



### ECOSELECT 2 – for your modular production line

As the world's technology leader in selective soldering systems Ersa supplement their successful VERSAFLOW series with a compact selective soldering system: the ECOSELECT 2.

It is the optimal solution for small and medium scale production where flexibility is paramount. The machine's design focuses on providing reproducible quality while being simple to operate. The intelligent and clearly structured software allows for easy and effective machine programming, and it records all relevant production parameters.

One highlight is the graphical programming via the optional CAD Assistant 2 software. It ensures very quick and easy off-line programming, while the machine continues running in

production. Alternatively, the machine can be programmed via DXF files or scanned PCBs. Unauthorized machine operation is prevented by the user administration feature.

Like all Ersa selective soldering systems, the ECOSELECT 2 is equipped with a programmable high-precision fluxer for single dot or line flux application. An integrated spray control monitors the flux jet's position. Due to the extremely accurate flux application, flux consumption is kept to an absolute minimum, and because of the virtual absence of overspray, very clean assemblies are ensured.

Short-wave, bottom-side IR emitters allow for short preheating processes. The heating cassette segments can be activated subject to the product. By means of the optional top-side convection preheater, a homogenous warm-up of even complex assemblies is achieved.

Heart and soul of the ECOSELECT 2 is the soldering process itself. The »Peel off« Effect which

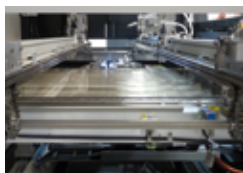
has been developed by Ersa allows for 0° soldering without bridge formation and guarantees lowest DPM rates. The solder pot requires very little maintenance, and it is free of parts that need to be considered consumables.

Innovative monitoring systems ensure reproducibility of your production parameters. Thus the new ECOSELECT 2 in- and off-line cell concept offers the best price/performance ratio for high-quality selective soldering, and it is a perfect and flexible solution for both first-time-users and manufacturers with small to medium series production.

#### Features Ersa ECOSELECT 2

Pin-and-chain conveyor for PCB transport (Single Track)	<input checked="" type="checkbox"/>
Manual conveyor width adjustment	<input checked="" type="checkbox"/>
Programmable conveyor width adjustment	<input type="checkbox"/>
Infeed and outfeed modules	<input checked="" type="checkbox"/>
Fluxer module with precision spray fluxer	<input checked="" type="checkbox"/>
Bottom-side preheating via short-wave, dynamic IR emitters	<input type="checkbox"/>
Top-side convection heating	<input type="checkbox"/>
Lead-free Single Point solder module	<input checked="" type="checkbox"/>
Second solder pot to process two different solder alloys	<input type="checkbox"/>
Second solder pot to process multi-up panels	<input type="checkbox"/>
In-line interface (e. g. SMEMA, etc.)	<input type="checkbox"/>
Camera/screen for solder process monitoring	<input type="checkbox"/>
Bar code scanner (bar codes/2D)	<input type="checkbox"/>
CAD data download of board layouts (CAD Assistant)	<input type="checkbox"/>
Operation via touch panel	<input type="checkbox"/>
Traceability	<input type="checkbox"/>

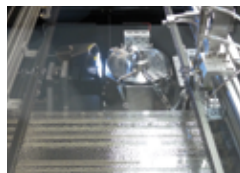
standard  / option



Pin-and-chain conveyor



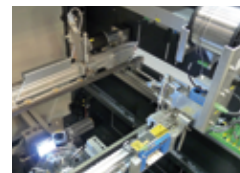
Best accessibility: flux storage tanks for the flux supply



IR preheating, extendable by top-side convection heaters



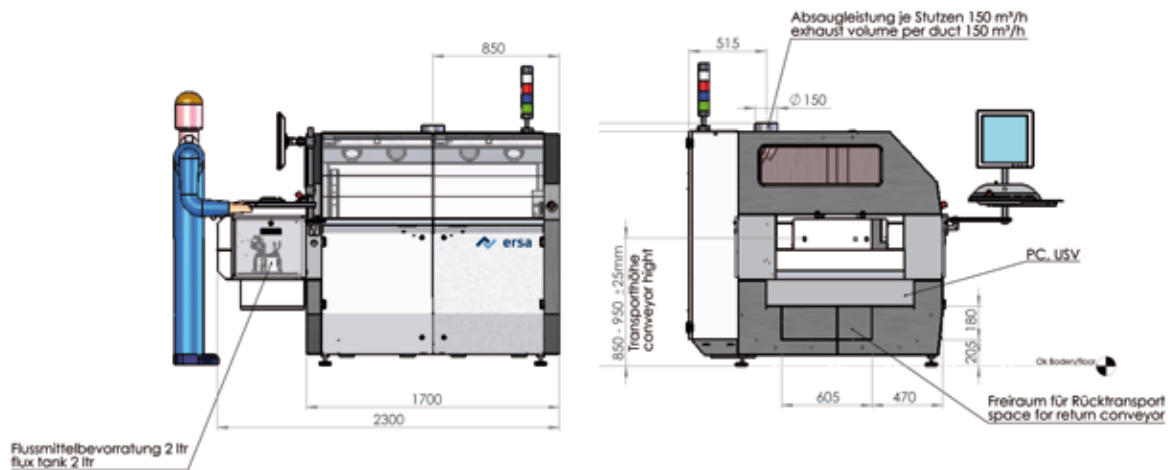
Optional top-side heating for perfect preheating



Solder module with nozzle, second solder pot installable on the same axial system



Second solder pot to process multi-up panels or two different solder alloys



### Dimensions (basic machine):

Length:	2,300 mm [91"]
Width:	1,730 mm [68"]
Height:	1,612 mm [63"]
Weight:	approx. 900 kg [1,984 lbs]
<b>Paint</b>	RAL 7035 / 7016

### Conveyor system:

Pin-and-chain conveyor for PCB transport	
Conveyor angle:	0° fix
PCB width (Single Track):	63.5 - 406 mm [2.5 - 16"]
PCB length:	127 - 508 mm [5 - 20"]
PCB top-side clearance (basic machine):	60 - 120 mm [2 - 5"] (measured from PCB bottom side, except PCB edges 3 mm [0.3"])
PCB bottom-side clearance:	max. 60 mm [2"] (subject to soldering joint position)
Clearance from PCB edge:	5 mm [0.1"]
Conveyor height from floor:	850/950 mm, ±25 mm [33"/37" ±1"]
Conveyor speed:	2 - 10 m/min [7 - 33'/min]
Pallet/PCB weight:	max. 8 kg [18 lbs]

### Flux module:

Precision spray fluxer installed on joint axes system	
Flux tank:	2 l
Positioning speed:	2 - 200 mm/s [0.04 - 8"/s]
Positioning accuracy:	±0.25 mm [±0.01"]
Spray width:	2 - 8 mm [0.08 - 0.3"] (130 µm nozzle)

### Preheat module (option):

Dynamic bottom-side infrared emitters:	max. 12 kW
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Temperature range:	0 - 200 °C [32 - 392 °F] (power adjusted)
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Dynamic top-side convection heater:	6 kW
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### Solder module:

Stainless steel solder pot, integrated in a 3-axes positioning system (X/Y/Z), servo motor driven	
Solder nozzle:	Single-Point high-precision nozzle
Smallest solder nozzle diameter:	OD 4.5 mm [0.2"] (further nozzles on request)
Wave height:	max. 5 mm [0.2"]
PCB clearance:	min. 5 mm [0.2"]
Solder volume:	approx. 13 kg [29 lbs] (Sn63Pb); approx. 12 kg [26 lbs] (lead-free alloy)
Solder temperature:	max. 320 °C [608 °F]
Heating time:	75 min (to 280°C) [to 536 °F]
Positioning speeds:	X/Y: 2 - 200 mm/s [0.08 - 8"/s]; Z: 2 - 100 mm/s [0.08 - 4"/s]
Soldering speed:	2 - 100 mm/s [0.08 - 4"/s]
Positioning accuracy:	±0.25 mm [±0.01"]

### Nitrogen technology:

Nitrogen supply:	to be supplied locally
Nitrogen injection:	N <sub>2</sub> cover over the solder bath
Required pressure:	3 bar [43.5 PSI]
Nitrogen consumption:	approx. 1.5 m <sup>3</sup> /h [53 ft <sup>3</sup> /h] per solder pot
Particle cleanliness:	5.0 recommended

### Pneumatic system:

Compressed air supply:	to be supplied locally
Required pressure:	6 bar [87 PSI]

Consumption:	< 5 m <sup>3</sup> /h [< 177 ft <sup>3</sup> /h]
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### Control:

Computer-based microprocessor (state-of-the-art control technology)	
Process visualization	
Input of all process parameters	
7 day time clock	
Machine status control	
Password function	
Production-, process- and traceability data recording	

### Electrical data:

Power:	5-wire system, 3 x 230/400 V, N, PE
Power tolerance range:	±5 %
Frequency:	50/60 Hz
Power consumption:	19 kW (basic machine incl. bottom-side preheating system)
Max. fuse rating:	3 x 35 A

### Machine exhaust (basic machine):

Exhaust stack:	1 pc., OD 150 mm [6"]
Exhaust volume per stack:	150 m <sup>3</sup> /h [196 yd <sup>3</sup> /h]

### Ambient conditions / noise level:

Ambient temperature:	15 - 35 °C [59 - 95 °F]
Permanent noise level:	< 60 dB (A)

### Basic design & construction:

Solid steel construction	
Security glass windows	
Emergency-Stop button	