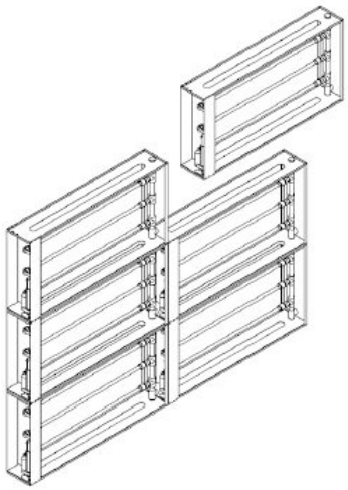
expansion® electronic

BETTER AIR FOR A BETTER QUALITY OF LIFE

ESP AUTOWASH SYSTEM



DESCRIPTION

ESP AUTOWASH SYSTEM is an automatic washing system designed for **Expansion Electronic Active Electrostatic Filters**, suitable for professional and industrial applications.

The modular aluminum system is installed inside air handling units upstream of the electrostatic filters. The distance between the AUTOWASH system and the electrostatic filter bank must be at least 25 cm to ensure proper system operation.

ESP AUTOWASH SYSTEM is equipped with **nozzles** featuring a 90° oscillating tilting movement generated by a **fixed-stroke linear motor powered** at low voltage with a 25% work-pause duty cycle **(optimized washing cycle).**

The system is developed to ensure operational continuity, **simplified regular maintenance**, long-term reliability, and **high washing process quality**, even in intensive-use environments.

ESP AUTOWASH SYSTEM is suitable for washing **from 1 to 5 filters per row** and **can be vertically configured** depending on the air handling unit where it is installed (If the number of filters exceeds 5 per row, multiple AUTOWASH modules will be required to cover the entire filter section).

The automatic washing system is currently available for **model 600 filters or model 300/300RV filters.**

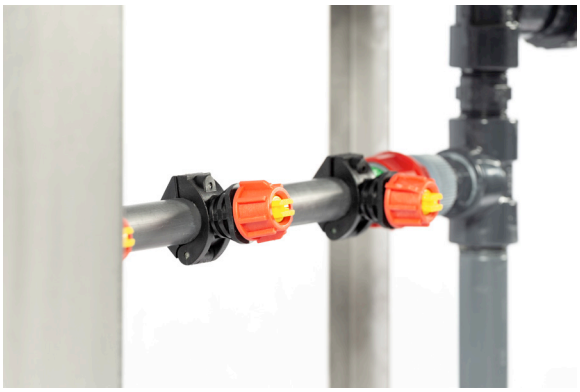
The AUTOWASH system, serving each filter row, is equipped with a dedicated **solenoid valve** to individually control the water supply, allowing washing of a single row independently.

ESP AUTOWASH SYSTEM is supplied with an **electrical control panel** powered at 220-240V single-phase 50Hz or 380-400V three-phase + neutral 50Hz (60Hz available upon request). Ground connection is mandatory.

All hydraulic and electrical works related to the AUTOWASH system are the responsibility of the customer.

Mandatory equipment for ESP AUTOWASH SYSTEM operation

Modular aluminum mechanical structure with washing ramps



Basic hydraulic component

Detergent container **A01212**

Detergent container **B01212**

Peristaltic pump for detergent injection with control panel

Solenoid valve

Main functions managed by supplied electrical panel with dedicated PLC

- Management signal for shutdown of the fan and electrostatic filters.
- Automatic washing command via weekly/annual timer scheduling.
- Water presence control on the main supply line and/or associated pump, with BMS alarm notification in case of no water or low pressure.
- Control and adjustment of detergent injection on the washing water supply line via peristaltic pumps.
- Control of nozzle movement during the detergent phase.
- Control of pause times to allow proper detergent action.
- Control of nozzle movement during the rinsing phase.
- Control of washing cycle repetitions, indication of operating hours, and total number of washing cycles performed.

Important notes for correct application of ESP AUTOWASH SYSTEM

- The internal surfaces of air handling units housing the AUTOWASH system must be made of stainless steel.
- Air handling units must be equipped with a condensate/water collection tank.
- Electrostatic filters installed in air handling units with AUTOWASH system must be purchased in "MARINE" version (manufactured with specific certified aluminum suitable for high humidity and condensation environments).
- In air handling units with AUTOWASH system, installation of droplet separators downstream of the electrostatic filters is recommended.
- The hydraulic supply line must meet the following requirements:

Water flow rate and pressure: minimum 21–36 l/min at 3–5 bar
Water consumption:

1 Filter	2 Filters	3 Filters	4 Filters	5 Filters	Pressure 3 bar
7,2 l/min	14,4 l/min	21,6 l/min	28,8 l/min	36 l/min	
432 l/h	864 l/h	1296 l/h	1728 l/h	2160 l/h	

1 Filter	2 Filters	3 Filters	4 Filters	5 Filters	Pressure 4 bar
8,3 l/min	16,6 l/min	24,9 l/min	33,2 l/min	41,5 l/min	

1 Filter	2 Filters	3 Filters	4 Filters	5 Filters	Pressure 5 bar
9,3 l/min	18,6 l/min	27,9 l/min	37,2 l/min	46,5 l/min	

If the mains water supply does not provide sufficient flow and pressure to feed the AUTOWASH row, the system must be equipped with a storage tank and booster pump.
Upon request, components for primary treatment of washing liquids are also available, including pumping against slope up to sewer discharge.

COMPANY CERTIFICATIONS

ILH BERLIN INSTITUT FÜR LUFTHYGIENE · BSRIA · CETIAT ensemble, innover et valider · Consiglio Nazionale delle Ricerche · SP · POLITECNICO DI TORINO · IRAM Instituto Argentino de Normalización y Certificación · CE · ISO 16890 · c UL us LISTED

expansion® electronic
BETTER AIR FOR A BETTER QUALITY OF LIFE

EXPANSION ELECTRONIC SRL
Via delle Industrie, 18 . 36050 Cartigliano (VI) . ITALY
T. +39 0424 592400 . +39 0424 827058 . +39 0424 827059 . F. +39 0424 827061
www.expansion-electronic.com . info@expansion-electronic.com