

Model RSS-Series (RSS-110-S, RSS-160-S and RSS-210-S)

**Mini Reflow Solder System with vacuum for fluxless soldering
up to 210 mm x 210 mm substrate size**



RSS-160-S with SPS Controller and 7" touch Panel
Technical and design changes reserved

- **Heated area**
RSS-110-S: 110 mm x 110 mm
RSS-160-S: 160 mm x 160 mm
RSS-210-S: 210 mm x 210 mm
- Ramp up rate up to 240 K/min. (*)
Ramp down rate up to 120 K/min. (*)
- Water cooling
- **SIMATIC® process control**
- **7" touch panel**
- **Vacuum up to 10^{-3} hPa**
(*) depends on model

FEATURES

- Precise ramp up and fast ramp down rates
- Excellent temperature uniformity
- One gas line (MFC) with 5 nlm N₂
- Data logging (USB, Ethernet)
- Hotplate heated by heater cartridges and cooled with water
- 50 programs with 50 steps each
- Small foot print

APPLICATIONS

- Reflow Solder Processes (fluxless)
- Lead free and void free soldering
- Operation with inert gas, Oxygen gas, Hydrogen gas, Forming gas, Formic Acid (depends on model)

Model RSS-110-S, RSS-160-S and RSS-210-S

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

APPLICATION

The RSS-110-S, RSS-160-S and RSS-210-S Reflow Solder Systems are excellent tools for various solder processes up to 210 mm x 210 mm substrate size and 40 mm height (extended height as option).

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

Beside standard process gases, like Nitrogen, Oxygen, Forming Gas the system (depends on model) can also be used with pure Hydrogen (Option: H₂ and H₂S). The chamber is sealed and can be easily cleaned. The Option RSS-FA allows the use of formic acid for void free solder results.

FLOW CONTROL

One gas line with Mass Flow Controller (MFC) is default. Options like Formic Acid Module (RSS-FA) or use of 100% Hydrogen (RSS-H₂) are controlled by an own Mass Flow Controller.

VACUUM

The system is vacuum capable to 10⁻³ hPa. A membrane/diaphragm pump, a chemically resistant pump (recommended when RSS-FA is used) and a rotary vane pump are available as accessories.

TEMPERATURE DISTRIBUTION

The max. temperature is 400 °C. Key features are precisely controlled fast ramp-up (up to 240 K/min- depending on model) and ramp-down rates (up to 120 K/min). The hot plate offers an excellent temperature distribution and homogeneity.

PROGRAMMING

The systems are equipped with a 7" touch panel which allows easy and comfortable programming directly on the unit. 50 programs with 50 steps each can be stored. Unlimited programs can be up - and downloaded from an external storage medium.

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 water cooled. An external water cooling is required (we recommend a closed loop water cooling system) (Accessory: WC I)

Model RSS-110-S and RSS-160-S

SPECIFICATION

	RSS-110-S	RSS-160-S	RSS-210-S
Heated area	110 mm x 110 mm	160 mm x 160 mm	210 mm x 210 mm
Chamber height	40 mm(optional: 80 mm)	40 mm(optional: 80 mm)	40 mm(optional: 80 mm)
Temperature range	RT.....400 °C	RT.....400 °C	RT.....400 °C
Ramp up rate	up to 120 K/min	up to 100 K/min	up to 240K/min
Ramp down rate	up to 100 K/min.	up to 100 K/min	up to 120K/min
Interface	Ethernet / USB	Ethernet / USB	Ethernet / USB
Controller	SIMATIC® with 7" touch panel	SIMATIC® with 7" touch panel	SIMATIC® with 7" touch panel
Chamber cover	with 60 mm viewing window	with 60 mm viewing window	with 60 mm viewing window
Programs	50 programs storable each with 50 segments	50 programs storable each with 50 segments	50 programs storable each with 50 segments
Dimensions chamber	260 x 420 x 220 mm (W x D x H)	300 x 420 x 220 mm (W x D x H)	430 x 295 x 290 mm (WxDxH)
Weight	10 kg	12 kg	22 kg
Voltage	230V , 1.6 kW 115V, 1.2 kW	230V, 2.4 kW 115V, 1.2 kW	230V, 9 kW 115V, 7 kW
Current	max. 7A, 50-60 Hz	max. 10 A, 50-60 Hz	max. 25A, 50-60 Hz
Options	1 add. TC Hydrogen Module	1 add. TC Formic Acid Module Hydrogen Module	1 add. TC Formic Acid Module Hydrogen Module

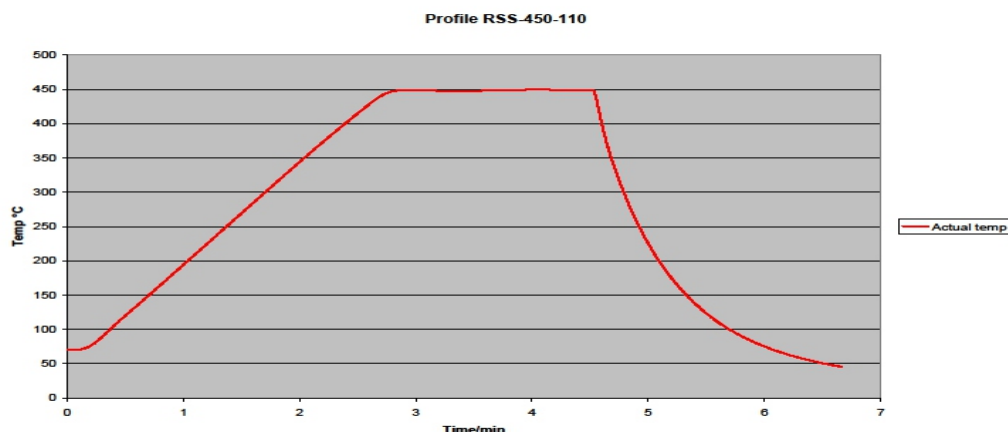
Model RSS-110-S and RSS-160-S

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)
H2	Hydrogen option with Safety device (Sensor and Hydrogen monitoring)
H2S	Safety device for Hydrogen option (with cover and sensor)
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 10^{-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
VCR	Tubing made of VCR (welded)

ACCESSORIES

MP or MPC	Membrane Pump (or C for „chemical“) 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)



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