

High-performance reflow  
soldering for demanding  
production requirements.  
From lead-free to hybrid  
processing, the OmniExcel  
series delivers nitrogen  
and power consumption  
efficiencies that set the  
standard for low cost of  
ownership.

# Electrovert<sup>®</sup>

# Electrovert

## OmniExcel

### OmniExcel Delivers:

- Exceptional Thermal Performance
- Ease of Use
- Lowest Cost of Ownership
- Repeatability
- Process Flexibility

Manufactured at Speedline's North American facilities, the OmniExcel series sets the industry standard for technology leadership in reflow soldering systems.

### OmniExcel = High Performance Reflow

OmniExcel's Comprehensive Standard Features Include:

- 7 or 10 heating zones with 2 or 3 cooling zones
- Combination pin chain and mesh belt conveyor system
- Recipe-driven, computer-controlled conveyor width adjustment
- Closed-loop blower speed control (heating and cooling zones)
- UPS battery backup system
- SMEMA electrical interface
- Input/Output board detection system
- Programmable light tower
- Exhaust failure detection system

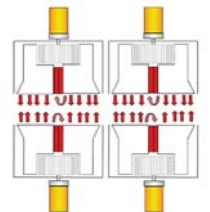
### User Interface

The OmniExcel is configured with a Windows®-based operating system that provides familiar pull-down menus. The standard, user-friendly software includes functional features, such as independent control of cooling blowers, nitrogen stand-by, data logging traceability, security password protection, calibration and system diagnostic capability.



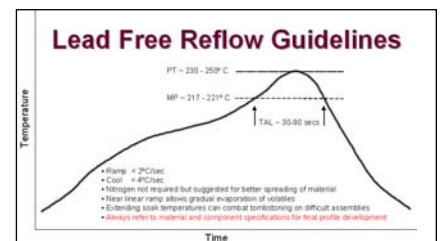
### Heating Technology

The OmniExcel "heat-on-intake" chamber design introduces a balanced air stream into the heating chamber. This method offers exceptional zone-to-zone segregation plus minimal peak temperature delta performance.



### Lead-Free Process Ready

With higher peak temperature requirements and smaller process windows for lead-free soldering, a reflow system must minimize  $\Delta T$ s and have the ability to control time above liquidus (TAL). The OmniExcel is ready to make the lead-free conversion simple with temperature process capability to 350°C, high-efficiency heat transfer, and exceptional zone-to-zone segregation.



### Flux Management

The OmniExcel's patented Flux Extraction System™ (FES) contains harmful flux volatiles that are continuously released from the solder paste. FES modules are strategically placed to trap and filter particles throughout the entire heated chamber. Configured to maximize efficiency, FES units feature filter technologies such as micromesh screens, for collection of large particles, and/or packed stainless steel balls that create a wet filter for solvent collection. The filtered flux is captured in system-monitored containment vessels that are quickly and easily removed. The FES units also feature advanced, software-controlled, self-cleaning capability to extend maintenance intervals, maximize system efficiency, and reduce downtime. FES is the most comprehensive flux filtration system available today.

# OmniExcel Features



## Closed-Loop Blower Control

Standard closed-loop blower control balances airflow with minimal turbulence to improve heat transfer and substantially reduce power and nitrogen consumption.



## VariCool™ Air Cooling Technology

The air cooling module offers independent, four-speed blower control via software, plus standard, closed-loop blower control with blower failure detection.



## VariCool Nitrogen Cooling Technology

The nitrogen cooling module consists of vertical cooling chambers that offer independent, closed-loop variable blower control for precise control of cooling slopes and assembly exit temperatures.



## AutoOilers

The optional AutoOiler system provides regular lubrication of the conveyor system through simple software set points to ensure long conveyor life. Brushes lightly coat the rollers of the conveyor chain without contaminating the product support pins, resulting in vibration-free conveyor operation.



## Center Board Support (CBS)

In addition to being fully programmable and recipe driven, OmniExcel's optional CBS system can also be positioned outside of the process area. OmniExcel's CBS system provides as-needed product support, maximum flexibility and process repeatability.



## Quick-Change Atmosphere Seals

This two-seal system consists of an internal rope seal to absorb flux and heat, and an external silicone seal that is mounted into a channel for quick change. Benefits include extended seal life, reduction in maintenance time, and the ability to maintain process atmosphere while reducing nitrogen consumption.



## Patented Rail Heaters

Rail heaters can reduce peak temperature deltas to within  $\pm 1.5^{\circ}\text{C}$  for products with large thermal mass. This is beneficial for products with mass on the edges of electrical assemblies.

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 **Speedline**  
technologies

**Knowledge in Process**

### OMNIEXCEL SPECIFICATIONS

	OmniExcel 7	OmniExcel 10
Machine Length	199.2" (5060.7 mm)	259" (6573.8 mm)
Machine Width	56.3" (1430.4 mm)	56.3" (1430.4 mm)
Machine Height	49.8" (1265.4 mm)	49.8" (1265.4 mm)
Process Width	20" (508 mm)	20" (508 mm)
Heated Length	104.5" (2654 mm)	148" (3759 mm)
Cooling Length	32" (813 mm)	50.5" (1282 mm)
Operating Temperature	350 °C with rails 400 °C with mesh belt	350 °C with rails 400 °C with mesh belt
Compliance Requirement	CE/UL listing	CE/UL listing

#### Low Power Consumption

- Innovative dual heat chamber design
- Variable speed, closed-loop blower speed control
- Maximized heat transfer efficiency
- Power limiting capability

#### Maximum System Uptime

- Quick and easy start-up and profiling
- Self cleaning capability
- High MTBF (mean time between failure)
- Low MTTR (mean time to repair)

**OmniExcel**  
Engineered for Lowest Cost  
of Ownership

#### Low Nitrogen Consumption

- Flow balancing technology
- Buffer zone technology
- Nitrogen standby capability

#### Maximum Throughput

- Maximum heat transfer capability
- Maximum cooling transfer efficiency



### Process Knowledge and Support

At Speedline Technologies, we deliver world-class products, performance, and unparalleled service and support programs. With the OmniExcel 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 is the global leader in process knowledge and expertise for the PCB assembly and semiconductor industries. Based in Franklin, Massachusetts, U.S.A., the company markets five best-in-class brands — Accel microelectronics cleaning equipment; Camalot dispensing systems; Electrovert wave soldering, reflow soldering, and cleaning equipment; MPM stencil and screen printing systems; and Protect global services, support, and training solutions. For more information, visit us at [www.speedlinetech.com](http://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.