

Ersa POWERFLOW

The high-performance wave soldering system
with flexible solder bath technology



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Highlights

- Spray fluxer with intelligent spray pattern programming
- Modular, flexible and individually expandable preheating concept with convection heating and emitters; variable configuration in length and performance (also later possible)
- Motorized height adjustment of the soldering nozzle
- Long wetting period
- Extremely stable solder wave height (up to 16 mm)
- 3 nozzle combinations for every requirement
- Exchangeable solder pot with trolley
- Sequential soldering
- Automatic production with code operation possible
- Ready for traceability

Based on absolutely stable processes and reproducible parameters, the high-performance Ersa wave soldering systems ensure the customer top standards when it comes to quality, costs and delivery service. Ersa has now expanded this segment to include a new system offering attractive value-for-money: the high-performance state-of-the-art POWERFLOW system. It contains the proven components of the POWERFLOW series. With a maximum working width of 508 mm the machine is also suited for medium up to high-volume production throughputs.

Fluxing

Today, spray systems are standard equipment for any wave soldering

machine, however, they differ significantly in detail. Ersa offers many innovative solutions for the fluxer.

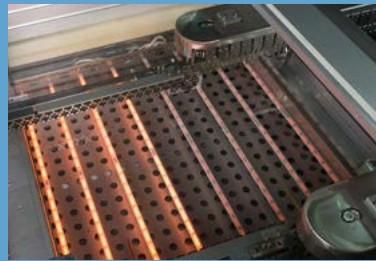
Particular attention is paid not only to process safety but also to cost effectiveness, i.e. flux consumption and processing speed. Spray sections for specific products can be entered graphically on ERSASOFT. This highly convenient type of process planning helps to greatly reduce flux material consumption.

Preheating

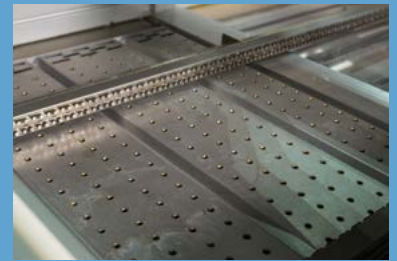
The modular construction of the Ersa wave soldering systems offers infrared emitters in combination with convection heaters. The IR emitters are very effective. They react



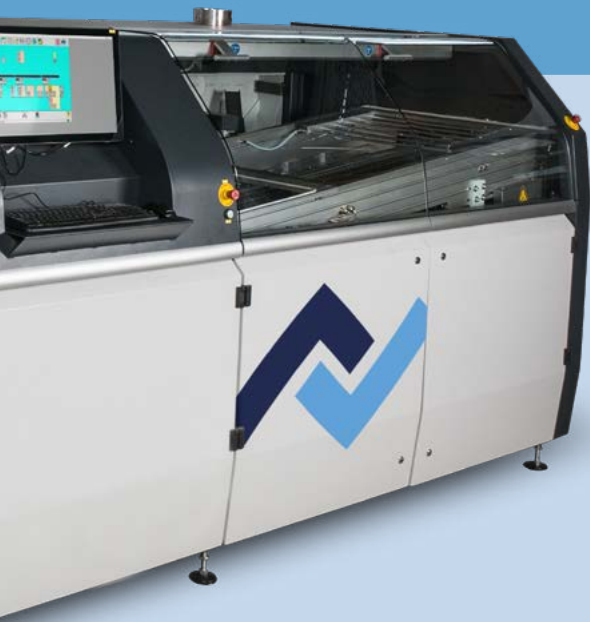
Preheating: medium wave emitter



Short wave emitter



Preheating: convection module



Basic configuration

- Integrated, complete lead-free capability and reliability when using VOC-free, water-based flux
- Precise spray fluxer with motorized axis drive and 25 l flux tank
- Finger conveyor with a working width of 508 mm
- 1,800 mm preheating length
- Modern control concept
- Easy operation via desktop PC or touchscreen (optional)
- Continuous monitoring of all relevant soldering parameters
- Standard nozzle combination: SMD chip wave nozzle (Pos. 1) and laminar nozzle (Pos. 2)
- Intermediate heating module

immediately, making them highly suitable for mixed production.

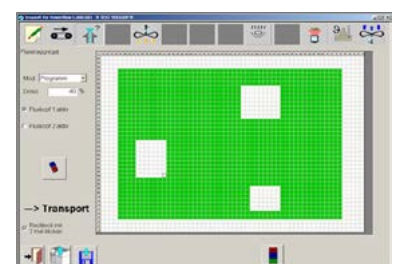
Convection modules are especially suitable for the processing of heavy-mass components that require heating on the placement side or when heat sensitive components are being used that must not be overheated during the preheating process. The Erska POWERFLOW Concept is particularly suited to meet these requirements.

Soldering

With regard to the solder module, the POWERFLOW resorts to the proven Erska double wave soldering technology, on the basis of which the solder module has been completely

redesigned in order to meet the increasing market requirements and needs. The solder module stands out by its user-friendliness and provides three nozzle combinations to align the process optimally with the user's requirements. Thus, apart from long wetting times, wave heights as high as 16 mm are also possible.

A compact nitrogen tunnel over the solder wave is available as an option. In this way a directed and adjustable nitrogen atmosphere is set up over the solder wave which reduces the formation of oxides considerably.



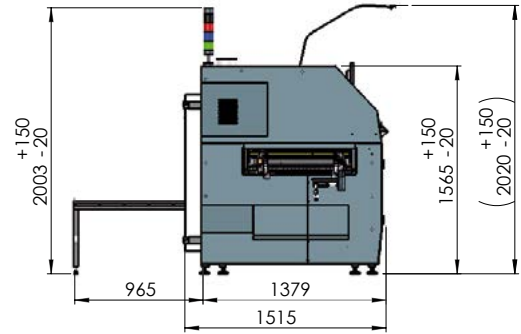
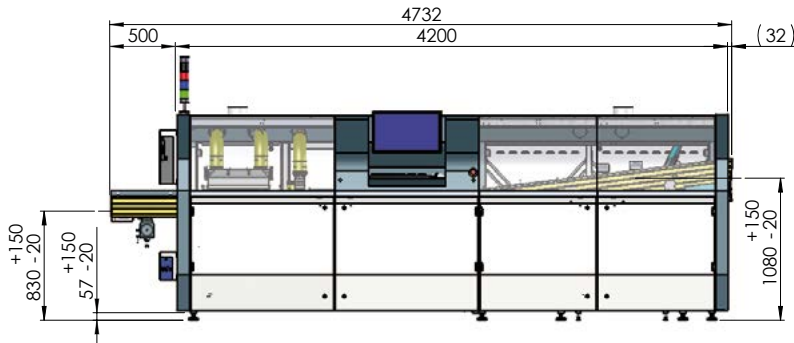
Entry mask for sequential fluxing



Stable solder wave height up to 16 mm possible

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Technical Data



Specifications refer to the basic machine and may vary depending on the configuration.

Dimensions	
Length:	3 preheating modules 4,200 mm 4 preheating modules 4,950 mm
Width:	1,510 mm
Height:	1,565 mm
Weight:	3 preheating modules 2,200 kg 4 preheating modules 3,000 kg
Paint:	RAL 7035 / 7016

Pneumatic system	
Inlet pressure:	min. 6 bar
Air consumption:	approx. 5 – 10 m ³ /h

Extraction	
Exhaust connections:	1 x 800 m ³ /h and 2 x 200 m ³ /h
Exhaust stacks:	3 x AD 150 mm

Environmental specifications	
Ambient temperature:	10 – 35 °C
Humidity:	20 – 95 % (non condensating)

Noise level	
Permanent noise level:	< 65 dB (A)

Conveyor system	
Type:	finger-type conveyor
Conveyor width:	60 – 508 mm
PCB length:	120 – 600 mm
PCB top-side clearance:	120 mm
PCB bottom-side clearance:	max. 15 mm
Conveyor speed:	0.5 - 2.5 m/min
Conveyor angle:	7° (fixed angle)

Electrical data	
Voltage:	5-wire system, 3 x 400 V, N, PE
Voltage tolerance:	±10 %
Frequency:	50/60 Hz
Fuse rating:	3 x 125 A
Amperage:	79 A
Capacity:	80 kW

Flux module	
Flux storage tank:	25 l
Spray pressure:	0.9 – 2.5 bar

Bottom-side preheat module	
Type:	dynamic short-wave emitter
Capacity:	max. 10,4 kW (power controlled)
Type:	medim-wave emitter
Capacity:	max. 6 kW (controlled)
Type:	convection module
Capacity:	max. 6 kW (controlled)
Dimensions:	600 mm length each

Soldering module	
Capacity:	approx. 9.8 kW
Solder volume:	approx. 820 kg lead-free alloy
Warm-up time:	approx. 10 h
Solder temperature:	max. 300 °C
Solder bar feeder:	automatic

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