Ersa VERSAFLOW 4/55
Making the best even better!
The next generation of VERSAFLOW

kurtz ersa

Ersa VERSAFLOW 4/55
Fit for the future of selective soldering

Highlights

- Max. PCB size 508 x 508 mm
- Fluxer Y variable
- Power convection
- Dual pot Y-Z variable
- Automatic nozzle activation
- ERSASOFT 5
- VERSAFLEX
- VERSACAM

The world's leading inline selective soldering system **VERSAFLOW** meets the highest demands in flexibility and throughput. The Ersa **VERSAFLOW 4/55** is the 4th generation of the leading inline selective soldering systems, built to match production requirements from high volume, low mix to high mix, low volume.

New innovative features make the **VERSAFLOW 4/55** fit for future demands. With almost endless possibilities of configurations, the modular system can ideally be custom-fitted to any requirement. Up to 4 spray heads can be installed in the flux modules of the **VERSAFLOW 4/55**.

Flux application is controlled by a laser system. This enables a safe automated production.

Apart from infrared emitters and convection heaters, the heating module can also be equipped with the new power convection heating ensuring an efficient, safe and homogenous warm-up of even most complex PCBs.

The machine configuration of the **VERSAFLOW 4/55** may include up to 3 solder modules with one or two single wave pots per soldering module. The new **VERSAFLEX** solder module drives the system flexibility to completely new dimensions.

VERSAFLEX soldering module
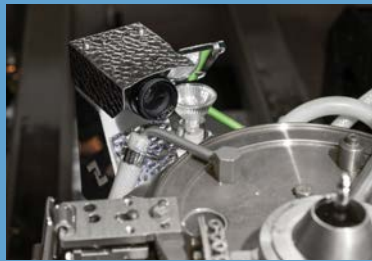
VERSACAM

Dual pot Y-Z variable

Basic configuration

- Roller conveyor
- Side fixing in flux module
- ERSASOFT 5
- Precision spray flux system with spray test function and flux level monitoring
- Lower IR preheater
- Maximum PCB size 508 x 508 mm
- PC control with touch screen monitor
- 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 completely new, intuitively opera-ble system software **ERSASOFT 5** is based on the newest Microsoft tech-nology and operated via a 24" touch-screen. It also permits complete pro-cess monitoring and visualization, and it reduces the time required to con-figure process parameters. Complete process data management, documen-tation of all process- and system rel-evant data as well as an interface for the integration of traceability as per ZVEI protocol respectively MES sys-tems are important features.
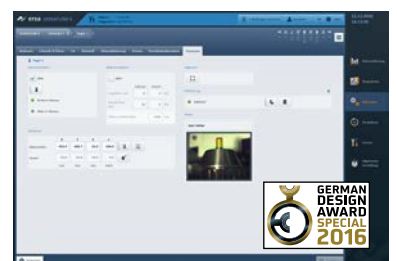

Power convection

Fluxer, Y variable

Automatic nozzle activation

ERSASOFT 5

Ersa VERSAFLEX
Individual adjustment of solder pots in X-Y-Z

VERSAFLEX
SELECTIVE SOLDER MODULE

Due to increasing product changes in electronics production, it is necessary to exchange solder nozzles or readjust solder pots by hand.

The new Ersa VERSAFLEX solder module sets completely new standards with regard to flexibility. As its name already suggests, this solder module is available for the VERSA-FLOW 4/55 selective soldering systems and guarantees maximum flexibility.

Like the already existing Ersa dual pot systems the innovative VERSAFLEX module offers substantial added value for the production: doubling of throughput with PCB panels, use of different solder alloys or nozzle shapes without any changes required.

The two solder pots are installed on two independent axes. In this way, the pots can be moved and adjusted individually in X-Y-Z direction. Thus PCB panels can be soldered simultaneously in X or Y direction. In addition, the new CAD Assistant 4 offers offline programming with automatic optimization of cycle times. The result is highest flexibility at shortest cycle time.

To meet all of tomorrow's requirements we offer an upgrade package for the innovative VERSAFLEX module making you ready for the future: This update allows to independently solder two individual joints at the same time.

Ersa CAD-Assistent 4
Fast, intuitive and comfortable
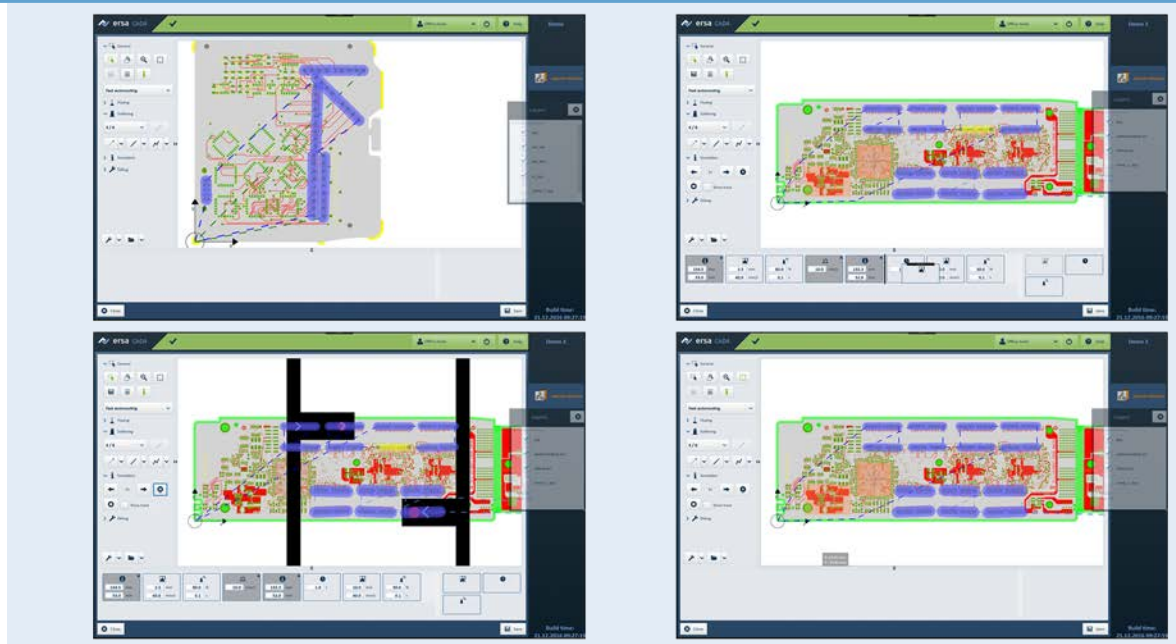
The efficient generation of complex solder programs is of great importance. The Ersa CAD Assistant 4 provides for an offline program generation while the machine is in operation! This ensures highest machine availability.

CAD Assistant 4 considers the specific equipment configuration in the generation of a solder program. Furthermore, it supports solder modules with two independent axes (VERSAFLEX). The data sets of the CNC axes are processed using Drag&Drop. Furthermore, CAD Assistant 4 includes pre-defined data sets the user can easily adapt to his specific application. Errors during the program creation are prevented by a plausibility check. Both CAD files of PCBs and image files can be used as basis in the program generation with CAD Assistant 4.

All movements of the fluxer as well as the solder pots are graphically entered on the image of the board, after which the process data is added. Program files created with the CAD Assistant 4 can easily be verified by means of process simulations and can immediately be used in the selective soldering machine.

The software upgrade VERSAFLEX ULTRA provides maximum flexibility and further optimized processes: Both solder pots can be moved fully independently in X-Y-Z. Due to the new autorouting feature, the generation of complex solder programs is super easy: The user only enters the tracks or single joints to be fluxed and soldered. CAD Assistant 4 then automatically sets the machine movements in the most efficient way.

Highlights

- Intuitive programming due to graphic user interface
- Optimized cycle times by means of auto-routing
- Automatic and optimized assignment of fluxing and soldering jobs to the available modules
- Prevention of crashes by the definition of exclusion areas
- Program simulation to verify settings
- Support of solder modules with two independent axes (VERSAFLEX)
- Management of up to 3 solder modules
- Simple scaling of the assembly
- File import of CAD formats: ODB++, IPC 2581, GenCAD
- File import of image formats: .jpg, .bmp, .png, .tif, .gif

Simple, Clearly Arranged, Efficient
Controlling and documenting with ERSASOFT 5

Highlights

- Intuitive user guidance
- Modern design
- PiP-function/process monitoring
- Individual user interfaces
- Integrated CAD- Assistant

Ersa's selective soldering systems of the 4th generation are delivered with the state-of-the-art ERSASOFT 5 operating software.

The new version of our proven system operation software convinces, aside from with its modern visualization, through its operator oriented, user friendly structure. Through individual user interfaces, each group of operators receives, at one glance, the data and information it requires.

The new interface is also more comfortable in regards to process monitoring. Thanks to modern PiP technology (picture in picture), the solder parameters as well as the process images are available at one glance, providing optimal control for each individual solder process.

Through an additional monitor, up to 6 single nozzles can be permanently displayed for the purpose of process monitoring. By a mouse click, the individual nozzle can be enlarged to full screen for closer observance of the soldering process.

GERMAN
DESIGN
AWARD
SPECIAL
2016

The Ersa Modular System
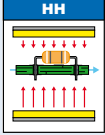## We optimize the soldering process for your specific needs
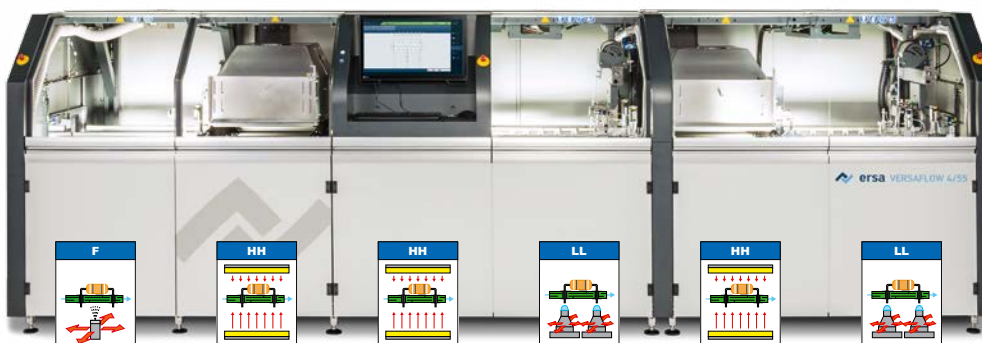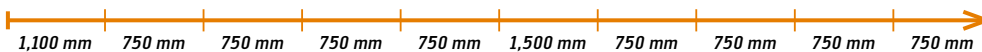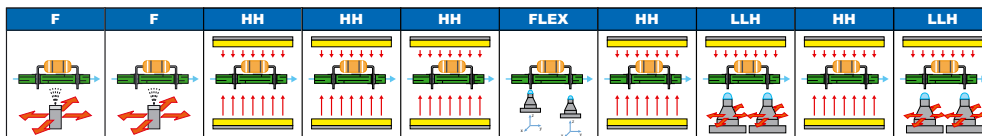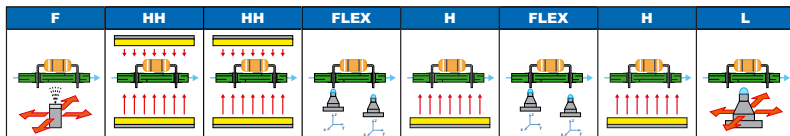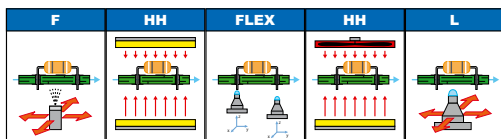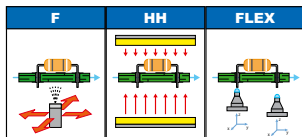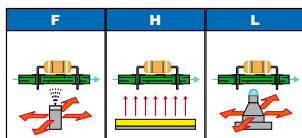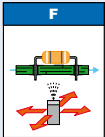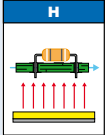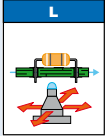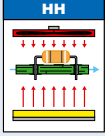
Configuration examples

The combinations of the arrangement of different modules show only some of the possibilities of the extremely flexible Ersa modular system concept.

Depending on a customer's request, with the addition of the optional dual pot feature, throughput could be substantially enhanced without increasing floor space requirements.

F	H	L

F	HH	FLEX

F	HH	FLEX	HH	L

F	HH	HH	FLEX	H	FLEX	H	L

F	F	HH	HH	HH	FLEX	HH	LLH	HH	LLH
1,100 mm	750 mm	750 mm	750 mm	750 mm	1,500 mm	750 mm	750 mm	750 mm	750 mm

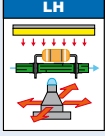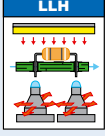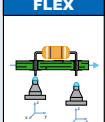| F	HH	HH	LL	HH	LL

Legend:

F	*Flux module with spray fluxer*
H	*Preheat module with bottom-side heating*
L	*Solder module with single pot*
HH	*Preheat module with bottom- and top-side heating*
HH	*Preheat module with power convection*
LH	*Solder module with single pot and top-side heating*
LLH	*Solder module with dual pot and top-side heating*
FLEX	*VERSAFLEX solder module*

Technical data Ersa VERSAFLOW 4/55
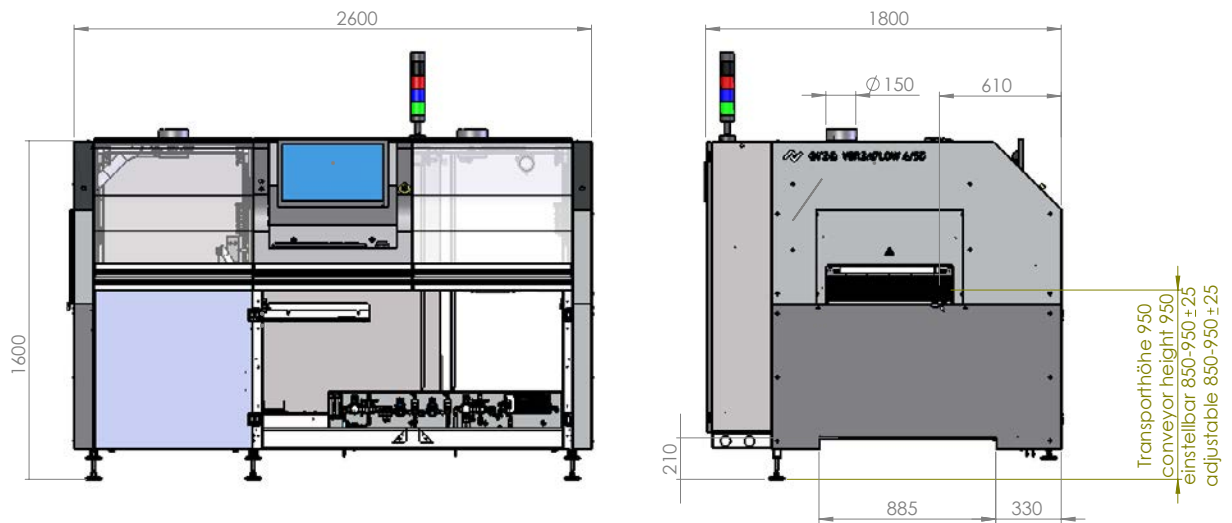
VERSAFLOW 4/55 (basic system)

Length:	2,600 mm
Width:	1,800 mm
Height:	1,600 mm
Weight:	1,500 kg
Type:	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: (heavy load conveyor optional)	8 kg (15 kg)

Flux module

Typ:	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:	±0.15 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

Miniwave solder module

Solder wave height:	max. 5 mm
Clearance from PCB edge:	min. 3 mm
Solder volume:	approx. 14 kg (Sn63Pb) approx. 13 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:	N$_2$ cover over the solder bath
Required pressure:	6 bar
Consumption:	approx. 1.5 m³/h per pot
Particle cleanliness: (recommendation)	5.0

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:	±6 %, -10 %
Frequency:	50/60 Hz
Power consumption:	22 kW
Safety fuse:	max. 45 A

Exhaust rating

Exhaust stacks:	2 pc., OD 150 mm
Exhaust volume per stack:	300 m³/h

Environmental specs/noise level

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

Ersa GmbH
Leonhard-Karl-Str. 24
97877 Wertheim/Germany

Phone +49 9342 800-0
Fax +49 9342 800-127
info@ersa.de
www.ersa.com

kurtz ersa