



## LEAD FREE HOT AIR SOLDER LEVELER



With over 700 systems sold worldwide the Quicksilver Vertical leveling system has been setting the standard for more than 25 years. Now, after 10 years of field testing, Quicksilver has been proven capable of achieving exceptional results with lead free solders.

Assemblers and Board fabricators will be pleased to know that these developments provide flatter and more uniform surface finishes. System enhancements include a new patented tip design that provides improved hole clearing and surface uniformity, while allowing thicker minimum and thinner maximum deposits with most alloys.

A dual immersion facility reduces the dwell time needed to heat to the higher temperatures required for lead free solders. A multi-speed pump provides faster heat transfer during immersion and reduce oxidization during idling. Solder is automatically flushed from the sump surfaces before solidifying to eliminate copper/tin dendrite circulation.

Available in Single or Dual 610 mm (24") or 760-mm (30") depth of solder pots. All models have up-rated heating systems to accommodate the higher solder and air knife operating temperatures. Other features include an environmental enclosure for improved fume and noise protection; highly efficient combined air knife/

## FEATURES



### CONTROLS

A wall or stand (optional) mounted console houses the main controls for solder and airknife temperature, plus run and standby setting. Operator controls for start, insertion/withdrawal speeds, panel speed indicator, air knife pressure and emergency return are all positioned within easy reach. The design of the solder pump, air knife chamber and extract ducts ensures that spent oils and fluxes are automatically expelled from the pump tank to an external reservoir, and cannot leak out of the system.

### ENCLOSURE

The cover system design is compact and easily removeable for maintenance and cleaning. It provides improved fume and noise protection for the operator, ensuring that emissions are confined to the exhaust system. The automatic door is cycled as the panel is immersed and withdrawn from the solder pot.

### AIR KNIVES

A patented design that incorporates hard wearing titanium nitride coated tip sets held in precision machined cast iron clamp heads. The clamps and tips are heated to leveling temperature by the integrated anodised aluminium heat exchangers that heat the compressed air to the required temperature. Both knives are ridgedly mounted in a counter balanced stainless steel chamber, allowing the complete twin air knife assembly to be raised quickly and easily for airknife tip cleaning and solder pot maintenance; without disturbing setting. The airknife design incorporates horizontal leveling technology as used with the latest 'Alchemy' systems. The tip set can be removed and replaced via an aperture in the cover plate in less than 15 minutes.

### PROFILE MECHANISM (Optional)

The rigid arms of the profile clamp mechanism hold a routed board by its edges, permitting panels with circuitry up to the periphery of the panel to be easily processed. The mechanism offers the additional benefit that panels are accurately located and guided between the airknives during withdrawal from the solder pot, thus ensuring an even more uniform surface coating. Other arms are available for flexible circuits, which tension the circuit during the leveling process.

## AUXILIARY OPTIONS

An optional hole punch provides a fast and accurate means of punching the panel mounting slots relative to the panel edge which must be accurate to +0mm/-0.5mm (+0" / -0.02").

An optional wall/floor mounted extraction unit provides efficient removal of exhaust emissions.

## SIMPLE, SAFE OPERATION

- All operator controls within easy reach
- Optional stand available
- Precise temperature control
- Quick and easy set-up
- Full extraction kit available
- Low installation and running costs

## PANEL FIXTURING/GUIDING

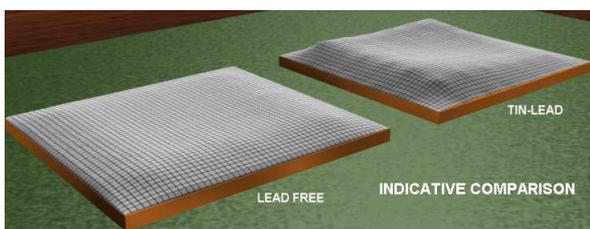
- System superior to other methods, reduces dwell times, eliminating heat damage to board
- Allows correct positioning of air knives at board surface
- Fast panel location
- 2-hole punch (optional)

## SOLDER SUMP

- Heavy duty solder pump hinges out for easy access
- Dross free dipping zone
- Full insulation minimizes heat loss and energy consumption
- Up-rated external dip zone sump heaters
- Pump zone immersion heaters give rapid response
- Inverter driven solder pump

## SPECIFICATION

Panel Fixturing:	2 slots on panel edge - or - Profile clamp mechanism.
Max. Panel Size:	Standard 2-pin fixturing 610 x 610 mm (24" x 24") Optional 610 x 762 mm (24" x 30") Profile Mechanism 355 x 508 mm (14" x 20")
Max. Panel Thickness:	Standard 2-pin fixturing 3.2 mm (0.125") Profile Mechanism 4.8 mm (0.189") Thicker panel options also available
Min. Panel Thickness:	Standard 2-pin fixturing Unsupported - 0.45 mm (0.018") With jig - any flexible Profile Mechanism 0.75 mm (0.03")
Cycle Time (30"):	Typical - 15/20 seconds (including load & unload)
Electrical:	24" - 400/480 Volts, 50/60Hz 60Amps per Phase 3 Phase + earth 30" - 400/480 Volts, 50/60Hz 70 Amps per Phase 3 Phase + earth
Compressed Air:	7.0 Bar (100 p.s.i.) 1.3 - 1.7 M <sup>3</sup> /min. (45-60 ft <sup>3</sup> /min) (depending on panel size/volume) Air Holding Tank: 425 litres @ 7.0 Bar (15 ft <sup>3</sup> @ 100 psi)
Solder Sump Capacity:	610 mm (24") model approximately 230 Kgs (506 lbs) 760 mm (30") model approximately 265 Kgs (583 lbs)



**LEAD FREE / TIN  
LEAD SOLDER  
COMPARISON**

## AIR KNIVES

- High efficiency, patented aerodynamic nozzles
- Efficient aluminium heat exchanger integrated with titanium nitride nozzles, eliminates air bleed, maintains nozzle and air temperatures
- Hinged knife chamber gives rapid access for cleaning

## TOTAL APPLICATION

- Complete control over all operating parameters ensures precise solder coating
- 24"x24" or 24"x30" panel versions
- Multi-layer/flexible/SMD panels
- High throughput—up to 360 panels/hour (panel size dependent)

## MINIMUM MAINTENANCE

- Self-cleans spent oils and flux
- Few dynamic parts
- Less nozzle cleaning required
- Parts and components chosen for long life and reliability
- Easily cleaned polyester resin covers

## BACK UP

- Full after sales service and process support
- Basic tool kit supplied (optional)
- Complete documentation provided
- Operator training

