Ersa ECOSELECT 4
Inline and batch selective soldering system
for highest selective soldering quality
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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.

**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 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.
### 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
- **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 axes, servo motor driven
- **Flux storage tank:** 18 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

#### Minimwave 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:** N₂ cover over the solder bath
- **Required pressure:** 6 bar
- **Consumption:** approx. 1.5 m³/h per pot
- **Particle cleanliness:** 5.0 (recommendation)

#### Compressed air
- **Compressed air supply:** to be supplied locally
- **Required pressure:** 6 bar
- **Consumption:** < 5 m³/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:** 350 m³/h

#### Environmental specs/noise level
- **Ambient temperature:** 15 – 35 °C
- **Permanent sound level:** <60 dB(A)