UNITEMP
Universal Temperature Processes

Model RVS-210

Reflow Solder System with vacuum for flux and fluxless soldering up to 200 mm x 200 mm substrate size

Technical and design changes reserved

- **For 200 mm x 200 mm substrate size**
- Processes with contaminating material **(e.g. flux)**
- Easy loading/unloading of the chamber
- Max. Temperature: 400 °C
- Process gas ine with MFC for N_2
- **Vacuum up to 10^{-3} hPa**
  (Option HV: up to 10^{-6} hPa)
- **SIMATIC® process control** with 7" touch panel

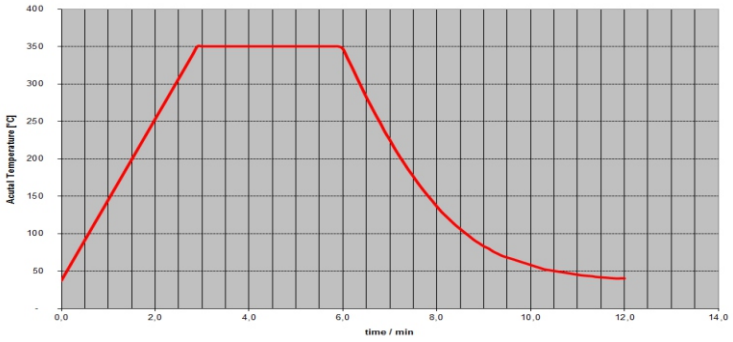
FEATURE

- Precise ramp up and fast ramp down rates
- Up to 3 internal process gas lines (Mass Flow Controller)
- Data logging (USB, network)
- Hot plate heated by Infrared lamps and cooled with water
- 50 programs with 50 steps each
- Small foot print

APPLICATION

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

RVS-210 Temperature Profile (preliminary)



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- **Reflow Solder System as table top version**
- **Programmable temperature profiles**
- **Record of process data**
- **Process in different gas atmospheres (inert gases)**
- **Perfect lab tool due to small dimensions and weight**

APPLICATION

The **RVS-210** Reflow Solder System is an excellent tool for various solder processes for up to 200 mm x 200 mm substrate size and 50 mm height (optionally up to 80 mm).
Some examples for applications: Laboratory furnace for all kind of developers implementing and researching new processes, prototype research, environmental research purposes and for small preseries or series.

PROCESS GASES

Beside standard process gases, like Nitrogen, Oxygen, Forming Gas and formic acid. The chamber is sealed and can be cleaned easily. Even flux can be used.

PROCESS GAS LINES

One process gas line with Mass Flow Controller (MFC) is default, two more process gas lines are possible. All gas lines are made of stainless steel and fixed by Swagelok fittings.

VACUUM

The system is vacuum capable of up to 10^{-3} hPa.
(Option: HV up to 10^{-6} hPa.)

HEATING

The maximal achievable temperature is 400 °C. Key features are precisely controlled fast ramp-up 120 K/min) and ramp-down rates
(up to 100 K/min).

TEMPERATURE DISTRIBUTION

The hot plate allows an excellent temperature distribution and homogenity. The SIMATIC® SPS controller ensures a temperature uniformity all over the hot plate (even in edge position).

PROGRAMMING

The **RVS-210** is equipped with a 7" touch panel which allows easy and comfortable programming directly on the unit. There are 50 programs with up to 50 segments available.

PROCESS CONTROL

The software allows the permanent monitoring, read- out and analysis of
>temperature
>process gas flow
>cooling water level status
>pressure value and status

COOLING

The hot plate is actively cooled also under high vacuum condition. For chamber housing cooling and external cooling is required (we recommend a closed loopwater cooling system.

(Accessory: WC II)

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SPECIFICATION

Max. part size	200 mm x 200 mm
Chamber material	Aluminium chamber
Chamber height	50 mm (optionally up to 80 mm)
Vacuum capability	Up to 10^{-3} hPa (optionally up to 10^{-6} hPa)
Process chamber size	300 mm x 300 mm x 50 mm (W x D x H)
Temperature max.	Up to 400 °C
Temp. unifomity	+/- 1% of set temperature (e.g. +/- 3K @ 300 °C)
Heating	IR Lamps (9 kW)
Ramp up rate	Up to 100 K/min
Ramp down rate	T= 400°C > 200°C: 100 K/min
Flow Controller	Process gas line with Mass Flow Controller for Nitrogen (5 nlm)
Controller	SIMATIC®, 50 programs with 50 steps each
Chamber cooling	Water cooled
Hot Plate Cooling	Water cooled

TECHNICAL DATA

Dimension oven	670 mm x 544 mm x 320 mm (W x D x H)
Weight	45 kg
Electrical connection	CEE 3x16 A, 230 V, 3 ~ + N + PE

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OPTIONS

FA I	Formic Acid Module - with Mass Flow Controller (external module - able for later retrofit)
FA II	Formic Acid Option with internal gas line and Mass Flow Controller
FA III	Formic Acid Option , the gas line is shared with the standard N2 Mass Flow Controller
FA-T	Trap for formic acid vapor (for pump protection)
FT	Flux trap (for pump protection)
IL	Interlock mechanism to prevent unintentional opening of the chamber during process
MFC	Additional process gas line with Mass Flow Controller (max. 3 add) *
MM	Moisture Analyser to measure moisture residues in the chamber
OxAtAn	Oxygen Analyser to measure Oxygen residues (not in combination with Hydrogen Option)
PT	Additional 3 colors pat light
SW	Switchbox
TC	add. Thermocouple to measure on device (plugged in chamber, (max. 3)
VAC I	Basic Vacuum up to 3 hPa, Vacuum sensor, vacuum valve DN16 , ball check valve
VAC II	Comfort Vacuum up to 10exp-3 hPa, Pirani Sensor, vacuum valve DN16, ball check valve
VAC III	High Vacuum up to 10^{-6}hPa, incl. Turbo pump, Vacuum sensor and valve, excl. Rough pump

ACCESSORIES

MP or MPC	Membrane Pump (or C for „chemcial“) for vacuum up to 3 hPa
RVP	Rotary Vane pump for vacuum up to 10^{-3} hPa with oil filter
WC III	Closed loop water cooling system (stand alone)

RVS-210 front view closed chamber

RVS-210 front view open chamber

RVS-210 side view closed chamber

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