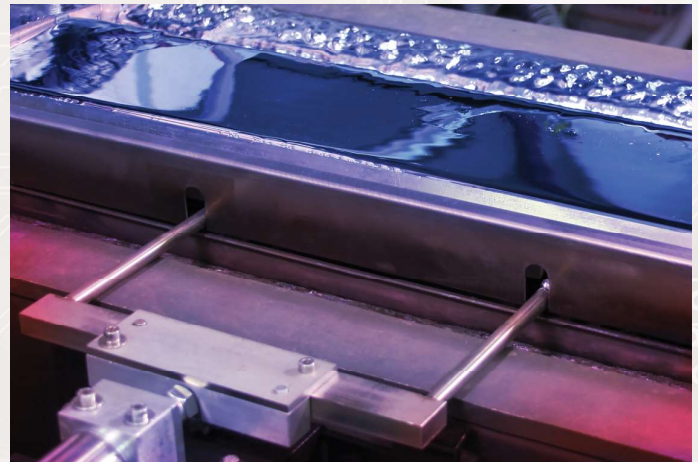


Auto Exit Wing

Automatic adjustment of the laminar wave flow to match the board velocity for reduced defects

Automation, defect reduction, repeatability, MES information management and simplified operation continue to be market drivers across all aspects of board assembly manufacturing. Electrovert's patented Auto Exit Wing feature provides the level of automation that allows automatic adjustment of the laminar wave flow to match the board velocity for reduced defects. The recipe-controlled set-point ensures the wave dynamics



are automatically adjusted ensuring wave flow dynamics are optimized for each PCB type and application.

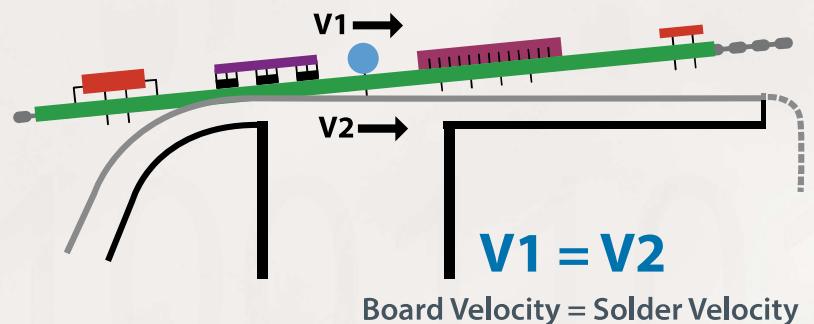
Match board velocity with solder flow for higher yields

To fully optimize the wave flow dynamics of the laminar wave, the velocity of the PCB needs to equal the flow of the solder over the weir of the exit wing ($V1=V2$). As the PCB 'peels' away from the solder, the wave flow dynamics are fully optimized when $V1=V2$ which minimizes the opportunity for bridging defects to occur (product design and process dependent). The Auto Exit Wing feature automates the adjustment that is typically required to optimize the wave flow dynamics.



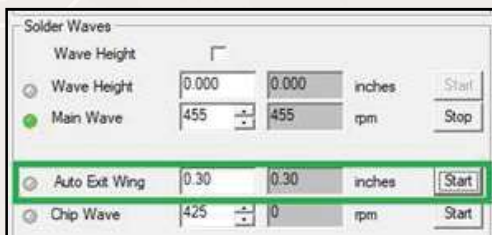
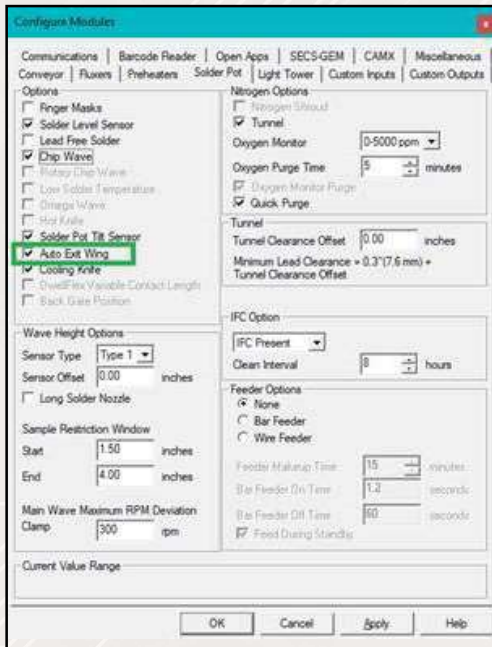
Value and Benefits of the Auto Exit Wing:

- Increase repeatability of the laminar wave flow while eliminating labor time to adjust the exit wing between change-over
- Reduce defect opportunities associated with improper laminar wave flow dynamics
- Recipe controlled set-point in machine software and data captured for MES information management applications
- Design of feature provides precisely controlled exit wing adjustment that is highly repeatable
- Compatible with all of Electrovert's UltraFill 4.0 and DwellMax 4.0 nozzle systems (Air, N2 shroud, and N2 tunnel systems)



Auto Exit Wing

Electrovert's solution to automating the sequence of adjusting the exit wing assembly provides many benefits to manufacturers that value a highly repeatable process. This system reduces the requirement for skilled labor during product change-over, which maximizes soldering performance for reduced bridging opportunities and improved topside hole fill. The auto exit wing feature supports Industry 4.0 level of automation while capturing data for MES information management applications.



Auto Exit Wing Specifications	
Process Type	Compatible with Lead and Lead-free applications
Models	VectraES (VES3 and VES2) VectraElite (VC3 and VC2) Electra (EC4 and EC3)
Nozzle Types	UltraFill 4.0 (Air, N2 shroud and N2 tunnel) DwellMax 4.0 (N2 tunnel)
Process Widths	0.6" (15 mm)
Materials Types	VectraES (melonite and titanium) VectraElite (titanium) Electra (titanium)
Integrated Software Features	<ul style="list-style-type: none"> • Recipe controlled • Compatible with Smart Load (allows for lot-size-of-1 production) • Compatible with 3-step standby mode and FloLift in machine software • Compatible with ExactaWave auto wave height control • Compatible with available MES protocols
Field Upgradeable	Check with factory



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 Soltec and Despatch.

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