or liability.