

PS10 MC

Single-chamber PowerSpray® Multi-Cleaning system with three independent process loops / tank systems for the cleaning of two stencils, misprints or approx. 12 solder carriers, as well as ESD boxes / magazines / filter steel sheets. Chamber dimensions: W410 / H760 / D1.000 mms

Part No. 090510-PS-MC

Multi-Cleaning System

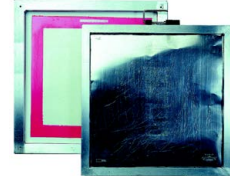


The situation

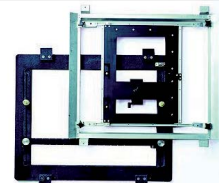
Efficient cleaning of production equipment is not only a prerequisite of a reproducible quality in production but is likewise important to guarantee shortest possible standstills and high customer satisfaction. According to lean personnel management the industry expects state of the art high quality systems, which are nonetheless easy-to-handle, fast and guarantee process stability. The kolb PS10MC incorporates all these features and offers two fully separate technologies and processes within one system: Fine cleaning for screens, stencils and misprints using vertical spray double rotor system (as in the kolb PS07twin) and maintenance cleaning (solder carriers, boxes, magazines, machine parts) with a fourfold horizontal rotor system (as in the kolb PS41). Both cleaning processes work with independent loops and separate tanks. This allows the choice of the most suitable detergent for every task and ensures uncompromising and economic processes with highest possible efficiency. With today's aqueous detergents with hardly any unpleasant odors, the system ensures highest cleaning efficiency and allows a widest possible process window.

The advantages of PS10MC

- Two completely separate processes - one system: fine- and maintenance cleaning.
- Space saving and cost efficient.
- Fully automatic closed-loop 4Step process; cleaning, MediumWipe®, rinsing and drying with high-volume spray rotor system.
- One button handling (automatic process detection for stencil cleaning).
- Tailor-made product fixtures for the process chamber.
- Short cycle times.
- Front cover in stainless steel, side and rear covers in painted steel.
- All process sections made of electrolysis-resistant material.
- Installation close to the production possible, no special safety area.
- Water-free process possible: instead of tap water the double tank closed-loop system also allows the use of an applicable detergent for rinsing.
- PLC-control and entries via colour touch-screen with password levels.
- Threefold tank system with separate units for every closed loop process.
- 3-stage fine filter system (10-100µm) for cleaning as well as for rinsing.
- XL-PowerSpray® unit with magnetic coupled pumping system and filtrated warm air drying (patented technology).
- Re-dosage unit as an option which allows any combination of raw material.
- Noise < 70 dB (A) with optional insulation.



Screens / Stencils



Solder carrier



Filter steel sheets



Misprints

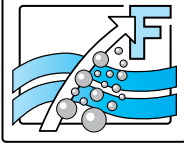


ESD boxes / Magazines

Anwendungen

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PS10MC Multi-Cleaning System

Air lock door



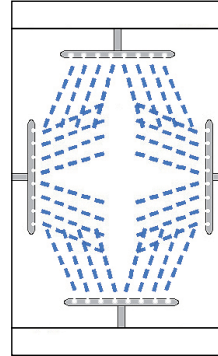
Loading



Operator display



Function



Maintenance



Function

The PS10MC will be loaded using the space-saving air-lock door. Products-to-clean can be positioned comfortably into the tailor-made product fixtures in the process chamber. After loading of the products the transparent air lock door will be closed manually and automatically locked when the process is started with the Start-button. The fully automatic 4-stage cleaning process will run down with cleaning, MediumWipe®, rinsing and drying executed over the high volume rotor system. All relevant data of the 4step process cycle is displayed on the touchscreen monitor. The short running times ensure a quick return of the products into the production process and the possibility to install the PS10MC close to the production lines represents a vital advantage in the value-added chain.

Attention: Cleaning only with waterbased detergents certified by the manufacturer!

Control:

The PS10MC is controlled by a PLC. Setting and monitoring will be entered/read out via the color touchscreen (industry-PC with Windows CE). The cycle time of the respective 4step-cleaning program is freely adjustable in the PLC. The operator display contains two program selection switches. A twofold switch for stencil cleaning and a threefold switch for maintenance cleaning. Up to 99 further programs can be configured and selected using the touchscreen. The control system provides a recall function for all event messages from PLC memory. All PLC data can be transferred via an optional possible network connection to a PC or be saved on a SD-memory card or via USB access.

The changeover between these switches is operated by an automatic detection, which recognizes when a stencil is positioned into the chamber.

Program No:

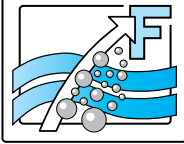
- | | |
|-------------------------|----------------------|
| 1. SMD-paste (Stencil) | 3. Solder carriers |
| 2. SMD-glue (PumpPrint) | 4. Boxes / magazines |
| | 5. Machine parts |

Maintenance

During development of the PS10 special care was taken to ensure a comfortable and easy handling for the operators and the maintenance personnel. The system has a maintenance door at the left-hand side. In this area there are the fine filter cartridges, the pump-out set and two replenishment containers (up to 25l) for the cleaning tanks TA and TB. Moreover there is space for the optional DI-water cartridge. The access to both tanks as well as the entire re-dosage unit including the storage container for additives are located behind the removable left cover of PS10, which is easily accessible for the manual refilling and the maintenance cleaning. The rinsing tank TC is located behind the removable right cover of the system. The tank levels are controlled automatically by the PLC which indicates min-level or max-level with a respective warning in the touchscreen. The PLC likewise controls and indicates filter pressure, maintenance cycles, events and incidents and operation data.

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PS10MC Multi-Cleaning System

PLC computer



Re-dosage



Monitoring



Reservoir



Exhaust



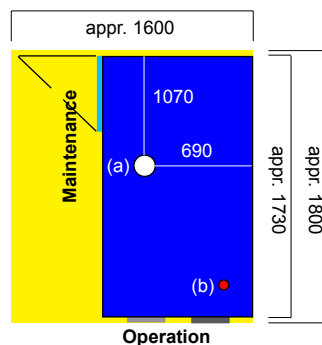
Options / accessories for PS10:

- Status light 5-fold for system status monitoring from the distance
- Exhaust control with motor driven flap valve to reduce high suction / too high consumption
- Automatic re-dosage for the rinse water tank/cleaning tank incl. dosage of necessary additives (option)
- Automatic water change and DI-water system for the rinse tank TC
- Heater for cleaning tanks TA and TB (adjustable)
- Reservoir with screwed and sealed front and overflow control, washing frames, grid racks on request
- Noise reduction 74 to 70 dB (A)

Technical data:

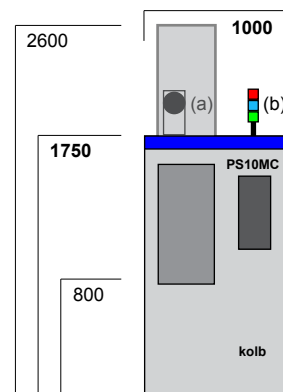
Power supply	:	400 V AC 16 A CEE / 3Ph / 50 or 60 Hz
Control system / Power consumption	:	PLC (K&M), approx. 4,2 - 9 kW (depending on options) /
Ambient Temperature (min./max.)	:	approx. 20° C / 50° C
Noise / Weight	:	< 74 dB (A), with noise reduction: 70 dB (A), approx. 690 kg
Contents cleaning tank TA and TB	:	approx. 75 l each (detergent water mixture)
Contents rinse water tank TC	:	approx. 75 l (rinse detergent or water)
Fine filtration	:	< 10-100µm candle filters and tank bottom fleeces
Max size for stencil frames	:	29" x 39,5"
(Option) Connection water supply	:	3/8", hose connection 14 mm
(Option) Connection rinse water drain	:	3/4", hose connection
Exhaust connection (prov. by customer)	:	160 mm Ø > 200 to 300m³ / hour

Footprint and max. space required in mms



Top view
Max space required incl loading and maintenance

Front view:
incl. optional exhaust 160mms (a) and status light (b)



IMPORTANT: All safety relevant devices e.g. safety interlock on the process chamber door overflow alarm for all tank sections, overheating protection for all heating drying elements, end switches for all motor-driven valves and drives, personnel protection insulation etc. are standard with all **kolb** cleaning systems and they are included in the machine base prices. **At kolb safety is standard - not an optional extra!**

All rights for changes reserved that lead to technical improvement.