TECHNICAL INFORMATION

PSE MV3 ONE XXL

Economy special system for the fine cleaning of super large stencils

PSE MV3 ONE-XXL

Compact, fully automatic economy two-tank fine cleaning special system with two separate circuits

Cleans screens and stencils from SMD paste, SMD adhesive, soldering support substances, oil & dust

Capacity: Screen, stencil, up to 1,500 x 1,560 mm (59" x 61")

Artikelnummer: 0900PSE3MV-XXL-2

PowerSpray® · PolyPower · ClosedLoop · CWA® Drying · Traceability

Smart Factory ready STANDARD

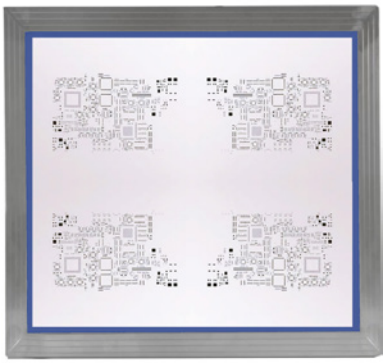
ENERSAVE · WATERSAVE · EASOTECH · SAFEGAR

Certifications:
This system in its basic version was certified for its energy and water-saving processing, for easy operability and for the standard integration of comprehensive safety features.

- Two-tank system with two separate circuits
- Average process time: 35 min per stencil
- Fully automatic 4-step process: cleaning, MediumWipe®, rinsing, drying with CWA® supercharger compression drying
- Vertical rotor system with ASYNCHRO® spray rotors for thorough wetting (no blind spots)
- Water-free operation possible: Due to the separate double tank configuration the system can operate with suitable cleaning/rinsing detergents for rinsing
- Safe installation close to the production line/screen printer possible; no special protection required
- Processes and service intervals PLC controlled
- Event issuing and software control via 7" touch screen
- Extremely compact - high performance on a small footprint

Key applications

XXL Stencils up to
1,500 x 1,560 mm (59" x 61")



XXL-Stencils

The **kolb** PSE economy line is a quality series of advanced cleaning systems, which focuses on all essential criteria for a qualified cleaning process and therefore stands for attractive purchase prices.

The PSE 300 MV3 ONE-XXL is a fully automatic special system for reliable precision cleaning of super large screens. It removes quickly and thoroughly contaminations such as SMD-paste, SMD-adhesive, flux residues, stabilizer materials, flux, oil, grease or dust.
The PSE 300 MV3 ONE XXL is a German engineered and manufactured machine with ClosedLoop water reprocessing and a two-tank and two separate circuits configuration which ensures short cycle times and makes this system the perfect economic choice for the cleaning of super large screens and stencils.

The cleaning system can be operated with all common electronics cleaning supplies (detergents/chemistry, etc.) which are approved by the manufacturer.

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Application overview

Optional suitable	Most suitable	Optional suitable	Not suitable	Not suitable
PCBAs, Hybrids	Stencils	Solder frames	ESD Boxes	Condensation traps
Power electronics	Screens	Solder carriers	Containers	Filters
Misprints (mounted)	Misprints (bare boards)	Solder masks	Magazines	Steel sheets

Optional suitable applications can also be optimally realized with the appropriate options.

Cleaning (key process 1): From the cleaning tank A (TA) the cleaner liquid is sucked by a magnetically coupled pump unit and routed with a controllable volume flow through a separate circuit into the ASYNCHRO® spray rotor nozzles. Their geometry ensures a comprehensive and thorough cleaning, even in inaccessible and critical aereas. After the washing procedure, the valve switchover of the process chamber undocks the cleaning circuit until the next process run.

MediumWipe® (intermediate process 2): The remaining cleaner is blown off from the clean products and blown out of the cleaner circuit and recirculated into the cleaning tank (TA) before the valve switchover closes.

Rinsing with tap water (key process 3): From the rinsing tank B/C (TB/C) the water is pumped through the separate second circuit into the spray rotors. For information: Tap water has (compared to DI-/DM-water) the advantage of lower surface tension and thus flushes also critical points as low standoffs and appertures more efficient.

MediumWipe® (intermediate process 2): The remaining water is blown off from the products and blown out of the cleaner circuit and recirculated into the rinsing tank (TB/C)

Final rinsing with DI-/DM-water (optional process): The DI-/DM-water is produced from tap water in an integrated MB-cartridge and flushes conducting ions of the previous processes. This process is repeated automatically until the remaining amount of ions falls below the programmed value.

MediumWipe® (optional intermediate process): Blowing off and recirculating the remaining DI-/DM-water into the rinsing tank (TB/C).

Drying (key process 4): The purified products are dried with the patented CWA®- (Compressed Warm Air) technology. The built-in special compressor compresses the ambient air. At the same time it collects the kinetic energy (frictional heat) of the paddle wheel in the unit, then presses the heated and compressed air into the rotor nozzles which were already used for cleaning and rinsing. There it blows off (pressure) and evaporates (heat) the residual moisture. This method is energetically and constructively highly efficient, as it uses the "waste heat" of the compressor rotation and the compressed air as driving power for the rotors. In addition, a system equipped with CWA®-technology requires no additional hardware and no external compressed air connection for the MediumWipe® process.

Maintenance: The system has two large maintenance doors on the right and on the left hand side. IIn the maintenance area among others are the pump-out set, the re-dosage unit with space for a 25 liter detergent container and an optional re-dosing unit for a 5 l additive container as well as the MB cartridge for DI-/DM-water processing. Tank levels as well as pressure values and maintenance cycles are monitored by the PLC and displayed on the touch screen.

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Main standard features

- PowerSpray® technology bundle: magnetically coupled XXL-Power (tank A) and XL-Power (tank B/C) pump units, twofold ASYNCHRO® volume-spray rotor system with special nozzles, "Option100" software program (100 freely selectable programs)
- PolyPower® configuration with Power pump unit
- EATON Programmable Logic Controller (PLC)
- High resolution 7" (1,024 x 600 mm) display with multi-touch and intuitive process view
- Full flow coarse filter (process chamber)
- Function package Fine Filter System Tank A (incl. XXL-Power pump unit for the cleaning circuit, fine filter system and sediment filter for the cleaning tank A (TA)
- Function package Fine Filter System Tank B/C (incl. XL-Power pump unit for the rinsing circuit, fine filter system for the rinsing tank B/C (TB/C)
- MediumWipe® unit for further optimization of detergent and rinsing fluid use
- ClosedLoop reprocessing of cleaning and rinsing fluids
- Automatic re-dosage unit for 25 l detergent container
- CWA® supercharger compression drying
- Ø 160 mm 2Step chamber extraction with extraction control and integrated condensate recovery system
- Spare space for DI-/DM-water processing cartridge
- Safety features: safety interlock on the process chamber door, overflow alarm for all tank sections, overheating protection for all heating and drying elements, end switches for all motor-driven valves and drives, personnel protection insulation
- Front cover made of stainless steel, hood, side and rear covers made of powder-coated steel
- Process sections made of electrolysis resistant elements

Main options

- Function package DI Water System "Combi" (incl. function package DI-water system (incl. DI-/DM-water measuring unit, (residual ion contamination measurement), mixing/blending unit, ion exchanger cartridge, cartridge deaerator) and option automatic water change for the rinsing tank (TB/C)
- Function package Traceability "Basic" (incl. SPC data scanner, data backup in CSV file, backup via SD card (via slot in the PLC)
- Function package Noise Insulation (incl, option housing insulation and option safety/storage tray with integrated underfloor insulation mat)
- Automatic re-dosage unit for 5 l additive container
- Automatic water change for the rinsing tank (TB/C)
- Decalcification unit for reducing the lime content in the rinsing water (tap water) circuit/ insing tank B/C (TB/C)
- Heater for cleaning tank A (TA)
- MediumWipe® unit for further optimization of detergent and rinsing fluid use
- Remote control (browser-based control/monitoring via mobile device or PC)

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Technical data

Technology base	**kolb** PowerSpray®
Capacity per process cycle	Stencil/screen up to 1,500 x 1,560 mm (59" x 61")
Process chamber dimensions	W 300 • 1,660 • D 1,580 mm (W 13.78" ▪ H 65.35" ▪ D 62.2"")
Volume tank A (cleaning)	120 l
Volume tank B (rinsing)	120 l
Power supply	400 V AC, 32 A, CEE plug/3 Ph/50 or 60 Hz
Power consumption	8.9 kW
Control system	PLC (EATON)
Temperature load	up to 50 °C (122 °F)
Filter system	1. Full flow coarse filter < 2 mm (0.08"), 2. 20“ fine filter (1 - 100µm - process dependent)
Supply connection 1 (tap water)	> 18 °C,1/2" hose with 30µm water filter (on-site inlet water quality, pressure 3 - 4 bar, < 250 - 350 µS conductivity (< 10° dH) or descaling unit option. Do not use a softening/soft water system in the inlet)
Supply connection 2 (DI-/DM-water)	> 18 °C, 3/4" hose with 30µm water filter (DI-net provided by customer or bridging to tap water)
Supply connection 3 (compressed air)	6 - 8 bar (87 - 116 psi) - 100 l/min for option MediumWipe®, connection for 8 mm (0.31") compressed air hose
Rinse water drain connection	(with integrated pump-out system) connection for 1" hose
Exhaust connection	Ø 160 mm (6.3"), exhaust capacity 200 - 300 m³/h (7,063 - 10,595 ft³ h)
Operating condition room temperature	20 - 35 °C (68 - 95 °F)
Footprint	950 x 2,200 mm (37.4" x 87")
Operating noise	74 dB(A)
Empty weight	798 kg (1,760 lbs)