

## HAL<sup>TEC</sup> 2000

### Hot Air Levelling System for Leadfree Technology and Boards up to 650 x 650 mm

Based on a long period of field testing with lead free solders we have developed a concept for the HAL<sup>TEC</sup> 2000 which meets the special technical requirements of the lead free soldering process. The leadfree HAL<sup>TEC</sup> 2000 particularly convince through the physical advantages of the lead-free technology besides the environmental engineering aspects. Flat and more uniform surface finishes provide better results for the following assembling process.



Due to the increased temperatures of the leadfree soldering process the heating performance of the tank heaters and air heater have been increased. Further heaters have been installed at critical positions of the tank. The overflow tank section have been equipped with a separate heating control system. The tin pump is now frequency controlled and has two speed primaries for production and stand-by.

All components of the HAL<sup>TEC</sup> 2000 like the tank, airknives, machine frame and machine covers are manufactured by stainless steel. For an easy maintenance the tank can be folded forward. The heaters are mounted separately on the tank that an easy and quick exchange is guaranteed. The fixed airknives which are routed from solid stainless steel can be disassembled within seconds for maintenance and cleaning.

The frequency controlled solder pump is easy removable and mostly free of maintenance. To guarantee a fast exchange on the printed circuit board the solder flow direction is horizontal. Hereby the shortest dwell times can be achieved.

The lift system consists of a linear guide with a frequency controlled AC-motor. The lift speed as well as the accelerate- and brake-ramp can be adjusted stepless. To increase the cycle capacity in case of smaller printed circuit boards the lift way can be programmed.

The handling of the machine is very easy with the help of an operators panel unit with TFT-display. All set-points for temperature of the solder and the air, pressure for each airknife, the lift speed and the lift height can be programmed through this control unit. In addition the functions of the machine can be selected. If it is necessary all actual points can be settled.

PLC and an operators panel are located in a hanging and swingable control cabinet. All other electric parts are located in a stainless steel cabinet inside the machine. For a longer lifetime of the heaters solid state relays are used instead of regular contactors.

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## Technical Details

- Dimensions: 1725 x 885 x 2520 mm (WxDxH)
- Max. board size: 650 x 650 x 4 mm
- Output: approx. 120-160 cycles/h
- Solder tank volume: app. 275 kg
- Compressed air: 6-8 bar
- Exhaust: approx. 1500-2000 m<sup>3</sup>/h; Ø 200 mm
- Airknife gap: 0,1 - 0,4 mm adjustable
- Material: Stainless steel
- Power supply: 230/400V; 50 Hz; 3P/N/PE, 100 A, 41 kW

## Environmental Option

The ever growing awareness of our responsibility for environmental consideration means it is essential to treat the waste air from all Hot Air Levelling machines. We offer our waste air cleaning system EWACS compatible with the HAL<sup>TEC</sup> 2000 separates the suspended particles using an electrostatic feature. Additional active carbon filters optimise the extraction final stage.

## Furthermore we offer for this machine

- Electrostatic Waste Air Cleaning System EWACS 800 und EWACS 2200
  - Horizontal Pre- and Post-Cleaning Lines
- Roller Flux-Station HDF 650 or Roller Flux Station with Accumulator HDF 650 IG
  - Cooling Conveyor Tables HC 650 und HC 650 A
    - Tape for Hot Air Leveling CM8R
  - Horizontal Loaders and Unloaders • Stackers