

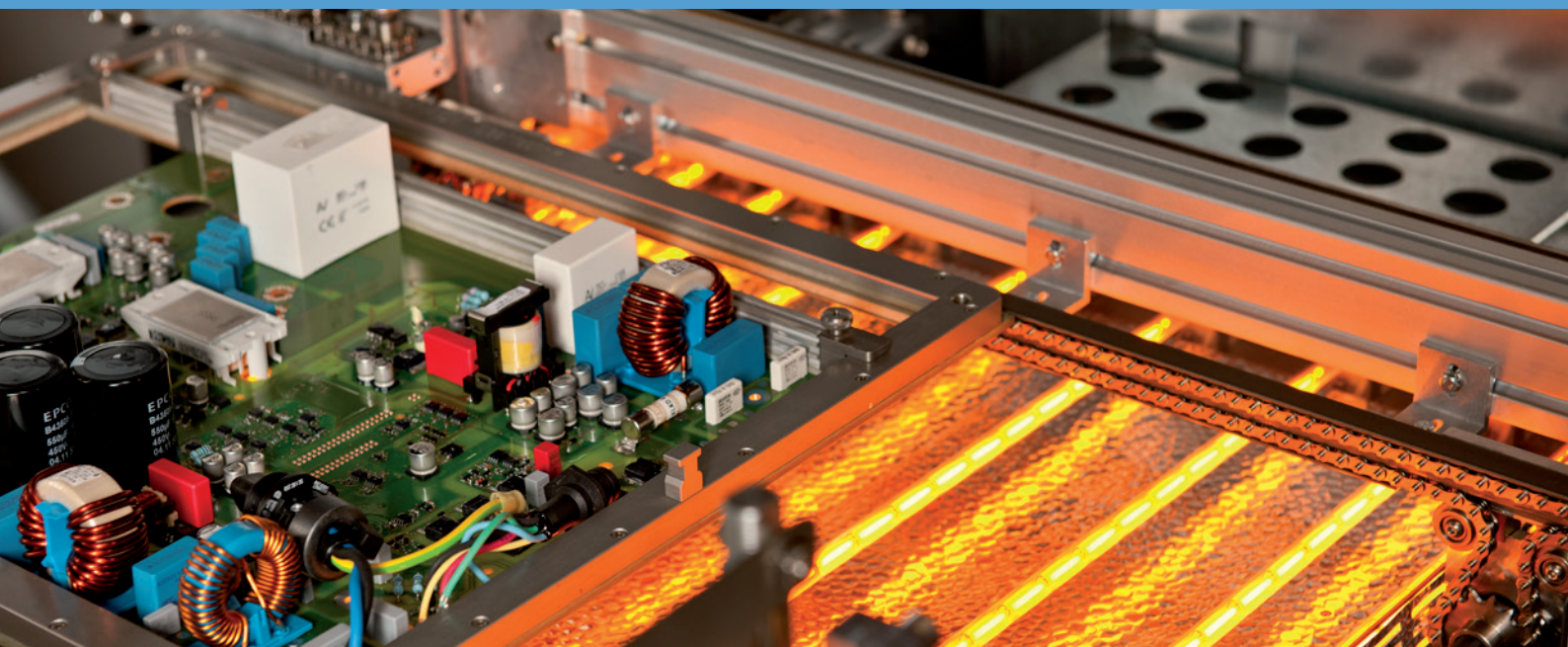
Ersa VERSAFLOW 3/45

Modular selective platform for highly efficient and flexible in-line soldering



Ersa VERSAFLOW 3/45

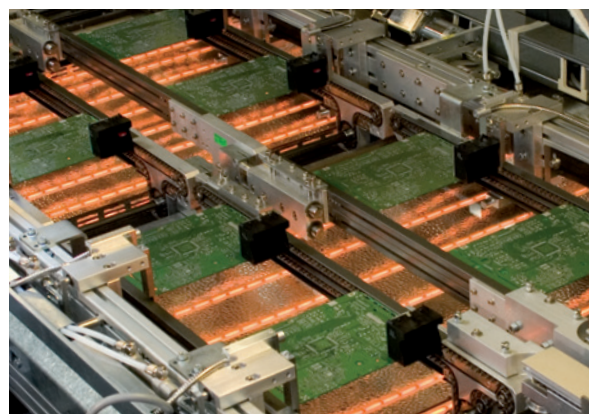
The worldwide leading selective system for a perfect selective soldering process



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 fluxer-, preheat- and solder modules and a segmented transport conveyor system. Depending on the application and the required throughput rate, additional fluxer, 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 bath. 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 areas, as well as over the single wave solder baths, top-site preheater cassettes can optionally be fitted.

With an optional dual track, the throughput rate 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 the throughput rate can be achieved. When all the options are exhausted, and a maximum configured system is specified, then up to 22 PCB's can be processed at the same time in varying positions within the system.



Dual conveyor doubles the throughput without increasing floorspace

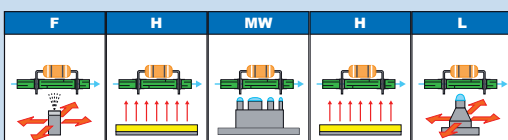
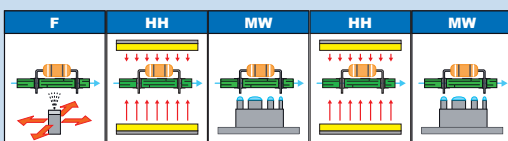
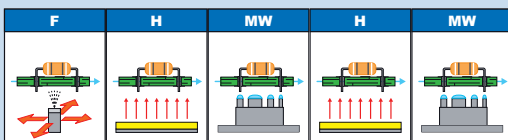
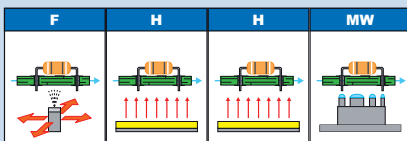
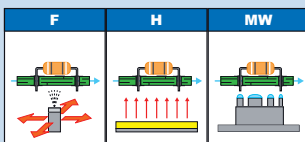
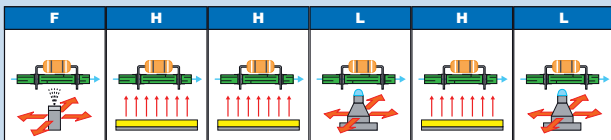
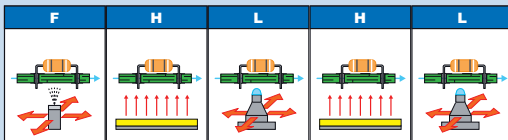
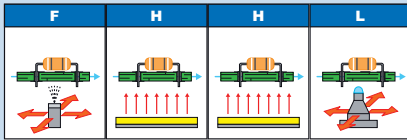
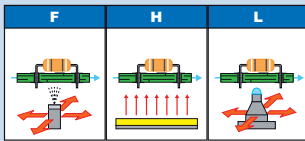
*Picture on top
Perfect prehead concept with Dynamic lower and upper preheaters*

*Coverpage
VERSAFLOW 3: Selective soldering system with dual pot for highest demands on throughput and flexibility*

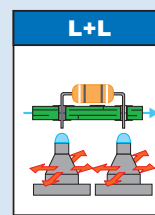
The Erska Modular-System

Always the right combination for your needs and your budget

Below combinations of the arrangement of different modules show only some of the possibilities of the extremely flexible Erska 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.

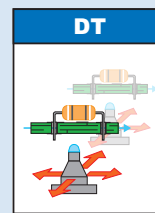


+ Dual pot option



The adjoining examples of varying combinations are based on one solder module (L) with a single nozzle. Optionally, this solder module could be fitted with an additional solder bath and a second solder nozzle (LL).

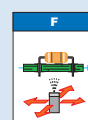
+ Dual track option



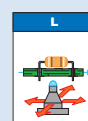
By adding a second track (DT), throughput can be doubled. Should the system be fitted with 2 single nozzle solder pots, then two identical assemblies could be processed at the same time.



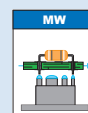
Legend:



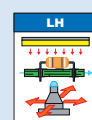
F Fluxer module fitted with flux spray unit



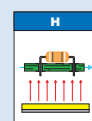
L Solder module with single wave unit



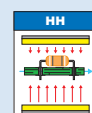
MW Solder module fitted with multi-wave solder bath



LH Solder module with single wave unit and top-site preheat



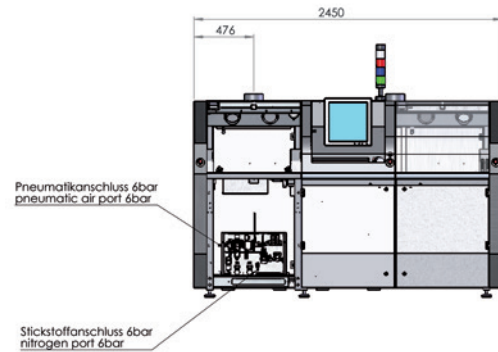
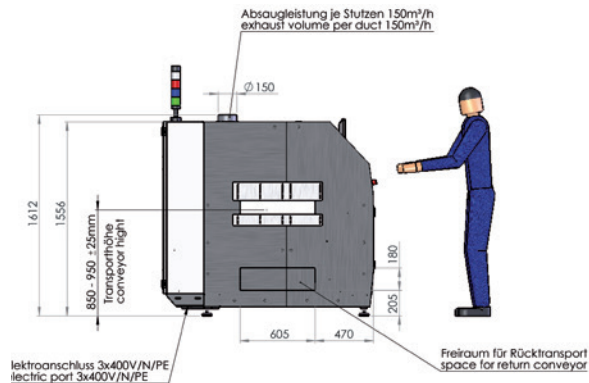
H Preheat module fitted with button-site preheat



HH Preheat module with button-site and top-site preheat

Ersa VERSAFLOW 3/45

Technical Data and Machine Options



Dimensions (basic machine):

Length:	2.450 mm / 101.5"
Width:	1.730 mm / 68.1"
Height:	1.620 mm / 63.8"
Weight (without solder):	approx. 1.100 kg / 2,425 lb

Painting:

Colour:	RAL 7035 / RAL 7016
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Conveyor system:

Type:	segmented pin & chain/roller conveyor for PCB transport without solder frame
Conveyor angle:	0° fixed
PCB width (single track):	63.5 – 406 mm (option: 508 mm) / 2.5" – 16" (option: 20")
PCB width (dual track):	2 x 60 – 204 mm / 2.4" – 8"
PCB length:	127 – 508 mm / 5" – 20"
PCB top side clearance:	max. 120 mm / 4.7" (measured from PCB bottom side)
PCB bottom side clearance:	max. 30 mm / 1.2" according to the Ersa layout guideline > 30 mm / 1.2" upon request
Clearance from PCB edge:	3 mm / 0.1"
Conveyor height from floor:	850/950 mm ± 25 mm / 33.5/37.4" ± 1"
Conveyor speed:	0.2 – 10 m/min / 7.9 – 393.7"/min
Mask / PCB weight:	max. 5 kg / 11 lb

Flux module:

Type:	high-precision spray fluxer
Positioning system:	2-axis (X/Y), servomotor driven
Flux storage tank:	2 l
Positioning speed:	2 – 400 mm/sec / 0.1" – 15.7"/sec
Fluxer speed:	2 – 400 mm/sec / 0.1" – 15.7"/sec
Positioning accuracy:	± 0.25 mm / ± 0.01"
Spray width	2 – 8 mm (130 / 270 µm inner nozzle) / 0.1" – 0.3"

Solder module:

Type:	stainless steel solder pot, integrated in a 3-axis positioning system (X/Y/Z), servomotor driven
Solder nozzle:	single-point high-precision solder wave
Smallest nozzle diameter:	OD ø 4,5 mm / 0.2" (further nozzles on request)
Solder wave height:	max. 5 mm / 0.2"
Clearance from PCB edge:	min. 3 mm / 0.1"
Solder volume:	~ 14 kg / 24.3 lb (Sn63Pb); ~ 13 kg / 22 lb lead-free
Solder temperature:	max. 320 °C / 608 °F
Warm-up time:	75 Min. (bis 280 °C / 536 °F)
Positioning speed:	X/Y: 2 – 200 mm/sec; Z: 2 – 100 mm/sec
Soldering speed:	2 – 100 mm/sec / 0.1" – 3.9"/sec
Positioning accuracy:	± 0.15 mm / ± 0.006"

Preheat module: (basic machine)

Type:	Bottom side heating with short wave length IR heaters
Power:	max. 12 kW
Temperature range:	0 – 200 °C / 0 – 392 °F

Nitrogen technology:

Nitrogen supply:	to be supplied locally
Nitrogen injection:	N2-cover over the solder bath
Required pressure:	6 bar / 87 PSI
N ₂ -consumption:	approx. 1.5 m ³ /h / 2 yd ³ /h per solder pot
Required particle cleanliness:	5.0 on average

Pneumatic system:

Compressed air supply:	to be supplied locally
Required pressure:	6 bar / 87 PSI
Consumption:	< 5 m ³ /h / 6.5 yd ³ /h

Control:

PC-control system:	Operation system Windows 7
Process visualization	Input of all process parameters
7 day time clock	
Machine status control	
Password function	
Recording of process data	

Electrical data:

Power:	5-wire system, 3 x 230/400 V, N, PE
Power tolerance range:	+6 %, -10 %
Frequency:	50 / 60 Hz
Power consumption:	max. 18 kW (basic machine)
Amperage:	max. 34 A (basic machine)

Exhaust rating (basic machine):

Exhaust volume per stack:	approx. 300 m ³ /h [392 yd ³ /h] adjustable
Exhaust stack:	2 stacks, 150 mm / 5.9" O.D. each

Environmental specifications (operation):

Ambient temperature:	15 – 35 °C / 59 – 95 °F
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Noise level:

permanent sound level:	< 60 dB (A)
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Basic design and construction:

Solid steel construction	
Security glass windows	
Emergency-Stop button	

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