



AF20

CLEANING TECHNOLOGY

Made in Germany

Fully automatic system with turbulence air-in-immersion AirFlow® technology for all maintenance cleaning tasks

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

Usable chamber dimensions: W 810 • D 435 • H 520 mm

Part number: 090520-AF

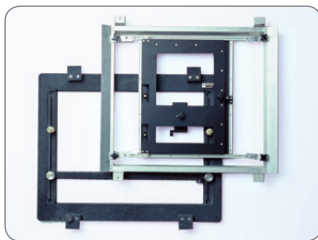


Certifications:

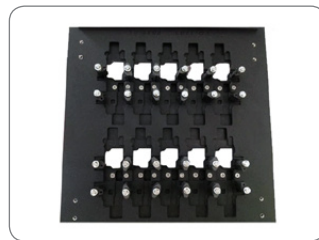
This system in its basic version was certified for its energy and water-saving processing, for easy operability and for the standard integration of comprehensive safety features.

- Fully automatic process: Cleaning - rinsing - drying
- Short cycle times
- Loading and unloading in an empty process chamber (no contact to detergent)
- Process and service intervals PLC controlled
- Event issuing and software control via touch screen
- Easy and fast maintenance
- Plug & work system (connect, fill, start)
- Installation close to the production line possible; no special protection required
- Extremely compact - maximum capacity on a small footprint
- Certified for solar cell productions

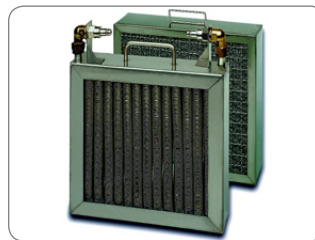
Key applications



Solder frames, carriers



Solder pallets



Condensation filters

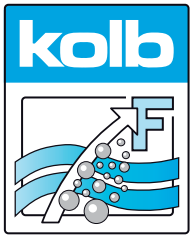


Machinery parts

kolb AF20 is a state of the art immersion cleaning system with ClosedLoop water reprocessing. It cleans components of flux management systems (cooling units, filters, heat exchangers, containers / plates)* of virtually all manufacturers as well as lathe parts, milled parts, die cast components or other bulk good (with washing drum option) from flux, condensate, oil, dust, grease using the economic and environmentally friendly AirFlow® technology.

*Up-to-date reflow-soldering systems as well as solar process ovens usually have flux management systems (cooling unit, filters, heat exchanges, containers / plates) which during operation will be subject to contamination (with flux / colofonium). Thorough cleaning helps to regain proper functioning.

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

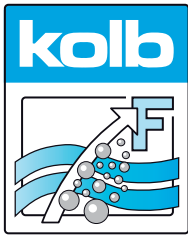
Cleaning (key process 1): The process chamber is empty during the loading (no contact to the detergent). After placing the goods to be cleaned into the chamber it is pressure flooded with fine filtered cleaning fluid from a separate tank (tank A) through a PLC-controlled AirFlow® process. The AirFlow® 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 (key process 2): After the goods are cleaned the likewise filtered water, is pumped into the process chamber from a second tank (tank B). 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.

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.

Drying (key process 3): Drying is carried out via a threefold HotSpeed hot air drying module integrated into the process chamber lid. The HotSpeed unit with fan and heating coil in one air duct evaporates completely the residual moisture at 40 - 45 ° Celsius.

Maintenance: The system has a large maintenance door on the right side and requires only little maintenance. In general, only exhausted cleaning mixture has to be exchanged, as well as the filters have to be cleaned or changed if necessary. 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.



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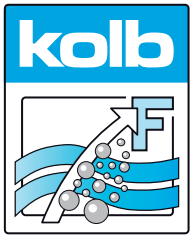
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Main standard features

- AirFlow® technology bundle: magnetically coupled pump unit, immersion / compressed air configuration
- Programmable Logic Controller (PLC)
- Full flow coarse filter (process chamber)
- Skimmer fine filtration for cleaning circuit
- Skimmer fine filtration for rinsing circuit
- Threefold Hotspeed warm air dryer (40° .- 45° Celsius)
- ClosedLoop reprocessing of cleaning and rinsing fluids
- Automatic re-dosage unit for 25 l detergent and 5 l additive container
- Spare space for resin cartridge to be integrated into the system
- Exchange for rinse water and pump out unit
- 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
- Drip & storage reservoir
- Exhaust unit
- Heater for tank A (cleaning)
- MB- / DI-cartridge for deionized (DI) and demineralized (DM) water
- Status light fivefold to display the current process state



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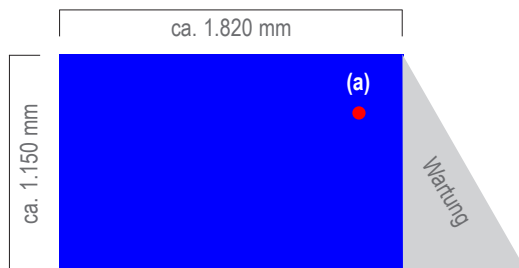
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Technical data

Technology base	kolb AirFlow®
Usable chamber dimensions	W 810 • D 435 • H 520 mm
Volume tank A (cleaning)	approx. 225 l
Volume tank B / C (rinsing)	approx. 225 l
Power supply	400 V AC, 16 A CEE / 3PH / 50 or 60 HZ
Power consumption	approx. 3 kW
Control system	PLC
Filter system	Twofold - 1. Full flow coarse filter < 2 mm, 2. Skimmer fine filtration for cleaning and rinsing circuit
Supply connection 1 (tap water)	3/8", hose connection 14 mm (prov. by customer:)
Supply connection 3 (compressed air)	6 - 10 bar (110 l / min.)
Rinse water drain connection	3/4", hose connection 25 mm with integrated pump out system
Exhaust connection	Ø 160 mm, exhaust capacity 200 to 300m ³ / h
Footprint	1.820 x 1.150 mm
Operating noise	59 dB (A)
Empty weight	460 kg

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



Front view:
with optional status
light

