

Ersa ECOSELECT 4

Inline and batch selective soldering system
for highest selective soldering quality



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Highlights ECOSELECT 4

- Flexibly integrable soldering system: inline or batch operation
- VERSAFLOW 4 technology
- PCB size 508 x 508 mm
- Roller conveyor
- Up to two spray heads and flux tanks
- Power convection
- Y/Z variable dual solder pots
- Automatic nozzle activation
- Upgrade with independent flux module to a full inline machine
- Award-winning ERSASOFT 5 software
- VERSACAM – solder wave height measurement “on the fly”

The **ECOSELECT 4** is Ersa's newest selective soldering system. It is a compact system that is perfectly suited for small up to medium-sized batches where flexibility is essential.

The **ECOSELECT 4** features machine technology of the latest **VERSAFLOW** generation. Its conveyor system is a high-quality roller conveyor for a max. PCB size of 508 x 508 mm. The **ECOSELECT 4** can be used inline or in batch operation. Another machine highlight is the new power convection heating, for example, which provides an optimal and homogenous warm-up also of complex boards. Like all Ersa selective soldering systems the **ECOSELECT 4** is equipped

with a programmable precision spray fluxer with integrated spray control for precise and economical flux application in single spots or in tracks. A second spray head is available as an option.

The new dual solder pot system of the **VERSAFLOW 4** is also available for the **ECOSELECT 4**. Both Miniwave pots can be moved flexibly in Y/Z direction. Thus, the machine operator can install solder nozzles with different diameters in order to quickly solder connectors using a nozzle with large diameter and using a very slim nozzle shape for joints which are difficult to reach.



Soldering system for inline or batch operation



Roller conveyor

Basic configuration

- 3 axis positioning system
- Max. PCB size 508 x 508 mm
- Solder module with low-maintenance electromagnetic solder pump
- Exhaust control
- Status indication lights
- Process visualization incl. soldering protocols, process data recording, monitoring function, indication of maintenance and errors
- Roller conveyor
- Conveyor width adjustment
- High-precision spray fluxer
- Lead-free single point solder module with solder level monitoring and wave height measurement

The innovative and user-friendly **ERSASOFT 5** software renders machine operation even more intuitive. Through individual user interfaces, each group of operators receives, at one glance, the data and information it requires. A further software highlight is the PiP technology (picture in picture) combined with a process monitoring camera.



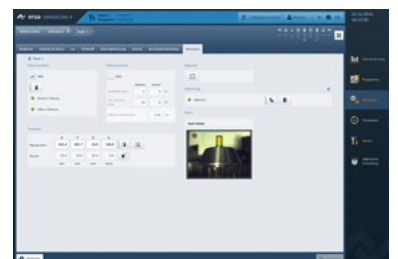
Power convection heating



Y/Z variable dual solder pots

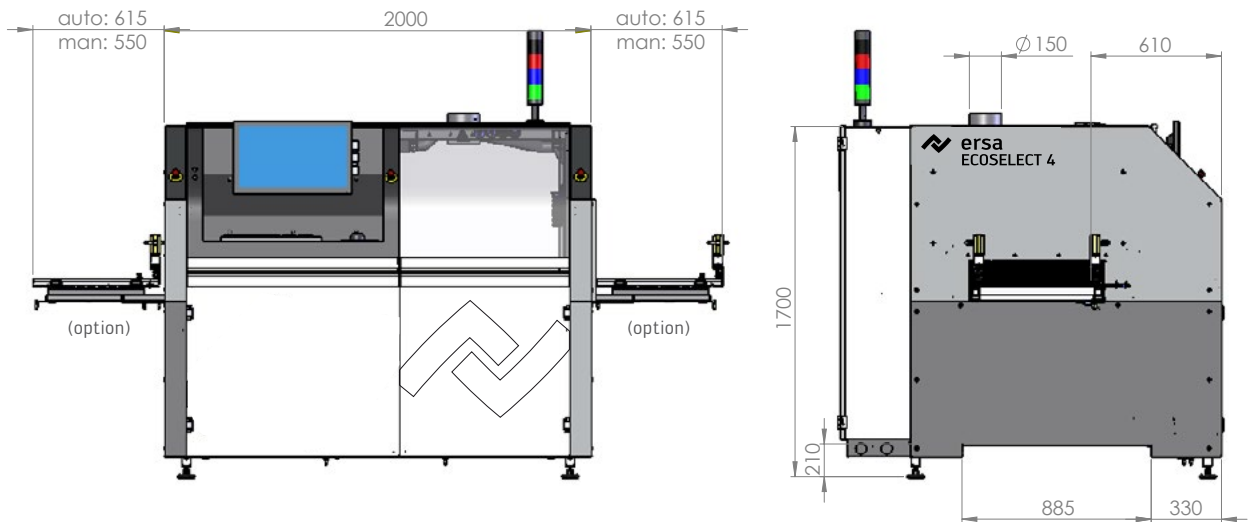


Automatic nozzle activation



ERSASOFT 5

Technical data ECOSELECT 4



ECOSELECT 4 (basic system)

| | |
|--------------|------------------|
| Length: | 2,000 mm |
| Width: | 1,800 mm |
| Height: | 1,700 mm |
| Weight: | 1,200 kg |
| Type: | batch/inline |
| PCB loading: | manual/automatic |

Conveyor system (option)

| | |
|----------------------------|---|
| Type: | roller conveyor |
| PCB width: | 50 – 508 mm (single track) |
| PCB length: | 127 – 508 mm |
| Clearance from PCB edge: | 3 mm |
| PCB top side clearance: | max. 120 mm |
| PCB bottom side clearance: | max. 60 mm |
| Speed: | 0.2 – 15 m/min |
| Mask/PCB weight: | 15 kg (heavy load conveyor optional) |

Flux module

| | |
|-----------------------|-------------------------------|
| Type: | high-precision spray fluxer |
| Positioning system: | 2 axis, servo motor driven |
| Flux storage tank: | 1,8 l |
| Positioning speed: | 1 – 400 mm/s |
| Fluxer speed: | 20 mm/s |
| Positioning accuracy: | ±0,15 mm |
| Spray width: | 2 – 8 mm (130 µm nozzle) |

Preheat module

| | |
|--------------|--|
| Type: | IR bottom-side (basis), top-side convection (option), top side power convection (option) |
| Power: | 12 kW per IR heater, 5 kW (convection), 6 kW (power convection) |
| Temperature: | 200 °C |

Miniwave solder module

| | |
|--------------------------|---|
| Solder wave height: | max. 5 mm |
| Clearance from PCB edge: | min. 3 mm |
| Solder volume: | approx. 13 kg (Sn63Pb) approx. 12 kg (lead-free) |
| Solder temperature: | max. 330 °C |
| Warm-up time: | 75 min to 280 °C |
| Positioning speed: | X/Y; 2 – 200 mm/s |
| Soldering speed: | 10 mm/s |
| Positioning accuracy: | ±0,15 mm |

Nitrogen technology

| | |
|-----------------------|--|
| Nitrogen supply: | to be supplied locally |
| Nitrogen injection: | N ₂ cover over the solder bath |
| Required pressure: | 6 bar |
| Consumption: | approx. 1.5 m ³ /h per pot |
| Particle cleanliness: | 5.0 (recommendation) |

Compressed air

| | |
|------------------------|---------------------------|
| Compressed air supply: | to be supplied locally |
| Required pressure: | 6 bar |
| Consumption : | < 5 m ³ /h |

Electrical data

| | |
|------------------------|---|
| Power: | 5-wire system, 3 x 230/400 V, N, PE |
| Power tolerance range: | ±5 % |
| Frequency: | 50/60 Hz |
| Power consumption: | 22 kW (incl. bottom side preheating) |
| Safety fuse: | 3 x 35 A |

Exhaust rating

| | |
|---------------------------|-----------------------|
| Exhaust stacks: | 1 pc., OD 150 mm |
| Exhaust volume per stack: | 450 m ³ /h |

Environmental specs/noise level

| | |
|------------------------|------------|
| Ambient temperature: | 15 – 35 °C |
| Permanent sound level: | <60 dB(A) |

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