



PSE 300 2HY

Fully automatic PowerSpray® triple hybrid system for ultra fine, fine and maintenance cleaning of smaller quantities

Cleans Screens, stencils, PCB, misprints, solder frames from flux residues, oxide and soldering support substances

Capacity: Screens, stencils, frames and (PCB) carriers up to a size of 780 x 950 mm (31" x 37,5")

Part number: 0905PSE3HY2 / 2HY2-HT

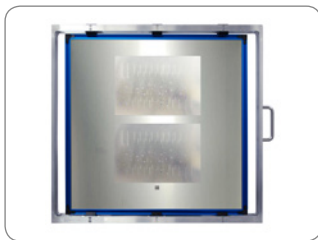


Certifications:

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 triple circuit function
- Comfortable push one button operation
- Fully automatic 3step (optional up to 5step) process: cleaning, rinsing (tap water), drying with VMH® hot air
- Vertical twofold rotor system with asynchronous spray rotors for thorough wetting (no blind spots)
- Process and service intervals PLC controlled
- Event issuing and software control via touch screen
- Process sections made of electrolysis and high temperature resistant elements.
- Safe installation close to the production line possible; no special protection required
- Extremely compact - maximum capacity on a small footprint
- HT version for high temperature cleaning and rinsing up to 80° Celsius available

Key applications



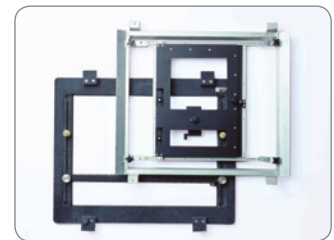
Screens



Stencils



PCBs



Solder frames

Optimal cleaning of assembled PCBs (ultra fine cleaning), screens and stencils (fine cleaning) and production tools as solder carriers and solder pallets (maintenance cleaning) today is a prerequisite for reproducible quality as well as for low failure rates, resulting in high customer satisfaction.

In small and medium-sized companies, however, the volumes of the individual cleaning tasks are not so high, that they justify a payback for individual cleaning systems.

The German engineered and manufactured kolb PSE 300 2HY takes this into consideration also for smallest applicable quantities. It is a full hybrid system with ClosedLoop water reprocessing that not only cleans screens, stencils and misprints, but can also take on ultra fine and even maintenance cleaning tasks.

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

 Most suitable	 Most suitable	 Optimal suitable	 Not suitable	 Not suitable
Assembled PCBs Hybrids Misprints	Stencils Screens, PumpPrints Misprints	Solder frames Solder carriers Solder masks	ESD Boxes Containers Magazines	Condensation traps Filters Steel sheets

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

Cleaning (key process 1): From the cleaning tank (A) 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 rotors with patented PUSHFORCE® nozzles. Their geometry ensures a comprehensive and thorough cleaning, even in inaccessible and critical areas. After the washing procedure, the valve switchover of the process chamber undocks the cleaning circuit until the next process run.

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

Rinsing with tap water (key process 2): From the rinsing tank (tank B / C), the water is pumped through the separate second circuit into the spray rotors. Tap water has (compared to DI / DM water) the advantage of lower surface tension and thus flushes also critical points as low standoffs more efficient.

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

Final rinsing with DI / DM water (optional process - key process when PCB cleaning): 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.

Drying (key process 4): The clean products are dried with the patented VMH® (Venturi Mixed Hot air) technology. A high volume flow of normal circulating air is blown into a venturi nozzle. The resulting differential pressure there (passively) sucks on a small amount of very high temperature air. The resulting air mixture provides for uniformly high drying temperature (adjustable between 45° and 120° Celsius) all over the process chamber. Further advantages are robustness and low cost of ownership. Energy is only needed for a fan and the heating of a very small amount of air; the rest is executed by pressure differences and air duct geometry.

Maintenance: The system has a large maintenance door on the right side. In the maintenance area among others are the pump-out set, the optional re-dosage unit with space for a 25 liter detergent and 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 pump unit, twofold ASYNCHRO® volume-spray rotorsystem with PUSHFORCE® nozzles, "Option101" softwareprogram (101 freely selectable programs)
- 7" Display
- EATON Programmable Logic Controller (PLC)
- High resolution 7" (1.024 x 600 mm) display with capacitive multi-touch
- PolyPower pump-nozzles configuration (up to three times more pressure power and up to 30% less cycle time)
- Full flow coarse filter (process chamber)
- Fine filters for both circuits
- Sediment filters for both tanks
- VMH® XL hot air evaporative drying (control range approx. 45° - 120° Celsius)
- ClosedLoop reprocessing of cleaning and rinsing fluids
- Spare space for resin cartridge to be integrated into the system
- 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
- Machine body made of stainless steel
- Process sections made of electrolysis resistant elements

Main options

- Adjustable DI / DM water mixing and blending unit
- Automatic monitoring of ionic residues contamination and gauging of rinse water quality
- Automatic re-dosage unit for 25 l detergent and 5 l additive container
- Automatic water change for cleaning circuit (only HT version)
- Descaling unit to reduce the lime content in the rinsing water
- Drip & storage reservoir
- Exchange for rinse water and pump out unit
- Exhaust unit
- Heater for tank A (cleaning)
- HT Version for high temperature cleaning up to 80° Celsius
- MB- / DI-cartridge for deionized (DI) and demineralized (DM) water
- MediumWipe® unit for further optimization of detergent and rinsing fluid use
- Permanent automatic rotor run control
- PolyPower XL configuration with XL-PolyPower pump unit
- Status light fivefold to display the current process state
- Traceability unit with PLC data scanner



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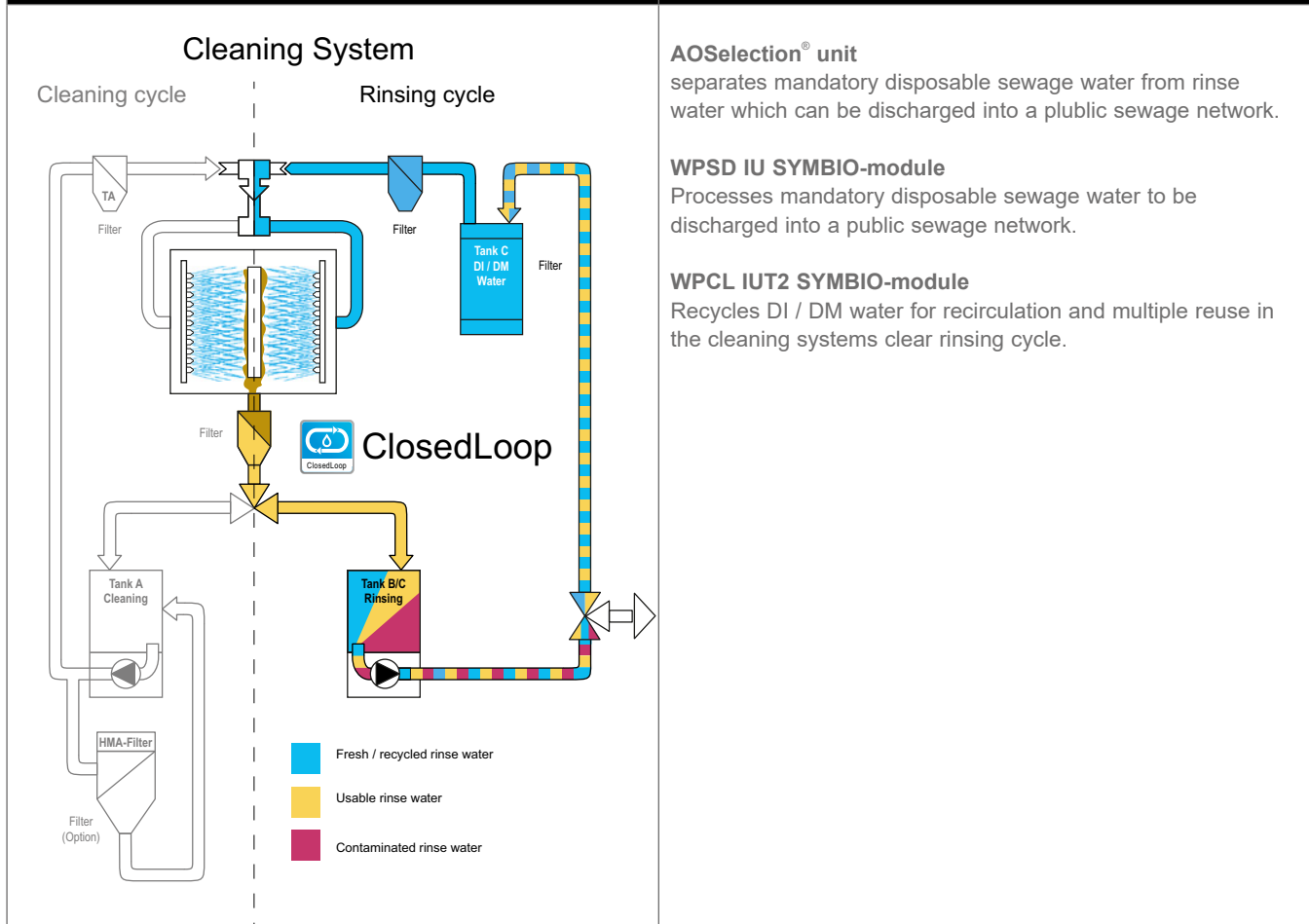
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Internal rinse water processing (standard)

Options* for water management



AOSelection® unit

separates mandatory disposable sewage water from rinse water which can be discharged into a public sewage network.

WPSD IU SYMBIO-module

Processes mandatory disposable sewage water to be discharged into a public sewage network.

WPCL IUT2 SYMBIO-module

Recycles DI / DM water for recirculation and multiple reuse in the cleaning systems clear rinsing cycle.

* Operating companies of industrial cleaning systems are responsible for proper disposal of wastewater / rinse water and (wasted) cleaning detergent. Further information on wastewater management at www.kolb-ct.com/systems/water-management/, consulting requests to info@kolb-ct.com



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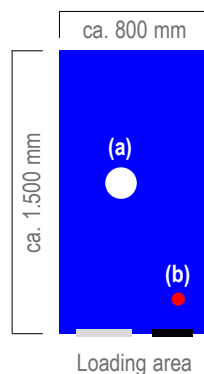
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Technical data

Technology base	kolb PowerSpray®
Capacity	Screens, stencils, frames and (PCB) carriers up to a size of 780 x 950 mm (31" x 37,5")
Process chamber dimensions	W 350 - D 980 - H 920 mm
Volume tank A (cleaning)	ca. 75 l
Volume tank B / C (rinsing)	35 l - 75 l
Power supply	400 V AC, 16 A CEE / 3PH / 50 or 60 HZ
Power consumption	ca. 3.8 kW
Control system	PLC (EATON)
Temperature load	up to 55°C (standard system), up to 80°C (HT-version)
Drying control range	approx. 45° - 120°C
Filter system	up to three stage - 1. Full flow coarse filter < 2 mm, 2. Sediment filter inside the tank, 3. 20" fine filter (1 - 100 µm - process-dependent)
Supply connection 1 (tap water)	3/8", hose connection 14 mm (prov. by customer: inlet water quality < 350 µS conductance value (< 10° dH) or option descaling unit)
Supply connection 2 (DI / DM water)	3/8", hose connection 14 mm (DI-net prov. by customer or bridging to tap water)
Supply connection 3 (compressed air)	6 - 8 bar (100 l / min.) for HT-version or optional MediumWipe® process
Rinse water drain connection	3/4", hose connection 25 mm with integrated pump out system
Exhaust connection	Ø 160 mm, exhaust capacity 200 to 300m³ / h
Footprint	1.500 x 800 mm
Operating noise	63 dB (A)
Empty weight	440 kg

Top view:
Space requirement
cleaning system
(a) = Exhaust 160 mm
(b) = Status light



Front view:
with optional status
light (b)

