

## Solano Reflow Oven

### Solano RO-500/510

The Solano RO-500 series is a flexible, full convection lead free approved reflow system. Hot air is circulated to heat up the the product. This method is widely seen as the optimal way of heating reflow ovens. The finely tuned design of the process chamber will ensure uniform heating and consistent results. All heating zones are separately controlled by a built-in microprocessor. This ensures quick response to varying loads.

A built-in 2-channel temperature profiler allows you to plot and examine temperature profiles on screen. This enables you to quickly find the ideal oven setting for your product. Up to 100 programs and 5 profiles with different ovens settings can be stored in the microprocessor. With the optional Oven Manager software you can store unlimited programs and profiles. To make sure that the products leave the oven properly cooled down and free of static loads, a cooling unit with an ionization unit is situated at the end of the process chamber. The exhaust air is filtered through a set of three filters to make the oven as environmental friendly as possible. For safety the Solano meets the latest CE regulations and to ensure smooth operation within a production line the oven meet the SMEMA specifications.



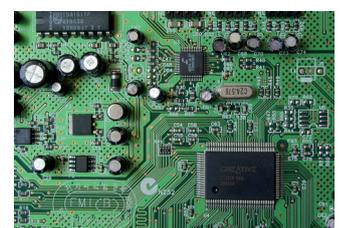
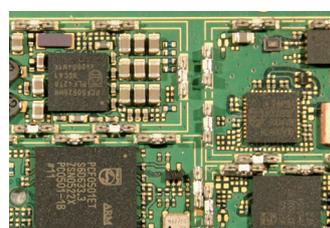
### Main Features

- 4 independent controlled heating zones
- Internal cooling zone
- Integrated Ioniser for ESD safe soldering
- DIMAsoft reflow profiler software available
- Flux traps to minimize contamination of the system
- Easy to service one way approach heating units
- SMEMA interface
- Microprocessor controlled
- Lead free approved
- Build in reflow tracker in standard software
- Standard 100 programs and 5 profiles can be stored
- Optional Oven manager software



Solano RO-510 entrance with mesh belt and pin conveyor, drip feed lubricators and sump.

### Applications



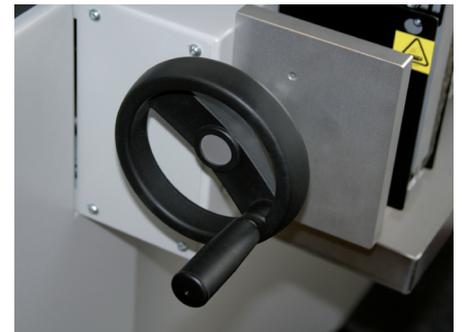
### Detailed information



Solano RO-510 with optional monitor and keyboard

### Lead free approved

Leading solder paste manufacturers have approved this oven for lead free soldering without any limitations. Naturally these reflow ovens are designed to be compatible with all today's lead free solders.



Wheel for width adjustment pin conveyor

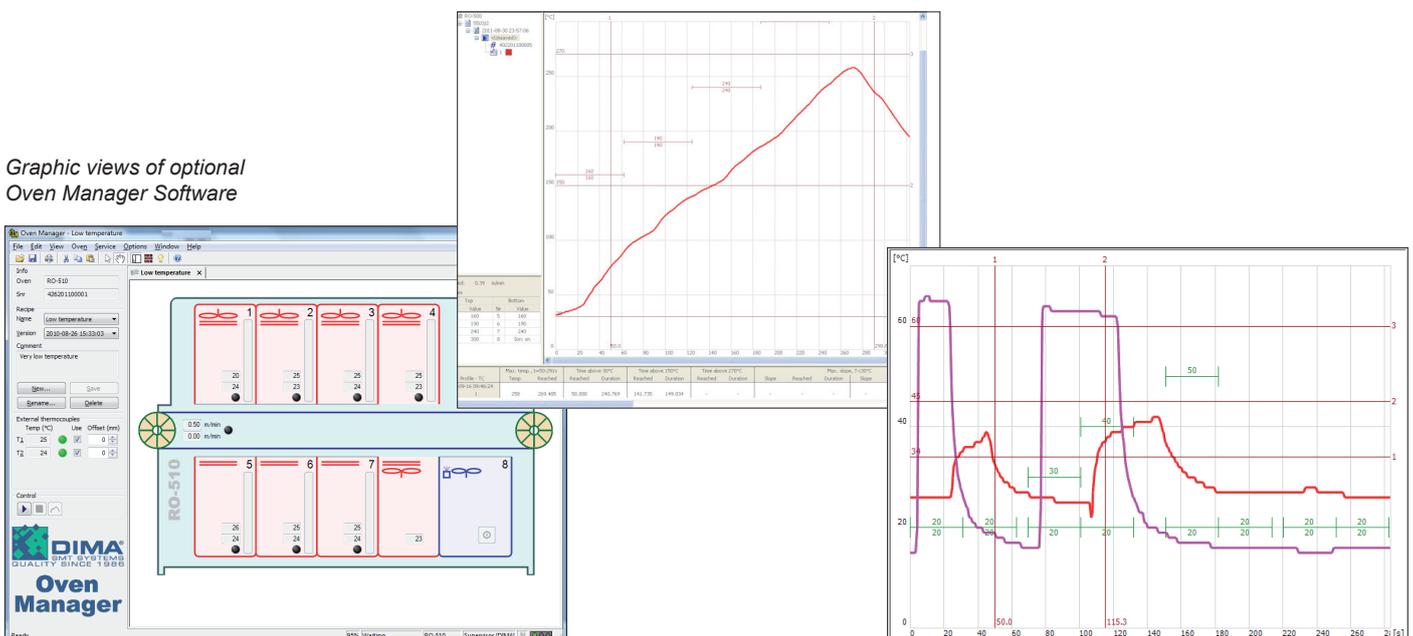
### Solano Reflow System

Exact control of all heating cells and total performance consistency even under varying loads are routine expectations for any top-of-the-line reflow. What makes Solano a most sought-after premium-level system are those capabilities, plus its singular ability to function as a full convection reflow. From every parameter by which reflow systems are judged - heating uniformity, exacting and total process control, profiling flexibility and throughput - the Solano has it all. It offers a high degree of flexibility and profile control, enabling the user to run a large variety of boards with fewer profiles. Uniform heating and high repeatability will be maintained under all load conditions - including load / no load (i.e., "zero spacing"). PC software permits unlimited temperatures profiling in real time, continuous process status updates, overlay comparisons, and program storage.

### Oven Manager Software

Offers the user a programming software format making this software one of the most advanced, easy to use interfaces available in the market today. Its unique capabilities offer quick, informative one key operations, drastically reducing setup time. Oven Management software is compatible with Windows operating systems and optional. With the optional Oven Manager software you can store unlimited programs and profiles.

### Graphic views of optional Oven Manager Software



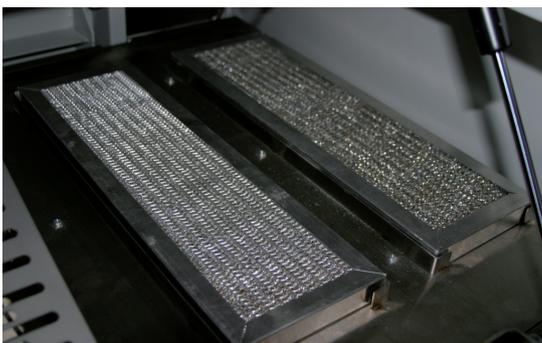
### Detailed information

#### Air and component temperatures equalized

One of the most important aspect of convection reflow systems is the speed of circulating air, which should be fast enough to equalize its temperature to that of the components within each zone. Solano achieves equalization of air and component temperatures by circulating air with a speed of 1 to 1.3 meters per second. Any faster could endanger chips from being misaligned or shifted. However, many systems move the air at a much slower rate in some instances, causing a substantial temperature imbalance between components and the air surrounding them. Faster air speeds are also ideal for densely populated and multi-layer boards, as well as in all other critical soldering applications like lead free soldering. A digital encoder precisely controls belt speed, providing vibration-free belt movement - a must for double sided boards. A built-in process window is used to program, run and display each profile. For ease of service the heating cells can be removed from the top without dismantling the process chamber.

#### Keep it under control

The system's memory stores up to 100 different programs and max. 5 different profiles. The USB port on the reflow oven allows PC interface for entry and storage of additional programs as well as remote control of operating procedure, QC monitoring, and generation of hard copies as needed. Oven Management software is optional available and permits storage of unlimited programs and profiles. PC, monitor and monitor/keyboard stand are also sold separately. A standard built-in dedicated TFT touchscreen permits continuous monitoring of the production run, with real time profiling shown in convenient graph format and board temperatures through each zone shown in real time.



Two (of three filters in total) are at the end of the oven.

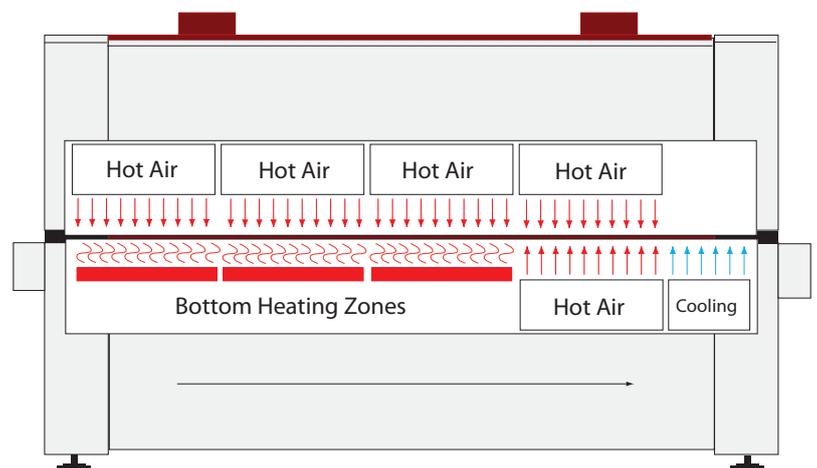


Heating cell with cooling zone

#### Avoids IR emissions sources

The 2.7m Solano system has been ingeniously designed to avoid two potential IR emissions sources. It's a fact that even the most sophisticated reflow systems have uneven heating due to unwanted IR energy emanating from areas of the process chamber that become hot. Often the heating chambers are made of heavy aluminium castings with the heating elements inside. This can cause components with less density to heat up faster than larger ones. Another common problem with IR emissions within some reflow ovens is that the interior walls are non-reflective.

When designing the Solano, we minimized the risk of unwanted IR by eliminating these two causes, resulting in an innovative reflow oven. Thin, lightweight sheets of mirror-like polished stainless steel line the entire interior, with heating elements positioned outside the chamber. These innovations cause heat to be deflected instead of absorbed and emitted.



Cross section Solano, with 4 heating zones (hot air), 1 cooling zone and optional set of 3 bottom heating zones (RO-5030).

Solano RO-500/150		
Type	Reflow Oven (mesh)	Reflow Oven (mesh and pin conveyor)
DIMA Article number	RO-500	RO-510
Dimension (L x W x H)	2500 x 1050 x 1420 mm	2750 x 1050 x 1420 mm
Conveyor	500 mm wide stainless steel mesh belt	500 mm wide stainless steel mesh belt, and pin conveyor with 5 mm pins (3 mm optional)
Product dimension	Max. 495 mm width, Max. 50 mm height (incl. components)	Mesh : 430 mm width, Max. 50 mm height (incl. components) Pin conveyor : 25 - 450 mm width Max. 25 mm height (incl. components)
Transport speed	0.05 - 0.8 m/min	
Controller	Microprocessor controller for heating and cooling zones, with USB port (for optional Oven Manager Software) Speed and temperature profiling controlled via TFT touchscreen or by optional PC	
Heating System	Full convection circulated hot air from top and bottom, 4 heatings on top and 1 at the bottom, 1 cooldown zone with 3 cooling ventilators at the end of the process chamber.	
Exhaust	The oven uses external exhaust with a required airflow of 1150 m <sup>3</sup> /h.	
Cooling	Radial ventilator at the bottom.	
Heating power	Standard : 17.5 kW (approx. 6 kW after warm-up) with RO-5030 : 19.3 kW (approx. 6 kW after warm-up)	
Software	License available under art.nr: SWRO-0340	
User Interface	Standard interface via TFT-display with touchscreen on the oven, optional: PC with Oven Manager software	
Tunnel length	1700 mm heated tunnel, 2200 mm proces chamber	
Power	3 phase 380 / 420 Volt	
Weight	575-625 Kg (without/with bottom heating)	610-660 Kg (without/with bottom heating)

### Ordering information

RO-500	Solano 500 mm wide convection oven lead free capable mesh belt only
RO-510	Solano 500 mm wide convection oven lead free capable mesh belt and pin conveyor (5 mm)
RO-510-3	Solano 500 mm wide convection oven lead free capable mesh belt and pin conveyor (3 mm)
SWRO-0340	Oven Manager software, for use on external PC/LCD monitor (via USB port)
RO-5010	Monitor stand, 17 inch TFT/LCD monitor, keyboard and ovenmanager soft. (EN/D/NL language)
RO-5020	Monitor stand, computer, 17 inch TFT/LCD monitor and ovenmanager soft. (EN/D/NL language)
RO-5030	1 additional set of 3 bottom heating zones (50 kg)
CO-1290	SMEMA timer based option
RO-1250	220 - 240 VAC 3 phase without neutral option for Solano RO-500
RO-1260	60 Hz option for Solano RO-500

For more detailed information, please contact our Sales Representatives. We are very willing to explain you the product application opportunities, all the available system configurations as well as our customized turn-key automation facilities. We are pleased to serve you with the best process technologies and going for the best system fit into your manufacturing processes. Your success is ours too!

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