

## Model RSO-200

### Reflow Solder Oven with Vacuum up to 200 mm x 170 mm substrate size



Technical and design changes reserved

- Touch Panel for easy program control
- Easy loading/unloading of samples
- Max. Temperature: 650 °C
- Ramp up rate up to 75 K/sec
- Mass Flow Controller
- Vacuum up to  $10^{-3}$  hPa  
(for high vacuum see RSO-200-HV)

## FEATURES

- Precise ramp up and fast ramp down rates
- Up to 4 gas lines
- Heated by IR Lamps (21 kW)
- PID Controller
- Integrated data logging

## APPLICATIONS

- Reflow Solder Processes without flux
- Operation with inert gas, Oxygen, Hydrogen, Forming gas, Formic Acid

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- Reflow Solder Process Oven with vacuum
- Touch Panel Svivel
- Programmable temperature profiles
- Record of process data
- Process in different gas atmospheres

### APPLICATION

The **RSO-200** Reflow Solder System is an excellent tool for various semiconductor up to 200 mm x 170 mm substrate size.

Some examples for applications: Laboratory furnace for all kind of developers implementing and researching new processes, prototype research, environmental research purposes and for small pre-series or series.

### PROCESS GASES

The RSO-200 can be used with standard process gases, like Nitrogen, Oxygen, Forming Gas. The chamber is sealed and can easily be cleaned.

### FLOW METER

One gas line with Mass Flow Controller (MFC) for Nitrogen (5 slm) is default, three more gas lines (**Option: MFC**) are possible.

### VACUUM

The system is vacuum capable of up to  $10^{-3}$  hPa. For higher vacuum we offer the model **RSO-200-HV** (see separate data sheet).

The maximal achievable temperature is 650 °C. Key features are precisely controlled fast ramp-up 75 K/sec) and excellent ramp-down rates (depend on temperature and loading).

### TEMPERATURE DISTRIBUTION

The RSO-200 allows an excellent temperature distribution and homogeneity. A graphite susceptor is included by default (ramp-up rate limited to 10 K/min).

### PROGRAMMING

The RSO-200 is equipped with a 7" touch panel which allows easy and comfortable programming directly on the unit.

### COOLING

The cooling of the parts in the quartz chamber is realized by Nitrogen gas which will be led through the chamber. For cooling of the chamber housing cooling we recommend a closed loop water cooling system. (**Accessories: WC-III**)

### OTHERS

An interlock function as well as an Emergency-OFF-Button (EMO) are default.

### SPECIAL

This oven can also be orderd as „**double chamber oven**“. By adding a second process chamber (**Option: PC-200**) the oven does have 2 process chambers and one controller unit. This saves money when 2 different processes are needed and the chambers shall not be cleaned due to contamination or other reasons.

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### SPECIFICATION

Max. part size	200 mm x 170 mm
Chamber material	Quartz glass chamber (closed)
Chamber height	40 mm
Part holder	Graphite Plate
Vacuum capability	Up to $10^{-3}$ hPa
Process chamber size	200 mm x 170 mm x 40 mm (W x D x H)
Temperature max.	650 °C
Temp. unifomity	$\leq 1,5\%$ of set temperature
Heating	Top and bottom heating with 24 IR Lamps (21 kW)
Ramp up rate	Up to 75 K/sec
Ramp down rate	T= 650°C > 400°C: 200 K/min, T= 400°C > 100°C: 30 K/min
Flow Controller	Mas Flow Controller (Nitrogen 5 slm)
Controller	SPS Controller, SIMATIC
Chamber cooling	Water cooled
Substrate Cooling	By Nitrogen Gas

### TECHNICAL DATA

Dimension oven	505 mm x 504 mm x 460 mm (W x D x H)
Weight	50 kg (estimated)
Electrical connection	CEE 3x32 A, 230 V, 3 ~ + N + PE

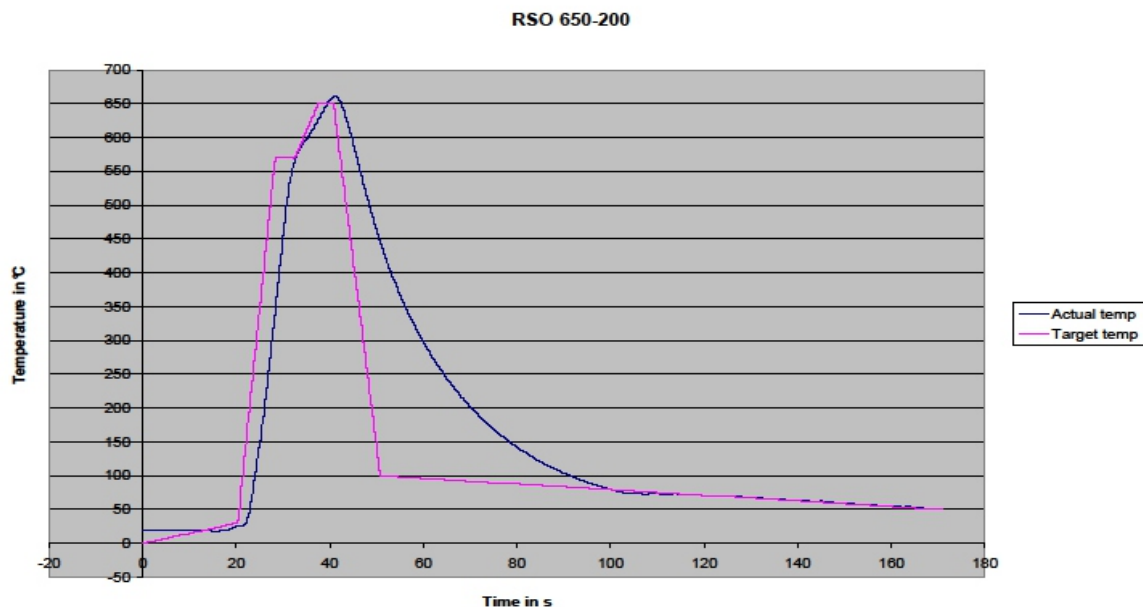
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### OPTIONS

RSO-MFC	Additional gas line with Mass Flow controller (max. 4 gas lines)	•
RSO-GP-SiC	SiC Coated Graphite Plate or Susceptor	•
RSO-QX	Quartz tray for 3", 4", 5" and 6" wafer size	•
RSO-H2	Module für using 100% Hydrogen including one MFC for Hydrogen	
RSO-H2S	Safety device to prevent uncontrolled emission of Hydrogen	
RSO-FA	Formic Acid Module	
RSO-TC	Additional thermocouple to measure on device (plugged in chamber) for external measurement tool (max. 2)	
RSO-VM	Vacuum measurement with vacuum sensor (when no pump is ordered)	
RSO-PC-200	Additional 200 mm oven chamber (double-chamber) for usage of 2 chambers and 1 controller in one rack, no simultaneous operation of both chambers	

### ACCESSORIES

MP	Membrane Pump for vacuum up to 10 hPa with manometer	•
RVP	Rotary Vane pump for vacuum up to $10^{-3}$ hPa with oil filter and vacuum sensor	
WC-III or WC-IV	Closed loop water cooling system (stand alone)	



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