

VERSAFLOW 3/45

Modular selective platform for highly efficient and flexible inline soldering



Ersa VERSAFLOW 3/45

The worldwide leading selective system for a perfect selective soldering process



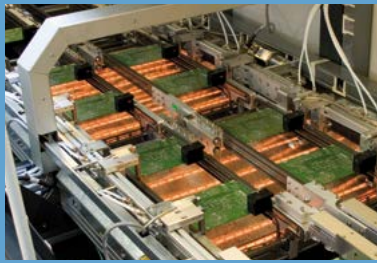
Highlights

- High-end selective soldering system for the integration in inline production concepts
- Single wave soldering for higher flexibility or multiwave soldering for high-volume processes
- Product changes without downtime even in multiwave processes
- Parallel process due to the separation of fluxing, preheating and soldering
- Operation of up to four spray heads
- Up to five lower preheatings with optional upper convection heating
- Flexible system configuration due to modular concept
- Perfect for the connection to assembly stands and periphery

To satisfy all demands with regard to flexibility, Ersa has based the design of the third generation VERSAFLOW on a fully modular machine platform. A basic VERSAFLOW 3/45 consists of the customary flux, preheat and solder modules and a segmented conveyor system. Depending on the application and the required throughput, additional flux, and/or preheat and/or solder modules can be integrated. In the maximum configuration, a VERSAFLOW 3/45 can consist of up to 3 solder modules, with each module being fitted with 2 single wave solder baths. Upstream of each additional solder module, a preheater can be installed.

As an alternative to the single wave solder pots, it is also possible to install a multiwave solder bath. In the preheat modules, as well as over the single wave solder baths, top-side preheater cassettes can optionally be fitted.

With an optional dual track, throughput can be doubled, without increasing the footprint of the system. And if the size of the PCB permits segmenting of the preheaters, a further increase in throughput can be achieved. When all the options are exhausted, and a maximum configured system is specified, then up to 22 PCBs can be processed at the same time in varying positions within the system.



Dual track conveyor



Fluxer unit with 4 spray heads



Up to 5 preheat modules

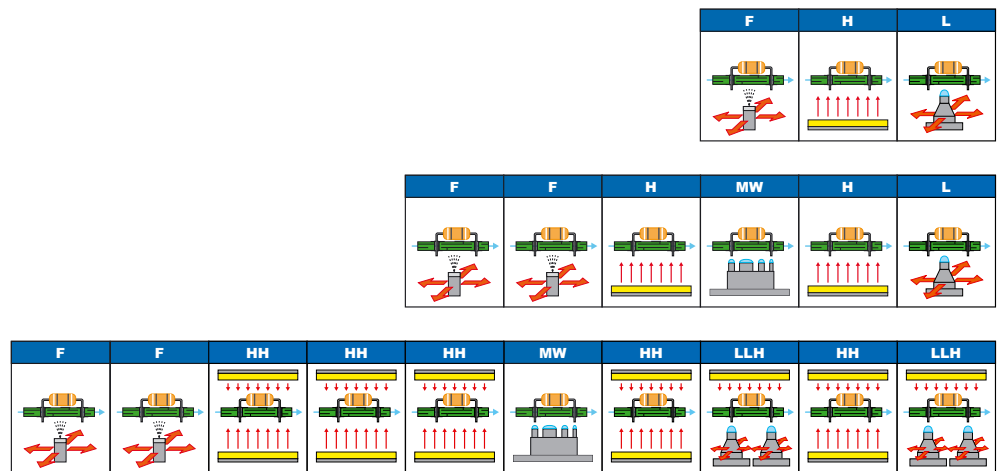


Basic Configuration

- Precision spray fluxer with spray test function and flux level monitoring
- Bottom-side IR preheater
- Segmented pin-and-chain conveyor
- Maximum PCB size: 508 x 406 mm
- PC control
- Process visualization including solder protocol, process data writer, monitoring function, maintenance and error message indication, password protection
- Exhaust air monitoring
- Solder bath with electromagnetic solder pump
- Solder level- and solder wave height monitoring

The Ersas Modular-System

These combinations of the arrangement of different modules show only some of the possibilities of the extremely flexible Ersas modular system concept. Depending on a customer's request, with the addition of the optional dual pot feature and/or the dual track feature, throughput could be substantially enhanced without increasing floor space requirements.



Legend:



Flux module with spray fluxer



Preheat module with bottom-side heating



Solder module with single pot



Solder module with multi-wave solder bath



Preheat module with bottom- and top-side heating



Solder module with single pot and top-side heating

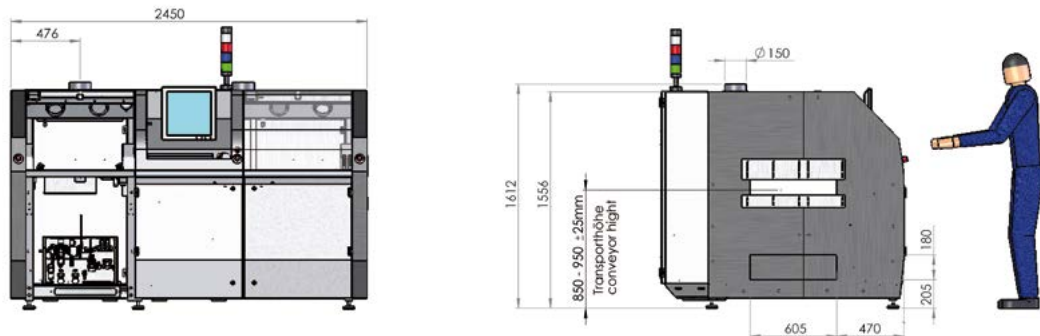


Solder module with dual pot and top-side heating



Dual track feature with two parallel single wave units

Technical data VERSAFLOW 3/45



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

VERSAFLOW 3/45 (basic system)	
Length:	2,450 mm
Width:	1,750 mm
Height:	1,610 mm
Weight:	approx. 1,100 kg
Type:	inline
PCB loading:	manual/automatic

Conveyor system	
Type:	Segmented pin-and-chain conveyor/roller conveyor for PCB transport without workpiece carrier
PCB width:	63.5 – 406 mm (508 mm option)
PCB length:	127 – 508 mm
Clearance from PCB edge:	3 mm
PCB top-side clearance:	max. 120 mm
PCB bottom-side clearance:	max. 30 mm (up to 60 mm option)
Mask/PCB weight:	8 kg (heavy load conveyor optional) (12 kg)

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

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:	±0.25 mm
Spray width:	2 – 8 mm (130 µm nozzle)

Miniwave solder module	
Solder wave height:	max. 5 mm
Clearance from PCB edge:	min. 3 mm
Solder volume:	approx. 13 kg (Sn63Pb37) 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:	±0.25 mm

Compressed air	
Compressed air supply:	to be supplied locally
Required pressure:	max. 6 bar
Consumption:	< 5 m³/h

Nitrogen technology	
Nitrogen supply:	to be supplied locally
Nitrogen injection:	N ₂ cover over the solder bath
Required pressure:	max. 6 bar
Consumption:	approx. 2 m³/h per pot
Particle cleanliness:	5.0 (recommendation)

Electrical data	
Power:	5-wire system, 3 x 230/400 V, N, PE
Power tolerance range:	+6 %, -10 %
Frequency:	50/60 Hz
Power consumption:	20 kW
Safety fuse:	3 x 125 A

Exhaust rating	
Exhaust stacks:	2 pc., OD 150 mm
Exhaust volume per stack:	approx. 250/200 m³/h

Environmental specs/noise level	
Ambient temperature:	15 – 35 °C
Permanent sound level:	< 65 dB(A)

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