

AF09 4Mod

Three-module universal cleaning system for maintenance cleaning with AirFlow®- and PulseFlow®-Technology. Cleans flux management units as well as external cyclones / containers and tubings, solder masks / solder carriers from flux residue, condensate, oil, dust, grease etc.

Part No. 090509-AF-4M

Universal maintenance cleaning



Picture shows AF09 3Mod

The situation

Clean production tools in the electronics producing industry are vital to achieve the highest possible production quality. Manual cleaning cannot achieve this high standard. Modern reflow-systems are equipped with flux management units (cooling units, filters, heat exchangers, filter panels) which in production are subject to contamination (flux, colophonium). Thorough cleaning helps to re-gain their proper functionality. With the latest PulseFlow®-Technology it is also possible in the AF09 4M to clean and rinse external cyclones / containers and tubings. In the internal process tank with AirFlow®-Technology all further maintenance cleaning tasks can be executed.

The advantages of AF09 4M

- Plug & Work System (connect, fill, start).
- High cleaning efficiency.
- Short cycle times (15 / 30 / 45 minutes, cycle times freely selectable via PLC).
- No explosion protected area necessary.
- Cleaning module 1.
- 2-stage cleaning detergent making rinsing and drying obsolete.
- Cleaning module 2 (for different products / different detergent).
- Rinse module for rinsing with water.
- Drier module with 4-way HotSpeed unit.
- Skimmer filtration with pre-installed exhaust.
- Permanent 3-stage filtration.
- Robust stainless steel framework.
- Process chambers made of PVC, i.e. no electrolysis possible at weld seams.
- Integrated retention pond for external cleaning or adapter storage.
- Security shut-down with open cleaning module 1.

The Service- and security features of AF09 4M

- PLC control and monitoring of cleaning process and maintenance intervals.
- Filter pressure control by PLC.
- Emergency reset switch, full CE-conformity.
- Automatic shut-down with open cleaning module 1.

The general maintenance of AF09 4M

- Change of the saturated cleaning detergent mixture as per individual requirements.
- Cleaning of coarse filter, change of fine filters.

Operation only with qualified 2-stage cleaning detergents in cleaning module 1!



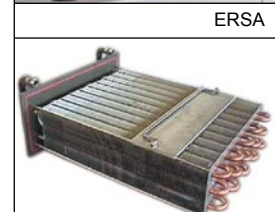
Soltec



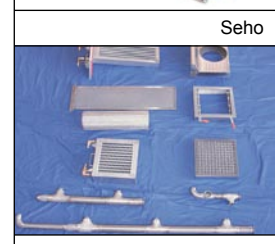
Cyclones V8, rehm



ERSA



Seho

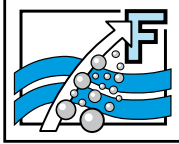


rehm

Applications

W. Kolb Fertigungstechnik GmbH
 Karl-Arnold-Str. 12 · D - 47877 Willich
 Further information: www.kolb-ct.com

Tel. +49 (0) 2154 9479 - 38
 Fax +49 (0) 2154 9479 - 47
 e-mail info@kolb-ct.com



AF09 4Mod

Cleaning 1



Cleaning 2



Rinsing



Drying



Crane system



The working principle*

The kolb AF09 4M 4-chamber cleaning system consists of an independent AirFlow® cleaning module with integrated PulseFlow®-Technology for the external cleaning and rinsing loop, a cleaning module 2 as well as a rinse chamber and a dryer chamber. Parts to be cleaned (cooling units, filters, plates, carriers) are positioned on the immersion basket on top of the heavy-duty air system of the AirFlow® module. The immersion basket will be submerged into the cleaning detergent. The goods in the detergent will be cleaned with the AirFlow®-Technology during the pre-set cycle time. Filtration: The removed contamination ascending to the surface by the air flow will be directed to the skimmer filtration and via a 3- stage loop- filtration (coarse filter >1mm, filter 1 >100 µm, filter 2 >25 µm) where they will be filtered out. The rinse water in the module 2 will also be filtered. The saturation of the filter stages will be controlled and indicated via PLC. 3 different cycle times (factory preset 15 / 30 / 45 min.) can be freely programmed in the PLC. After the end of the cleaning cycle the products will be rinsed in the rinse chamber and dried in the dryer chamber with the 4-way HotSpeed unit.

External cleaning of cyclones/ containers and tubings: The integrated PulseFlow®-unit uses with PLC controlled valves and PulseFlow®-Technology the detergent contents of the AirFlow®-unit of cleaning module 1 for external cleaning and rinsing with the same detergent.

AF09 4M has the following elements

- Modul 1: Cleaning chamber 1 base module incl. external cleaning and rinsing loop as well as
 Element AeR: Connection set for the external rinsing / cleaning of containers and tubings
 Element AaR: Adaptor connection for AeR Typ rehm
 Upon request: Adaptor connections for Seho, Ersa, Soltec, BTU etc.
- Modul 2: Cleaning chamber 2 (for different products or a different detergent)
 Modul 3: Rinse chamber permanent filtration loop and automatic water change with pump-out unit
 Modul 4: Dryer chamber with 4-way HotSpeed unit

Technical data

Main power supply	:	400 V AC, 16 A kolb AF08 modular series CEE; 50 / 60 Hz
Power dissipation	:	approx. 5,5 kW
Ambient temperature (min)	:	approx. 20°C
Noise	:	< 65 dB (A)
Compressed air supply	:	approx. 6-10 bar, 110 / l min
System weight	:	approx. 910 kg (empty), 1570 kg (filled)
Contents	:	M1 approx. 220 l, M2+M3 approx. 320L each
Max. product size	:	900 mm x 450 mm x 310 - 610 mm (L x B x H)
System dimension :	:	L: 2.600mm, W: 1.250mm, H: 1.000mm, H over all: 1700 mm

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 Further information: www.kolb-ct.com

Tel. +49 (0) 2154 9479 - 38
 Fax +49 (0) 2154 9479 - 47
 e-mail info@kolb-ct.com

*Patent technology. All rights for changes reserved that lead to technical improvement.