

AF60

Volume maintenance cleaner



Fully automatic one chamber dipping system for maintenance cleaning with AirFlow® technology. For the mass cleaning of condensation traps of virtually all manufacturers as well as carriers / masks from condensate, flux, oil, dust, grease and many more.

Part No 090560-AF

The situation:

In electronic manufacturing clean production tools are the basic requirement for high quality production standards. Condensation filters e.g. from reflow-soldering machines have to be cleaned on a regular basis to ensure their functionality with the necessary quality. Up-to-date reflow-soldering systems as well as solar process ovens very often have flux management systems (cooling unit, filters, heat exchangers, containers / plates) which during operation will be subject to contamination (flux / colofonium). Regular thorough cleaning secures their proper functioning.

The advantages of AF60:

- Easy loading into a fitted washing basket.
- Loading and unloading in an empty process chamber.
- Usable chamber dimensions: W 770 mms x D 1030 mms x H 600 mms.
- High cleaning efficiency, short cycle times.
- External cleaning of oven tubings possible.
- Fully automatic process: cleaning - rinsing - drying
- Cleaning circulation with separate fine skimmer-filtering (standard).
- Rinsing circulation with separate fine skimmer-filtering (standard).
- Maintenance and operation events PLC controlled and displayed.
- Rugged casing made of stainless steel.
- Process relevant sections are made of electrolysis resistant elements.
- Simple and quick maintenance.
- Control unit in a separate switching cabinet.
- PLC control and monitoring of cleaning process and maintenance intervals.
- Filter pressure controlled by PLC and pressure differential display.
- Security shut-down with open cleaning module.
- External 1000 l IBC releasing containers for cleaning and rinsing fluid.
- Re-dosage directly from the IBC container.
- Certified for solar cell production.

General maintenance AF60:

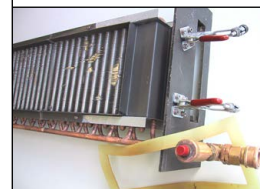
- Detergent change according to requirement / usage frequency.
- Cleaning of coarse filter, fine filter change.
- **Cleaning only with detergents certified by the manufacturer!!**



Rehm filters



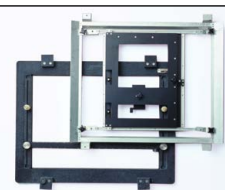
ERSA



Soltec



Solder masks

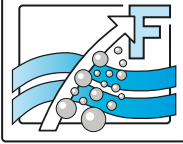


Solder carriers

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AF60 - Volume maintenance cleaner

Process chamber



Loading



Control unit



Drying



Filter system



Function*

In the fully automatic kolb AF60 dipping system the goods are cleaned, rinsed and dried in one single process chamber, which is empty during the loading (no contact to the detergent). The filters are loaded into a washing basket in lifted into the chamber with a crane. The cleaning chamber is pressure flooded with fine filtered cleaning fluid from a separate releasing container (tank A, 1000 l IBC container) in a PLC-controlled process. After the goods are cleaned with the successful AirFlow®-technology, the likewise within the ClosedLoop unit filtered rinsing media, e.g. water, is pumped into the process chamber from another 1000 l IBC tank (tank B). After the goods are pressure rinsed and the rinse media is pumped out they will be dried with a 3-fold HotSpeed warm air dryer unit, integrated in the covering cap of the system.

Options / accessories

- Status light for the different process stages.
- Exhaust control with motor driven automatic flap valve to prevent high consumption.
- Reservoir.
- Automatic additive re-dosage for tank A and Tank B.
- Connection with sewage treatment system possible / pre-installed.

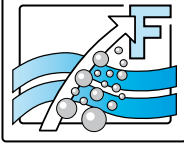
Technical data

Power supply / power consumption	:	400 V AC, 16 A CEE; 50 / 60 Hz ca. 6,3 kW
Minimum ambient temperature	:	app. 20° C
Noise emission	:	< 59 dB (A)
Compressed air connection	:	ca. 6-10 bar, 260 l / min.
Weight	:	app. 780 kg (empty), 1500 kg (filled)
Contents process chamber	:	600 l
Usable chamber dimensions	:	W 770 mm x D 1030 mm x H 600 mm
Usable basket dimensions	:	W 705 mm x D 915 mm x H 510 mm
Maximum space required	:	W 940 mm • D 2600 mm (incl. connections) • H 1620 mm, 1920 mm (incl. status light)
Exhaust connection (prov. by customer)	:	160 mms Ø, 200 / 300 m³ per hour.

Certifications:

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





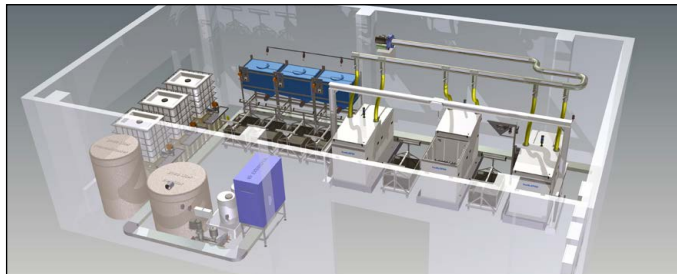
Wash centers for maintenance cleaning

High capacities in mass production in the electronics industry are usually associated with a high need for maintenance cleaning. Thus, large amounts of condensate filters need to be cleaned from the reflow ovens regularly. This cleaning should be efficient and thorough, so that the tools are available again quickly and work flawlessly.

For these requirements, **kolb** Cleaning Technology designs and manufactures as general contractor complete washing centers that comply with the latest technical state of the art and can deliver extremely high throughput quantities.

Generally maintenance cleaning consumes enormous amounts of rinse water. Aside from the fact that **kolb** batch systems, compared to the competition, convince with the lowest waste water consumption, **kolb** also offers with integration of vacuum evaporation equipment so called ZW (ZeroWater) washing centers on request which operate without any fresh water consumption.

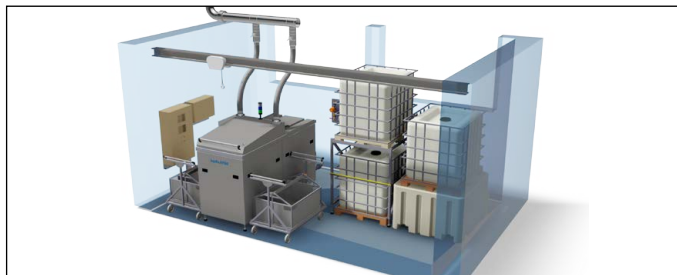
Example configuration of a ZW wash center (built for Siemens electronics plant, Amberg, Germany) :
Three fully automatic **kolb** AF60 systems with separate control units (right), three storage tanks (blue) for rinse water, three storage tanks (white, left) for cleaning detergent and Vacudest evaporator (blue, front) for the complete recycling of rinse water.



Wash centers with ZeroWater technology

In washing centers with ZeroWater technology vacuum evaporators are used, utilizing the principle of separation of substances with different boiling points. For this, the used rinse water is evaporated, and substances with a higher boiling point such as heavy metals, salts as well as oils, fats or surfactants remain. The rising steam then is almost free from any contamination and, after its condensation, in a closed circuit flows back into the cleaning process as clean rinse water.

Example configuration (for single unit):
Fully automatic **kolb** AF60 system with separate control unit (right), storage tank (top right) for cleaning detergent, safety reservoir (bottom right), storage tank (center, above) for rinse water disposal tank (bottom center) for spent rinse water. (The rinse water is recycled in the ClosedLoop system of the installation and reused many times before it is spent and must be changed.)



The main advantages of piston wash centers for maintenance cleaning:

- High throughput and rapid re-use of the cleaned parts.
- Easy exchange of the spent cleaning mixture by simple container replacement (standard IBC containers).
- Lower water consumption compared with maintenance cleaning systems of comparable capacity.
- Significantly less operating costs compared with maintenance cleaning systems of comparable capacity.
- Construction of wash centers without any fresh water consumption (ZeroWater systems) on request.
- Hardware connections and software interfaces to other **kolb** cleaning systems possible.
- The complete installation from one source.

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