

HOTFLOW 4/20

Reflow soldering with superior performance
and the best energy balance



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Highest throughput with controlled processes, lowest consumption rates and highest machine updates



Highlights HOTFLOW 4

- Dual and triple track conveyor increases throughput
- Optimized heat transfer, minimized ΔT , zone separation & controlled cooling zone temperature
- Lowest energy and nitrogen consumption
- Highest machine availability
- Low-mass center support, return within the system tunnel
- Residue terminator
- Intelligent N2 control with 3 measuring points
- RPM controlled motor per blower

The Ersa HOTFLOW 4/20 is a high-end reflow soldering system with a process length of 5.9 m, divided into 20 heating zones and 4 cooling zones. Like all systems of the HOTFLOW 4 series, it stands for highest energy efficiency and increased throughput with the known high soldering quality and process stability. The completely new, intelligent nitrogen control reduces consumption by 20 %. In addition, the efficient blower motors ensure total energy savings of more than 25 %.

The HOTFLOW 4/20 also scores in terms of productivity to footprint ratio: Thanks to the dual and triple track

conveyor options, throughput can be significantly increased without increasing space requirements! Up to three differently adjustable conveyor speeds ensure maximum flexibility in production. The proven pin-and-chain conveyor with automatically steplessly adjustable center support transports even demanding products safely through the system. With the patented Grip conveyor it is also possible to process flexible printed boards.

A further highlight of the HOTFLOW 4 is the optionally available residue terminator for thermal process gas cleaning.



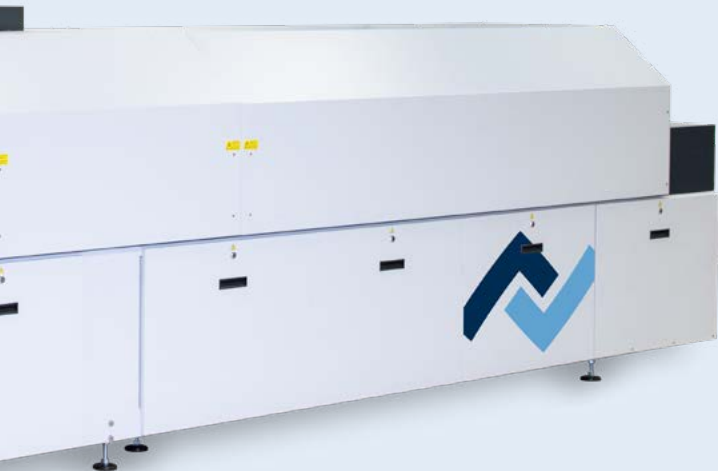
Efficient cooling in outfeed section



Retractable nozzle sheets for quick maintenance



Optimized access to maintenance units



Basic configuration

- 7 top and bottom side preheating zones
3 top and bottom side peak zones
- Cooling step 1:
basic cooling from top and bottom
- Adjustable blower speed
in soldering and cooling zones
- Outfeed cooling
- Temperature monitoring of the cooling zone
- Bottom-side motor cooling
- Energy consumption management
- Automatic chain lubrication
- 100% tested process tunnel (gas sealed)
- Heating modules retractable without any tools

The hot process gases are extracted directly from the upper and lower peak zones, heated to the required cleaning temperature and then returned into the peak zone. This makes the cleaning process energy neutral.

The intuitive Erska machine control enables easy handling including storage and exchange of temperature profiles and product data. With the AUTOPRO-FILER, the user can even create new temperature profiles offline and then use them immediately in production. Of course, a process data logger and traceability connection including PCB assignment are also available.



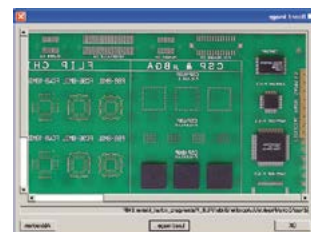
Grip conveyor for extremely thin PCBs or flexible printed boards



Multi-track conveyor for variable PCB widths



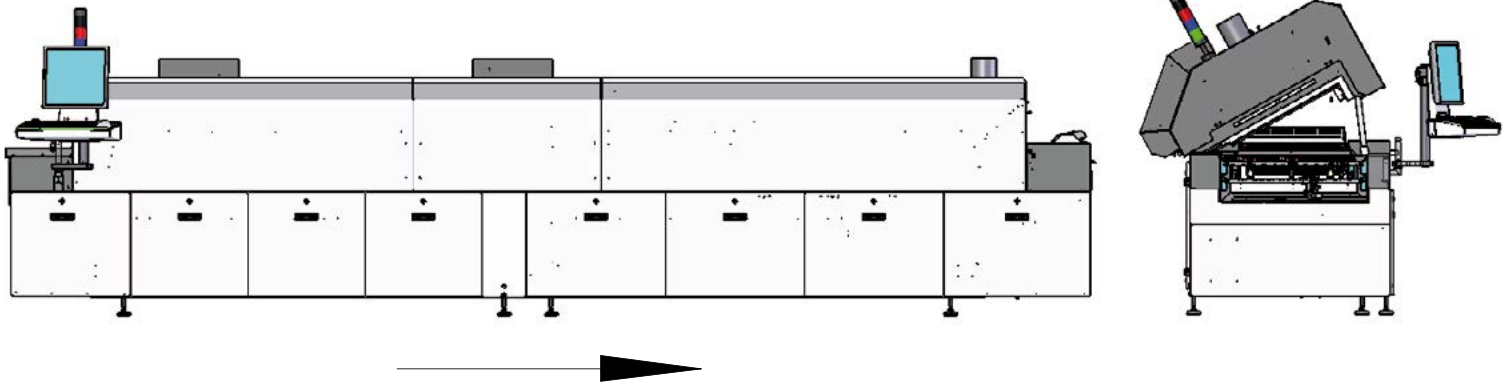
IPC-HERMES-9852
The global standard for "M2M" in SMT assembly



Erska AUTOPROFILER - easy offline profiling for highest machine uptimes

HOTFLOW 4/20

Technical Data



| Dimensions (Basic machine): | |
|-----------------------------|------------------|
| Length: | 6,600 mm |
| Width: | 1,410 mm |
| Height: | 1,350 – 1,500 mm |
| Height (open): | 1,670 – 1,820 mm |
| Weight: | approx. 2,600 kg |
| Paint: | RAL 7035/7016 |

| Conveyor system: | |
|-------------------------------------|-------------------------------------------|
| Working width: | 45 – 560 mm |
| Working width (PCB center support): | 45 – 560 mm |
| Board clearance (standard): | +32/-40 mm |
| Center support pin height: | 19 mm |
| Conveyor speed: | 20 – 200 cm/min |
| Conveyor height from floor: | 820 – 980 mm |
| Pin-and-chain conveyor: | 3 mm edge clearance option: 4 mm, 5 mm |

| Nitrogen option: | |
|-------------------|------------------|
| Gas injection: | in process zones |
| Pressure control: | 4.5 – 10 bar |

| Process zone: | |
|------------------------|----------------|
| Process length: | 5,920 mm |
| Heating zone: | 3,805 mm |
| Cooling zone: | 2,115 mm |
| Infeed zone: | 620 mm |
| Process chamber width: | approx. 745 mm |

| Heating system: | |
|------------------------|-------------------------------------------|
| Convection share: | 100 % |
| Gas flow/module: | approx. 500 m ³ /h, adjustable |
| Convection modules: | 10 top/10 bottom |
| Preheating: | 7 top/7 bottom |
| Soldering zone: | 3 top/3 bottom |
| Nominal rating/module: | 3.3 kW |

| Cooling: | |
|----------------------|-------------------------------------|
| Cooling zone: | 4-stage version and water recooling |
| Coolant: | water/R134A |
| Ambient temperature: | max. 32°C |

| Safety devices: | |
|----------------------------|--|
| 1 x Main switch | |
| 2 x Emergency-Stop buttons | |
| 2 x Exhaust monitors | |

| Electrical data: | |
|----------------------------------|---------------------------------------------|
| Power: | 5-wire-system, 3 x 400 V, N, PE |
| Power tolerance range: | ±10 % |
| Frequency: | 50/60 Hz |
| Max. fuse rating: | 3 x 63 A |
| Nominal rating: | 70 kW – 90 kW (subject to configuration) |
| Reduced rating: | 45 kW |
| Continuous rating for operation: | approx. 10 – 15 kW |

| Exhaust rating: | |
|-------------------------------|------------------------------|
| Exhaust stacks: | 2 stacks, 150 mm (6") ø each |
| Exhaust volume per stack: | 600 m ³ /h |
| Exhaust monitoring per stack: | integrated |

| Noise level: | |
|------------------------|-----------|
| Permanent noise level: | 65 dB (A) |

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