

# Electrovert

Electronic Assembly Equipment

TW EAE

## VectraES™ Wave Soldering System



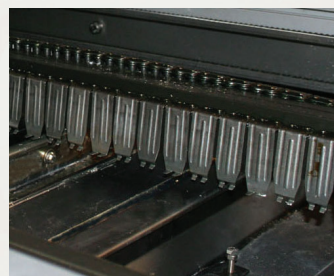
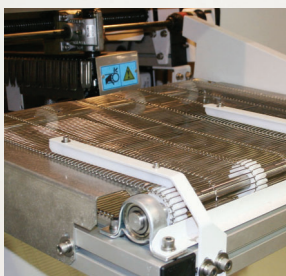
The ideal wave soldering system for low-to-medium mass soldering production requirements.

Innovative subsystem technologies.

Advanced control system

Exceptional system-wide accessibility.

Repeatability + Reliability + Value



# Electrovert VectraES

## VectraES:

Available with Foam and Spray Type Fluxing Systems

Capable of 6' top and bottom Preheat

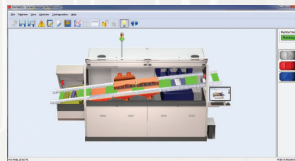
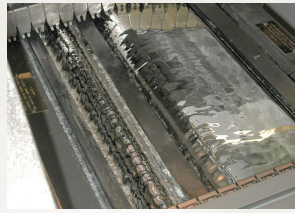
UltraFill™ Nozzle with FloLift™ Technology

Boundary Type, Short and Full N<sub>2</sub> Tunnel Technologies

Solder Pot Height Adjustment

Wet Finger Cleaning System

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



### Advanced Process Capability

Like all Electrovert wave soldering systems, the VectraES 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.
- The VectraES is available with boundary type, short, and long tunnel N<sub>2</sub> soldering technologies which sets the standard in the industry for soldering process flexibility and versatility.

### Advanced Operator Interface

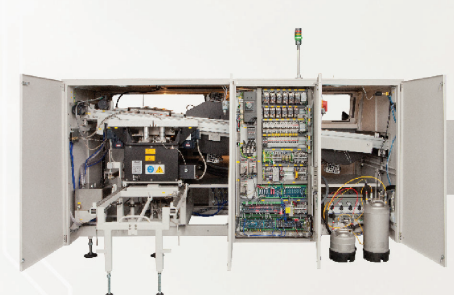
The VectraES features the familiar Windows® operating system with user-friendly, pull-down menus. This system supports networking with other computers, downloading of recipes and remote access to operating data.

- 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
- Windows 10 operating system is standard

### System-Wide Accessibility

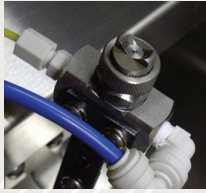
Complete front access is achieved with removable front doors. The rear of the system features multiple hinged doors providing access to electrical panels, fluxer, flux tank and solder pot.

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

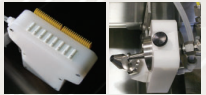


# Electrovert VectraES

## Features:



ServoSpray



ServoJet ServoSonic

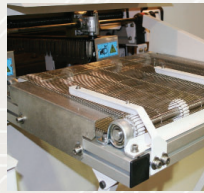
The VectraES fluxing system is available with foam or spray type systems. A basic foam fluxer is standard with spray fluxing technologies that promote maximum deposition, control, through-hole penetration, and process flexibility are optional. The Servo-Spray™, a servo-controlled, reciprocating spray 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 VectraES. Both high-performance fluxing systems ensure complete through-hole penetration, a repeatable process, and reduced flux usage.



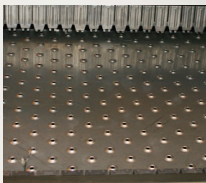
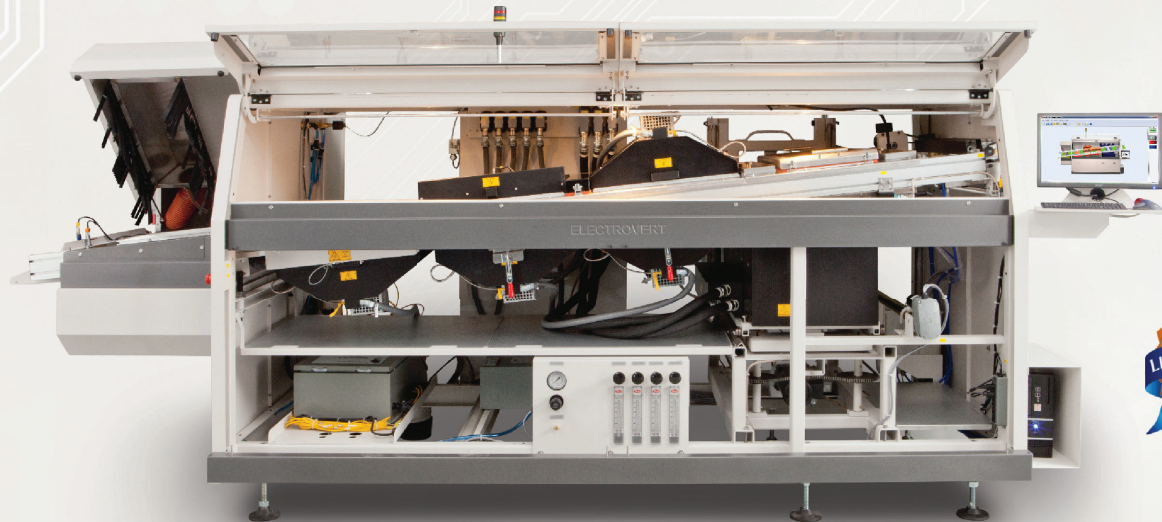
Auto Lead Clearance

Auto Lead Clearance Adjustment is a standard feature on the VectraES. 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.

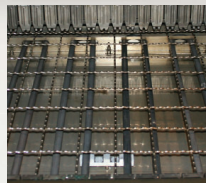


Unload Conveyor Extension

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

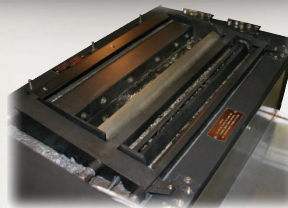


Low Mass Forced Convection Preheat Module



Radiant and Fast Response IR Preheat Modules

With up to 6' (1.8m) bottom and 4' (1.2m) topside, the VectraES provides exceptional thermal performance and process flexibility. The VectraES is available with Low Mass Forced Convection, Radiant IR, and Fast Response Lamp types of preheat. With the optional quick-connect plug feature, each one-piece preheat module is interchangeable for any position and location (top/bottom).



UltraFill with FloLift



Rotary Chip with FloLift

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.

The solder pot casting carries a Lifetime Warranty to the original owner of the machine.

## VECTRAES SPECIFICATIONS

Feature			VectraES (VES3)	
Process	Alloy Type	Lead Free (Qualified and Optimized)	S	
	Process Width	Maximum PCB Width	S 18" (457 mm)	
Physical Characteristics	Machine Length	Length of machine with rail guides (Load/Unload)	S 136.0" (3.45 m)	
			O 157.9" (4.01 m)	
	Conveyor	Maximum Load Weight	50 lb (22 kg)	
		Motorized Width	O	
Preheat	Preheat Type	IR Calrod	S	
		Low Mass Forced Convection	O	
		IR Platen and IsoThermal Forced Convection	NA	
		Fast Response IR	RFQ	
	Preheat Length	Bottom	S (Qty. 2) at 4' (1.2 m)	
			O (Qty. 3) at 6' (1.8 m)	
Top		O (Qty. 2) at 4' (1.2 m)		
Solder	Soldering Environment	Environment	S Air	
			O N2	
	Main Wave	UltraFill Air	S	
	Dual/Wide Wave	Chip Wave	O	
		DwellMax Plus and DwellMax Ultra	NA	
	Nozzle Material	Melonite Coated, Stainless Steel	S	
		Titanium	O	
	N2 Soldering	UltraFill N2 (Boundary Type)	O	
		Short Tunnel (Inerts entire solder pot area)	O	
		Full Tunnel (Inerts entire solder pot area and injects N2 into preheat areas for position 1 and 2) (No restrictions on preheat type and location)	O	
	Wave	Wave Height	S 12.7 mm	
O RFQ				
ExactaWave (Automatic wave height control)		O		
Casting	Lifetime Warranty on Solder Pot Casting	S		
HMP	High Melting Point Capability (Special Warranty Applies)	RFQ		
Fluxer	Fluxer Types and Options	Foam Fluxer	S	
		ServoSpray	O	
		ServoJet	O	
		OA ServoJet	O	
		ServoSonic	O	
		Flux Spray Start/Delay (ServoSpray/ServoSonic)	S	
		Selective Fluxing (includes flux spray start/delay)	OA Servojet	O
			High speed Servojet	S
		Dual Flux Tank / Single Flux Head	O	
		Dual Flux Head / Dual Flux Tank	O	
Teflon Coated Flux Tank	O			
Codes and Operating System	Software and Controls	Windows 10 - 64 bit	S	
		Ethernet Based I/O	S	
	UL	UL Certified and Listed for Factory Automation Equipment	S	
	CE	CE Certification	O	
Training	Types of Training	Process, Maintenance, Troubleshooting, and/or Customized	Camdenton, MO USA or at Customer Site	
Country of Origin	Made in USA	Factory based R&D, Software Engineering, and Applications Support	Camdenton, MO USA	

O = Optional; S = Standard; RFQ = Request Factory Quote



### Process Knowledge and Support

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



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, Vitronics Solttec and Despatch.