



## AQUBE® MV8 sTWIN

Fully automatic twofold stencil / screen cleaning system with sequential usage possibility

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

Capacity: 2 stencils, screens, carriers up to 950 x 770 mm (37" x 30")

Part number: 0900AQ8MV12

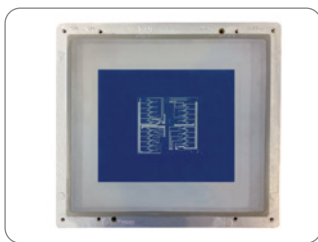


### Certifications:

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 full-fledged process chambers, sequentially usable
- \* Two-tank system with four separate circuits
- \* Intelligent network connectivity for implementation in industry 4.0 smart factories
- \* Fully automatic 4step process: cleaning, MediumWipe®, rinsing, CWA® supercharger compression drying
- \* Vertical rotor system with four asynchronous spray rotors for thorough wetting (no blind spots)
- \* Short cycle times (approx. 5 min / normal contamination) due to placing the cleaning goods close to the spray rotors
- \* Water free operation possible with a suitable cleaning / rinsing detergent
- \* Processes and service intervals PLC controlled, event issuing and software control via touch screen
- \* Safe installation close to the production line / screen printer possible; no special protection required
- \* EDGELESS Design and VARAccess® service access: maximum capacity, easy maintenance on a very small footprint

### Key applications



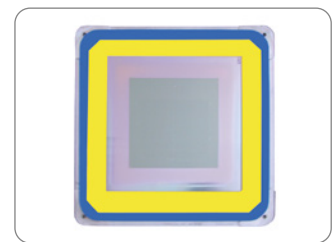
Screens



Stencils



PumpPrints



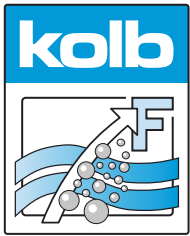
M-TeCK stencils

The kolb AQUBE® systems are cleaning systems of the next generation - even more efficient, even more compact, even easier to operate and maintain, cyber-physically ready for the smart factory (SF ready).

kolb AQUBE® MV8 sTWIN is a fully automatic system with two process chambers for reliable precision cleaning of screens, stencils, PumpPrints or other flat products. It removes quickly and thoroughly contaminations such as SMD-paste, SMD-adhesive, flux residues, stabilizer materials, flux, oil, grease or dust.

The unique configuration of AQUBE® MV8 sTWIN with two tanks, four independent circuits and ClosedLoop water treatment does not require waiting for two stencils to be cleaned, or until running cleaning process is completed - one stencil cleaning can be started immediately and another time-delayed (or parallel).

**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 Power electronics Misprints (mounted)	Stencils Screens Misprints (bare boards)	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): The process chambers can be operated in parallel or sequential mode. 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 areas.

**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. Tap water has (compared to DI / DM water) the advantage of lower surface tension and thus flushes also critical points as small apertures 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 a VARAccess® maintenance access system with recessed, variable doors and removable panels. In 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

- Two process chambers to be optionally operated in sequential or parallel mode
- PowerSpray® technology bundle: magnetically coupled XXL-Power pump units (tank A, tank B/C), fourfold ASYNCHRO® volume-spray rotor system, "Option100" softwareprogram (100 freely selectable programs)
- EATON Programmable Logic Controller (PLC)
- Smart Factory ready: DNAccess® (standard) for remote control (see options) and traceability with retractable touch monitor and integrated industrial PC (see options)
- High resolution 10" (1,024 x 600 mm) vertical display with capacitive multi-touch
- Fourfold alternating LED status light bar integrated in the system frame
- 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. XXL-Power pump unit for the rinsing circuit and fine filter system for 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
- Two-fold Ø 160 mm 2Step chamber extraction with extraction control
- 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
- VARlccess® service access with right and left-hinged side doors as well as unhinging possibility for side doors, front panel, and rear supply rail
- EDGELESS housing design. Doors, cover panels and hinges without edges, depot for traceability scanner and monitor in the right side panel
- Process sections made of electrolysis resistant elements

■ = AQUBE®-exclusive components (vs. kolb PSE Economy series)



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### Main options

- Function package PCBA Cleaning (incl. option automatic water change for rinsing circuit / tank B/C (TB/C) with lifting unit, option heater cleaning tank (TA), function package DI water system (incl. DI / DM water measuring unit (residual ion contamination measurement), mixing-blending unit, ion exchanger cartridge, cartridge deaerator)
- 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 Online Cleaner Regulation (incl. brix monitor for refraction measurement, automatic re-dosing of the cleaner, flow meter, dosing ball valve)
- Function package Noise Insulation (incl. option housing insulation and option safety / storage tray with integrated underfloor insulation mat)
- Function package Traceability "Basic" (incl. SPC data scanner, data backup in CSV file, backup via SD card (via slot in the PLC))
- Function package Traceability "Comfort" (incl. PLC data scanner and retractable touch monitor and industrial PC with Intel processor)
- Automatic re-dosage unit for 5 l additive container
- Automatic water change with pump out system for the rinsing circuit / rinsing tank B/C (TB/C)
- Decalcification unit for reducing the lime content in the rinsing water (tap water) circuit / rinsing tank B/C (TB/C)
- Heater for the cleaning tank A (TA)
- Remote control (browser-based control / monitoring via mobile device or PC)
- RMA Remote Maintenance Assistance (factory controlled maintenance support)
- Paint of choice (frame rack, coverings and hood)

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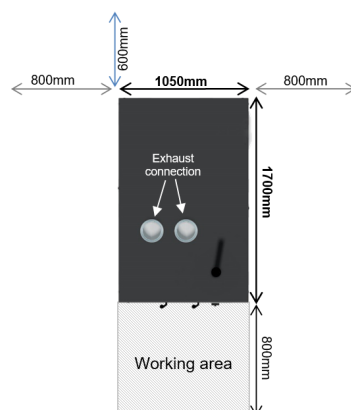
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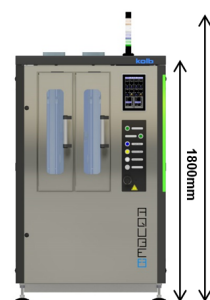
## Technical data

Technology base	<b>kolb PowerSpray®</b>
Capacity	2 stencils, screens, carriers up to 950 x 770 (37" x 30")
Process chamber dimensions	2 x W 270 • D 1,000 • H 875 mm (W 10.63" • D 39.37" • H 34.44")
Usable chamber dimensions	2 x W 40 • D 950 • H 770 mm (W 2" • D 37" • H 30")
Volume tank A (cleaning)	75 l
Volume tank B (rinsing)	75 l
Power supply	400 V AC, 16 A, CEE-plug / 3 Ph / 50 oder 60 Hz
Power consumption	ca. 6.8 kW (7.6 kW with heater option)
Control system	PLC (K & M)
Temperature load	up to 50 °C (122 °F)
Filter system	up to four stages - 1. Full flow coarse filter < 2mm (0.08"), 2. Sediment filter inside the tank, 3. 20" fine filter (1 - 100µm - process dependent), 4. HMA filter
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 (compressed air)	6 - 8 bar (87 - 116 psi) - 100 l / min for option MediumWipe®, connection for 8 mm (0.31") hose
Rinse water drain connection	(integrated pump out system) connection for 1" hose
Exhaust connections	2 x Ø 160 mm (6.3"), exhaust capacity 200 - 300 m³ / h (7,063 - 10,595 ft³ / h)
Footprint	1,050 x 1,700 mm (41.34" x 66.93")
Operating noise	74 dB (A), 70 dB (A) with function package Noise Insulation
Operating condition room temperature	20 - 35 °C (68 - 95 °F)
Empty weight	630 kg (1,389 lbs)

Top view AQUBE-MV8



Front view AQUBE-MV8



- Recommended maintenance area
- Space for connections