

PS07 TWIN

Twin loaded stencil cleaning

Single-chamber PowerSpray® cleaning system for twin loading of cleaning goods up to 35" x 32" (900 x 800 mms). Cleans stencils, screens, PumpPrint stencils, misprints, solder frames and carriers from SMD-adhesive, SMD-paste, flux, oil, dust, grease and more.

Part No. 090507-PS -T



The situation

Efficient cleaning of screens / stencils (in electronics and solar cell production) is not only a pre-requisite of a reproducible quality in production but likewise a guarantee for shortest possible stand stills and subsequent 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 PS07 TWIN incorporates all these features. The double loading option halves the cycle time. With todays aqueous detergents with hardly any unpleasant odors, the system ensures highest cleaning efficiency and allows a widest possible process window.

The advantages of PS07 TWIN

- High throughput: Cleaning of two stencils in one cleaning cycle.
- Fully automatic 4-stage process, cleaning, MediumWipe®, rinsing and drying with high-volume sprayrotator system (all rights reserved).
- Single chamber / one-push button operation.
- Products up to 900 x 800 x 50 mms
- Short cycle time (approx. 7 mins) depending on used detergent and contamination.
- Space saving door - with inspection glass into the illuminated process chamber.
- Installation close to the production possible. No special protection necessary.
- Water-free operation possible: Instead of water the system can use a suitable cleaning / rinsing detergent for rinsing due to the separate double tank / loop system.
- Suitable for the efficient cleaning of PumpPrint-stencils.
- Front cover in stainless steel, side and rear covers in painted steel.
- All process sections made of electrolysis-resistant material.
- PLC-control and entries via colour touch-screen with password levels.
- Double tank system with separate aggregates for each process.
- 3 -stage fine filtration 10µm both for cleaning and rinsing.
- 4 stage PowerSpray-unit with magnetic coupled pumping system and warm air drying (all rights reserved).
- Noise < 70 dB (A) with optional insulation.
- **Certified for solar cell production.**

Process cycle times

Cleaning cycle time of PS07 TWIN with stencils contaminated with SMD-paste is approx. 7 min. The time of a complete process depends on the degree of contamination, the nature of the products as well as the thickness and hardness of the contamination.



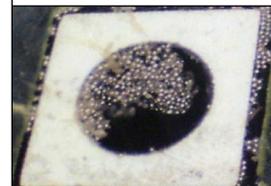
Screens / Stencils



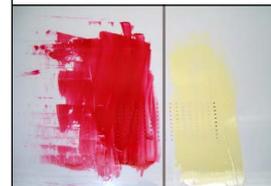
Screens



soldering residues



Soldering residues



SMD adhesive

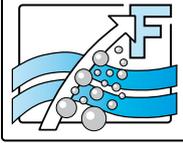
Applications

Contaminations

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*Solvent = organic hydrocarbon, under normal conditions volatile, flammable and risk of explosion.



PS07 TWIN double stencil cleaning

Sliding door



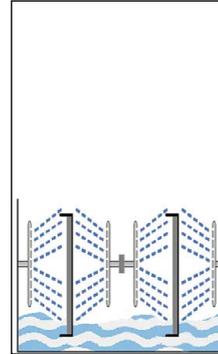
Loading



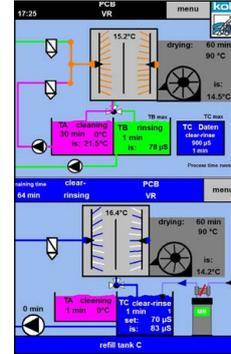
Operation



Function



ClosedLoop



Function

After loading with the stencils, the sliding door will be closed and - after the start of the process - automatically locked. The fully automatic 4-stage process will now run down with the preselected cycle times.

The process status and the applicable cycle time will be shown in the graphic display at the front side of PS07 twin. The extremely short running times ensure a quick return of the perfectly cleaned stencils to the production. Additionally PS07 twin enables an installation close to the production lines and as such it represents a vital element in the value-added-chain. **Cleaning only with waterbased detergents certified by the manufacturer!**

Control

PS07 twin will be controlled by a PLC. Setting and monitoring will be entered/read out via the color touchscreen (industry-PC with Windows CE). In the operator desktop there is a 3-stage program selector switch for different 4-stage cleaning programs. The applicable timings are freely adjustable in the PLC such as

1. SMD-Paste (Printer screens),
2. SMD-adhesive (PumpPrint-stencils),
3. Misprints

Service

During the development of PS07 twin special care was taken to ensure a comfortable and easy handling for the operator and the maintenance personnel. The system has a service access with door at the left hand side. In this service area there are the fine filter units, the pump-out set, the optional dosage unit (container contents of 25 l max.) as well as the (optional) tank for the automatic dosage of an additive. Furthermore there is space for an optionally available DI-water cartridge. Easily accessible from the left hand side behind the cover door are likewise the tanks for detergent (TA) and rinse water (TB) for manual filling and servicing. The levels of both tanks are easily visible through illuminated inspection openings in the covers.

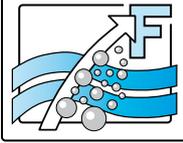
The level of both tanks will be controlled automatically by the PLC which will indicate min-level or max-level with a respective warning. This PLC likewise controls the filter pressure of the fine filtration as well as the service and the maintenance cycles of PS07 twin.

Options / accessories

- Status light 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 rinse water tank and cleaning tank incl. dosage of necessary additives (option).
- Automatic water exchange for the rinse tank.
- Temperature-adjustable detergent heater for the cleaning tank and for the rinse water tank.
- DI-water system for the rinse water tank. DI-cartridge integrated.
- Reservoir with screwed and sealed front and overflow switch.
- Washing frames: various dimensions upon request.

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PS07 TWIN double stencil cleaning

PLC computer



Re-dosage



Maintenance



Reservoir



Exhaust

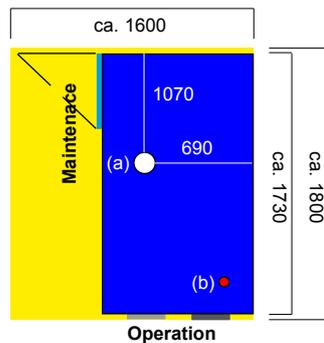


Technical data

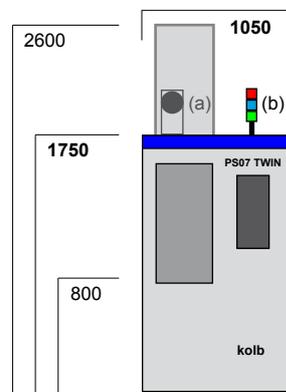
Power supply	:	400 V AC 16 A CEE / 3Ph / 50 or 60 Hz
Power consumption / control system	:	SPS (K&M) / approx. 4,2 -9 kW (depending on options)
Ambient Temperature (min./max.)	:	ca. 20° C / 50° C
Noise / Weight	:	≤ 74 dB (A) / ≤ 74 dB (A) with insulation / approx. 400 kg
Contents cleaning tank TA	:	approx. 75 l (detergent water mixture)
Contents rinse water tank TB	:	approx. 75 l (rinse detergent or water)
Fine filtration	:	≤ 10 µ candle filters and bottom fleeces
Max dimensions for carriers / stencils	:	35" x 32", 900 x 800 mm
Connection water supply (tap water)	:	3/8", hose connection 14 mm (by cutomers: inlet water quality, < 350 µS conductance value (< 10° dH) or option descaling unit)
Connection water supply (DI- /VE-water)	:	3/8", hose connection 14 mm (DI net by customers or bridging to tap water)
Connection rinse water drain	:	3/4", hose connection / 25 mm
Exhaust connection (prov. by customer)	:	160 mm Ø > 200 to 300m ³ / hour

Foot print and max. space required for service and maintenance (in mms)

Top view:
Max. space (yellow) required for loading and maintenance



Front view:
With optional exhaust device 160 mm (a) and status light (b)



Certifications:

This system in its basic version was certified for its energy and watersaving processing, for easy operability and for the standard integration of comprehensive safety features.



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