



AF04

CLEANING TECHNOLOGY

Made in Germany

Semi-automatic system with turbulence air-in-immersion AirFlow® technology for maintenance cleaning

Cleans carriers, pallets, condensation filters of virtually all manufacturers from flux, condensate, oil, dust, grease

Usable chamber dimensions: W 580, D 610, H 470 mm

Part number: 090504_AF

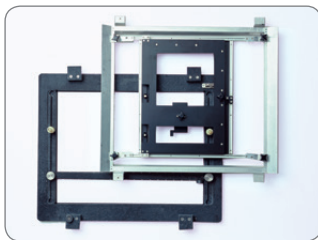


Certifications:

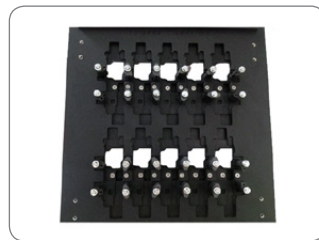
This system in its basic version was certified for its energy and water-saving processing and for the standard integration of comprehensive safety features.

- Semi-automatic three chamber system
- Ready for operation (plug & work), incl. cleaning fluid for the first filling
- Viable price, low operating cost, high economic efficiency
- PLC controlled
- Solder-frame and carrier fixture customized free of charge
- Special system sizes on demand
- Easy maintenance
- Storage of cleaning fluid under the system
- Lockable emergency off switch
- Process shut down when system lid is opened

Key applications



Solder frames, carriers



Solder pallets



Condensation filters

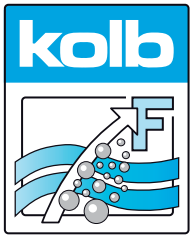


Machinery parts

kolb AF04 is a three chamber system which enables short cycle times. The system is therefore capable within a short time of parallel process cleaning, rinsing and drying. It cleans condensation traps, solder-frames, carriers and machine parts from flux, flux condensation, oil, dust, grease etc.

Short cycle times enable quick reuse of production tools which together with the capability of placing the system in the production area is the best argument for a quick return on investment. The complete cleaning cycle in the AF04 system takes approx. 15 - 20 minutes, when cleaning of 6 - 9 solder-frames simultaneously, according to size and type of contamination. Three process times can be programmed via the PLC control for cleaning and drying and can be pre-set with a selector switch.

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

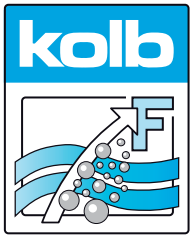
 Not suitable	 Not suitable	 Most suitable	 Not suitable	 Most suitable
Assembled PCBs Hybrids Misprints	Stencils Screens, PumpPrints Misprints	Solder frames Solder carriers Solder masks	ESD Boxes Containers Magazines	Condensation traps Filters Steel sheets

Cleaning: A custom made fixture in the system holds the goods to be cleaned in an optimum position during cleaning process at ambient temperature with a PLC-controlled AirFlow® process. The AirFlow® technology is an air-in-immersion process. It differs from common spray-in-immersion applications, as the goods to be cleaned here are actively submerged by the cleaning fluid using compressed air. This whirling technology guarantees a permanent all over active flushing without dead spots so that the contamination is fast and efficiently cleansed off.

Rinsing with tap water: After cleaning the parts are submerged into the rinse chamber which is filled with normal tap water to remove all cleaning fluid residues. 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.

Drying: The cleaned parts are placed into the drying chamber. Drying is carried out via an integrated HotSpeed (two fan type) hot air drying module. The HotSpeed unit with fan and heating coil in one air duct evaporates completely the residual moisture at approx. 35° Celsius.

Maintenance: The system needs very little maintenance. The service intervals are PLC controlled and indicated. Filter and cleaning fluid change according to requirements needs to be done after approx. 300 - 400 cleaning cycles e.g. when cleaning average contaminated solder-frames. Rinse water has to be changed when pH-value is over 9. An automatic rinse water exchange system is available as an option.



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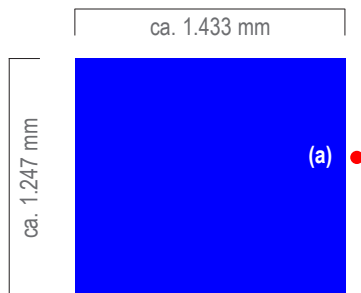
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Technical data

Technology base	kolb AirFlow®
Capacity	6 - 9 solder frames up to 610 x 470 mm, 24" x 18,5" or 4 condensation traps
Usable chamber dimensions (cleaning)	W 580, D 610, H 470 mm
Usable chamber dimensions (rinsing)	W 200, D 610, H 470 mm
Usable chamber dimensions (drying)	W 380, D 610, H 470 mm
Volume cleaning chamber	approx. 175 l
Volume rinsing chamber	approx. 60 l
Power supply	230 V AC 16 A / 50 or 60 Hz
Power consumption	approx. 2 kW
Control system	PLC (Siemens Logo)
Filter system	Coarse filter > 1 mm
Supply connection 1 (tap water)	3/8", hose connection 14 mm
Supply connection 2 (compressed air)	4 bar (100 l / min.)
Rinse water drain connection	3/4", hose connection 27 mm
Footprint	1.433 x 1.247 mm (incl. storage step)
Operating noise	60 dB (A)
Empty weight	120 kg

Top view:
Space requirement
cleaning system
(a) = Status light



Front view:
with optional status
light

