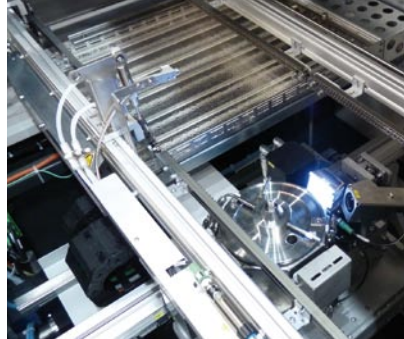


ECOSELECT 2

In- and off-line cell concept for selective soldering with best price/performance ratio



ECOSELECT 2 – for your modular production line

As the world's technology leader in selective soldering systems ERSA supplements 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 pre-heating 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

		standard ●	option ○
Pin-and-chain conveyor for PCB transport (Single Track)	●	Lead-free Single Point solder module	●
Pin-and-chain conveyor for PCB transport (Dual Track)	○	Second solder pot on the Z axis with fix or adjustable spaces	○
Conveyor width adjustment (manual)	●	Additional Multiwave solder module (on request)	○
Programmable conveyor width adjustment	○	In-line interface (e. g. SMEMA, etc.)	○
Manual and/or motorized infeed and outfeed modules	○	Camera/screen for solder process monitoring	○
Fluxer module with precision spray fluxer	●	Bar code scanner (bar codes/2D)	○
Bottom-side preheating via short-wave, dynamic IR emitters	○	CAD data download of board layouts (CAD Assistant)	○
Top-side convection heating in preheating and/or solder modules	○		



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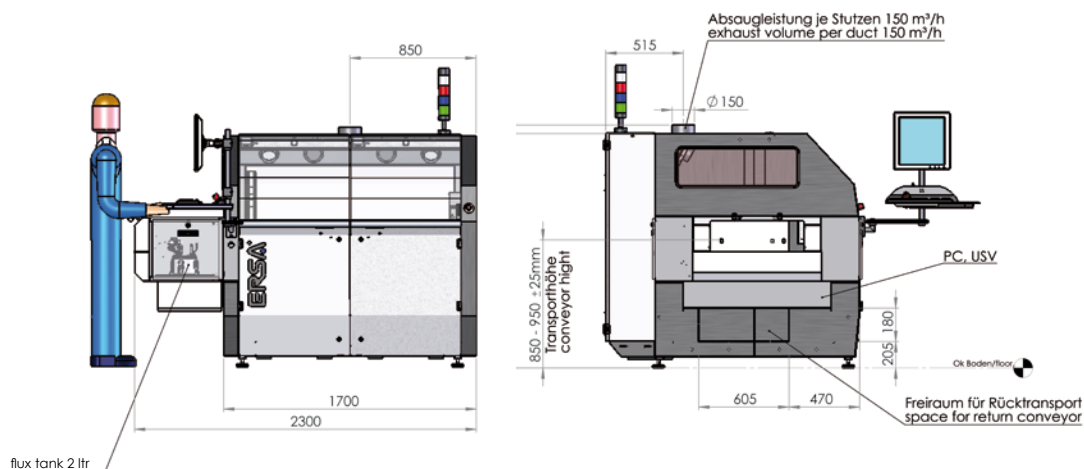
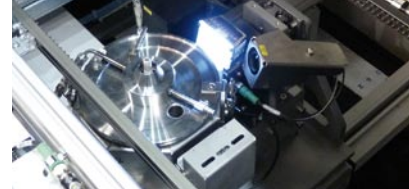
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Dimensions (basic machine):

Length:	2,300 mm [91"]
Width:	1,730 mm [68"]
Height:	1,612 mm [63"]
Weight:	approx. 900 kg [1,984 lbs]

Paint:

Paint:	RAL 7035 / RAL 7016
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Conveyor system:

Type:	segmented pin-and-chain conveyor for PCB transport
Conveyor angle:	0° fix
PCB width (Single Track):	63.5 – 406 mm [2.5 – 16"]
PCB width (Dual Track):	2 x 63.5 – 254 mm [2.5 – 10"] each
PCB length:	127 – 508* mm [5 – 20"]
PCB top-side clearance:	120 mm [5"] (basic machine) 60 mm [2"] Multiwave module (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:	3 mm [0.1"]
Conveyor height from floor:	850 / 950 mm \pm 25 mm [33" / 37" \pm 1"]
Conveyor speed:	2 – 10 m/min [7 – 33"/min]
Pallet/PCB weight	max. 8 kg [18 lbs]

Flux module:

Type:	precision spray fluxer installed on joint axes system
Flux tank:	2 l
Positioning speed:	1 ... 200 mm/sec [0.04 ... 8"/sec]
Positioning accuracy:	\pm 0.25 mm [\pm 0.01"]
Spray width:	2 – 8 mm [0.08 – 0.3"] (130 μ m nozzle)

Preheat module:

Type:	dynamic bottom-side infrared emitters
Power:	max. 12 kW (power adjusted)
Temperature range:	0 ... 200 °C [0 ... 392 °F]

Solder module:

Type:	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 nozzle diameter:	OD 4.5 mm [0.2"] (further nozzles available 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]

Solder module:

Heating time:	75 min (to 280°C) [to 536 °F]
Positioning speeds:	X/Y: 2 – 200 mm/sec [0.08 – 8"/sec]; Z: 2 – 100 mm/sec [0.08 – 4"/sec]
Soldering speed:	2 – 100 mm/sec [0.08 – 4"/sec]
Positioning accuracy:	\pm 0.25 mm [\pm 0.01"]

Nitrogen technology:

Nitrogen supply:	to be supplied locally
Nitrogen injection:	N ₂ cover over the solder bath
Required pressure:	3 bar [43.5 PSI]
Nitrogen consumption:	approx. 1.5 m³/h [53 ft³/h] per solder pot
Required particle cleanliness:	5.0 recommended

Pneumatic system:

Compressed air supply:	to be supplied locally
Required pressure:	6 bar [87 PSI]
Consumption:	< 5 m³/h [$<$ 177 ft³/h]

Control:

Computer-based microprocessor
Process visualization
Input of all process parameters
7 day time clock
Machine status control
Password function
Production data recording

Electrical data:

Power:	5-wire system, 3 x 230/400 V, N, PE
Power tolerance range:	\pm 5 %
Frequency:	50 / 60 Hz
Power consumption:	19 kW (basic system)
Max. fuse rating:	3 x 35 A (slow blow) (basic system)

Machine exhaust (basic system):

Exhaust volume per stack:	approx. 150 m³/h [196 yd³/h]
Exhaust stack:	1 pc. 150 mm [6"] OD

Ambient conditions (factory):

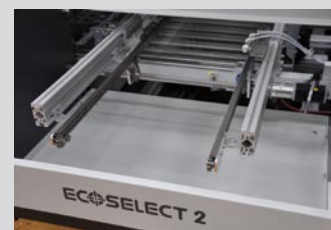
Ambient temperature:	0 ... 35 °C [32 ... 95 °F]
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Noise level:

Permanent sound level:	< 60 dB (A)
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Basic design & construction:

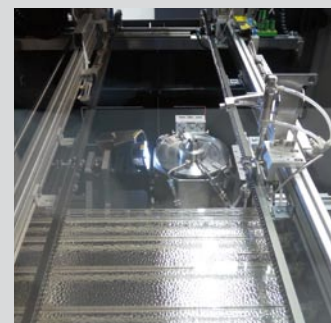
Solid steel construction
Security glass windows
Emergency-Stop button



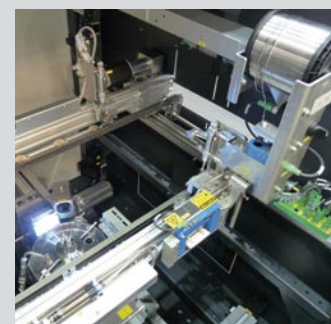
Feed-in



Segmented pin-and-chain conveyor



IR preheating, extendable by top-side convection heaters



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



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