

DwellFlex 4.0

The DwellFlex 4.0 is the first nozzle designed specifically with Industry 4.0 automation in mind.

As PCB complexities continue to implement automation into high-mix environments, ensuring the wave solder process has maximum performance and process flexibility is critical. To meet that challenge Electrovert is introducing the DwellFlex 4.0 variable contact wave solder nozzle.

Value of DwellFlex 4.0

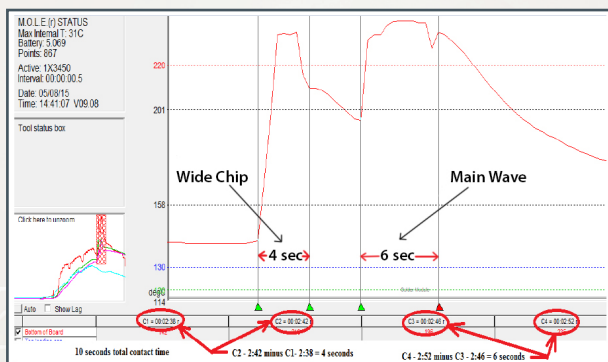
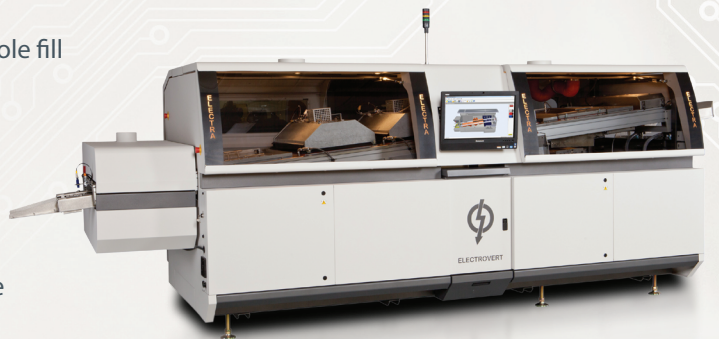
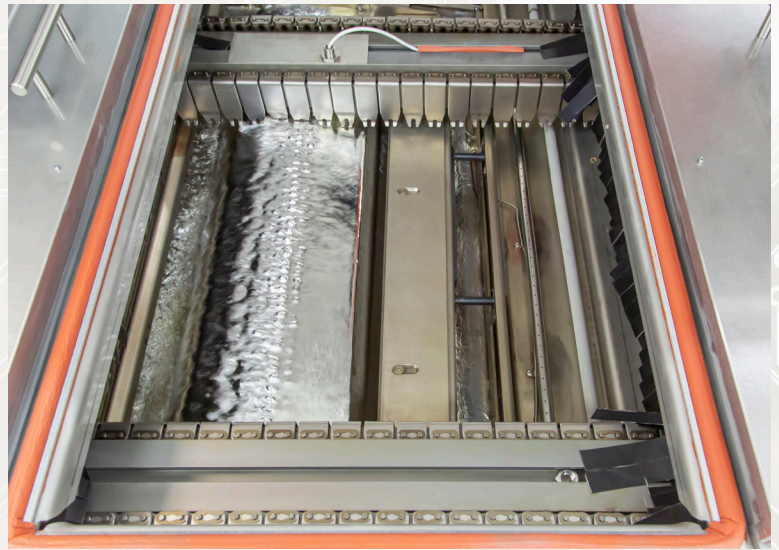
- Reduce defects associated with inadequate topside hole fill
- Minimize lost production time associated with conveyor speed changes
- Precisely adjust solder contact time without having to change conveyor speed, aiding in reduction of flux degradation and copper dissolution
- Maximize line efficiency and increase production time

The value of the DwellFlex 4.0 solution is based on two factors:

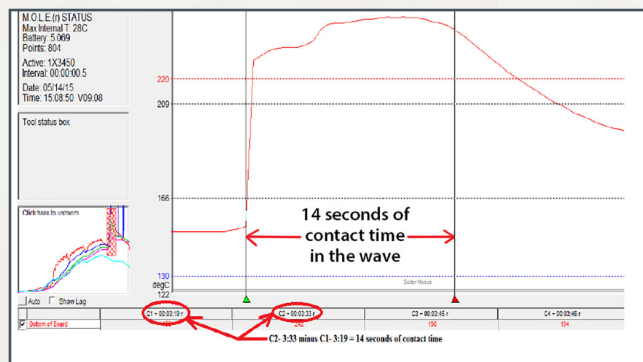
1. Providing a single wave solution that includes both the turbulent and laminar dynamics of the wave within one continuous solder wave

Benefit:

- Eliminates the temperature drop that occurs between typical dual wave configurations
- Incorporates both the turbulent and laminar type waves without any gap
- The single wave solution improves the nozzle efficiency, promotes better topside hole fill, and promotes the reduction of flux degradation in the soldering process
- All these benefits equate to reduced defects and improved line efficiency



Thermal profile of PCB going through a typical dual wave configuration



Thermal profile of PCB going through a single wave solution (no temperature drop)

DwellFlex 4.0

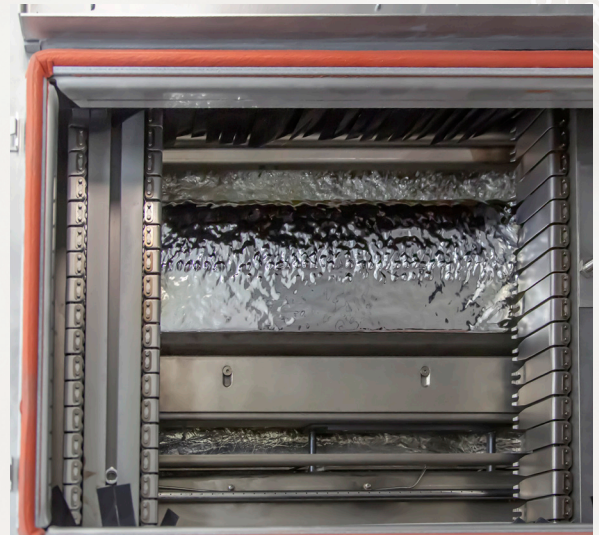
2. Incorporating a recipe controlled, adjustable-exit curved-plate that allows the contact length of the wave to be precisely adjusted and controlled based on the complexity of the PCB.

Benefit:

- Precisely control the dwell time in solder based on board complexity without changing conveyor speed
- Smart Load in the software allows for lot-size-of-1 production capability with nozzle contact length changes taking less than 10 seconds
- Contact length is recipe controlled, data logged in software, and compatible with available MES protocols

The DwellFlex 4.0 is the ideal solution for high mix wave soldering applications where the PCB manufacturer wants maximum performance and flexibility for various board assembly complexities. The benefits of the DwellFlex 4.0 includes the elimination of lost production time associated with conveyor speed changes, improves soldering results, change from high mass to low mass PCB's in less than 10 seconds, ability to provide precise dwell time for any board, flexibility for lot-size-of-1, and supports smart factory/Industry 4.0 automation.

DWELLFLEX 4.0 SPECIFICATIONS
Available on Electra and VectraElite
Process Widths: <ul style="list-style-type: none">• 18" (457 mm)• 20" (508 mm)• 24" (610 mm)
All titanium material construction and available with N ₂ tunnel (full and short) Compatible with Lead and Lead-free applications
Integrated software features: <ul style="list-style-type: none">• Recipe controlled• Compatible with Smart Load (allows lot-size-of-1 production)• Includes 3-step standby mode and FloLift™ in machine software• Compatible with available MES protocols
N ₂ Tunnel: 50ppm of O ₂ in tunnel with 800-1200 SCFH (22.6-33.9m ³ /hr) of N ₂ supplied
Field Upgradeable (select models - 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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