

New aqueous processing line for electronics

Protonique S.A, Switzerland, is offering new APL-5SMD-L machinery that offers superb cleaning and drying even on 'difficult' SMD and traditional assemblies, at high production rates compatible with most other machines used in the assembly and soldering processes. The APL-5SMD cleaning machine is a high-energy, closed-circuit, washing loop combined with a completely separate and independent, low-consumption, open-circuit rinse, which also renews the wash water, ensuring a constant quality. Independent heaters and controls for the wash and rinse waters have been provided.

The unique APL-5SMD-D drier also assists in the cleaning process. It consists of two adjustable rotary air knives, above and below the basket containing the cleaned circuits. A high velocity air blast removes residual water off the boards, along with any dissolved contamination. More than 90 per cent of the water can be eliminated within the first 20 seconds. The machine then switches into a closed circuit and heaters in the air blast are switched on to bring the temperature throughout the interior of the machine up to the user-set temperature within a few seconds. The high air velocity ensures excellent thermal transfer to components with a high mass, and the whole assembly rapidly reaches a ceiling temperature. At the end of the drying cycle, the machine passes briefly into open circuit to evacuate the small quantity of remaining moisture and air.

The MPL-5SMD-L series is available for the following cleaning and drying processes:

- In PCB manufacture (e.g. before laminating multilayers, before applying solder resists or masks, after hot-air or liquid levelling, after solder-plating fusion, etc.);
- After soldering with traditional water-soluble fluxes and solder pastes;
- After soldering with polyglycol-free water-soluble fluxes and solder pastes;
- After soldering with controlled-atmosphere preparation fluids (this method gives superlative results);
- After soldering with rosin-based fluxes and solder pastes, using saponifiers; and
- After soldering with rosin-based or some synthetic fluxes and solder pastes, using water-soluble or miscible solvents before conformal coating.

Some of the options available along with this new cleaning line include:

- Wastewater treatment systems;
- Hold tanks for chelating neutralizers, presaponification, water-soluble or miscible solvents ("semi-aqueous"), etc.;
- Special third machine for ultra-high capacity, low-cost, saponifier processes;
- No saponifier or isopropanol injection;
- Special baskets;
- Automation and robotization;
- Deionization columns; and
- Solar flash stills (suitable for sites with very high insolation and a shortage of good water).

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