

AF20

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 (31.8" • 17.1" • 20.4")

Part number: 090020-AF

CLEANING TECHNOLOGY

Made in Germany

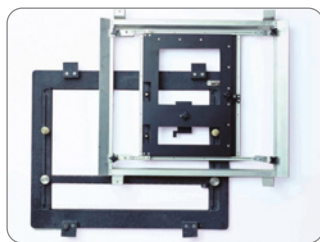


Certifications:

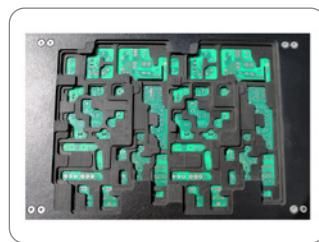
This system in its basic version was certified for its energy and water saving processing, for easy operability and for the standard integration of comprehensive safety features.

- * Fully automatic process: Cleaning - rinsing - drying
- * Short cycle times
- * Loading and unloading in an empty process chamber (no contact to detergent)
- * Processes 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

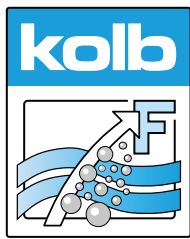


Machinery parts

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
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

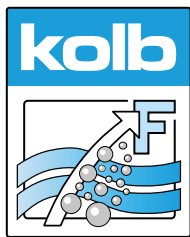
Cleaning (key process 1): The process chamber is empty during the loading (no contact to the detergent). After placing the goods to be cleaned into the chamber it is pressure flooded with fine filtered cleaning fluid from a separate tank A (TA) through a PLC-controlled AirFlow® process. The AirFlow® 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 B (TB). 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 (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 °C (104 - 113 °F).

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 re-dosage unit with space for a 25 liter detergent container and an optional re-dosing unit for a 5 l additive container.

* 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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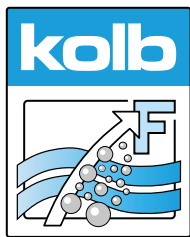


Main standard features

- ☐ AirFlow® technology bundle: Two magnetically coupled S-Power pump units, immersion / compressed air configuration
- ☐ Programmable Logic Controller (PLC)
- ☐ High resolution 7" (1,024 x 600 px) display with capacitive multi-touch and intuitive process view)
- ☐ 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 °C / (104 - 113 °F)
- ☐ Fine filter the cleaning circuit / cleaning tank A (TA)
- ☐ Fine filter the rinsing circuit / rinsing tank B (TB)
- ☐ ClosedLoop reprocessing of cleaning and rinsing fluids
- ☐ Automatic re-dosage unit for 25 l detergent container
- ☐ Automatic exchange unit for rinse water with pump out unit
- ☐ Chamber exhaust system with extraction control
- ☐ 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
- ☐ Process sections made of electrolysis resistant elements

Main options

- ☐ Automatic re-dosage unit for 5 l additive container
- ☐ Heater for tank A (cleaning)
- ☐ Remote control (browser-based control / monitoring via mobile device or PC)



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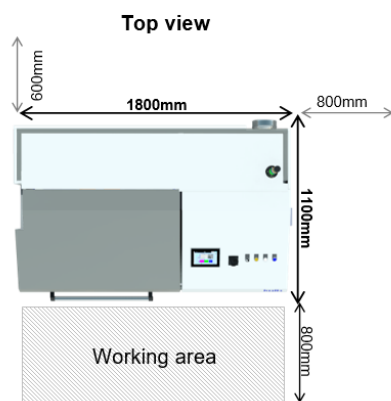
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Technical data

Technology base	kolb AirFlow®
Usable chamber dimensions	W 810 ▪ D 435 ▪ H 520 mm (31.8" ▪ 17.1" ▪ 20.4")
Volume tank A (cleaning), tank B (rinsing)	225 l each
Power supply	400 V AC, 16 A, CEE plug / 3 Ph / 50 or 60 Hz
Power consumption	3 kW
Control system	PLC
Filter system	up to three stages - 1. Full flow coarse filter < 2 mm (0.08"), 2. Skimmer coarse filter, 3. Fine filter 20" / 100 - 50 - 10 µm in the circuits
Temperature load	up to 50 °C (122 °F)
Supply connection 1 (tap water)	connection for 1" hose
Supply connection 2 (compressed air)	6 - 10 bar (87 - 145 psi) - 110 l / min, connection for 12 mm (0.47") 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 > 450 m³ / h (15,980 ft³ / h)
Footprint	1,800 x 1,100 mm (70.86" x 43.3")
Operating condition room temperature	20 - 35 °C (68 - 95 °F)
Operating noise	59 dB (A)
Empty weight	460 kg (1,014 lbs)

Dimensions and Space requirement



• Recommended maintenance area

Front view

