

Systems for air depuration and treatment



ELECTROSTATIC LINE

EF VOL

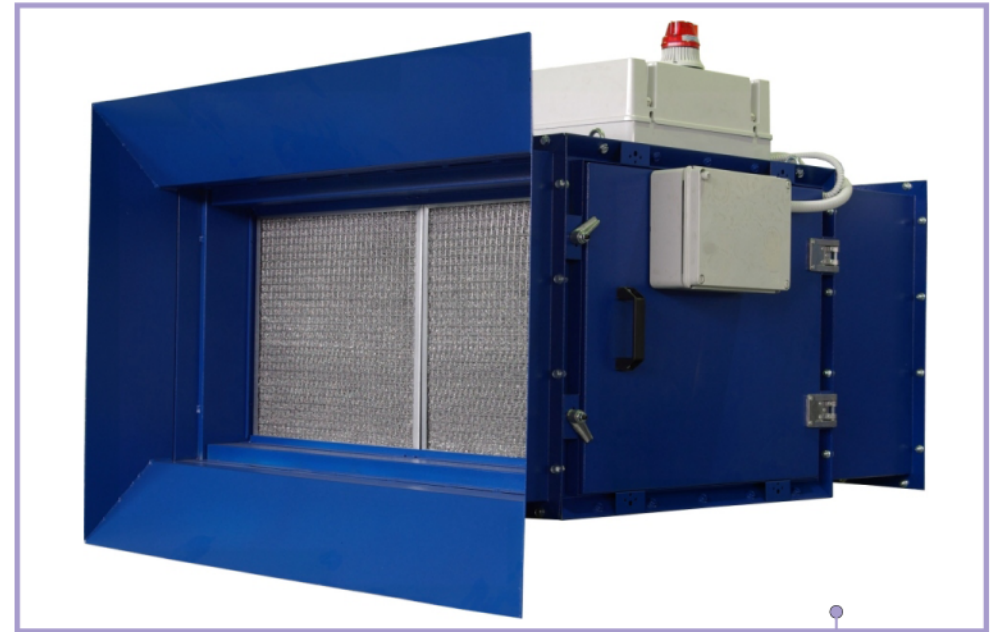


Presentation

CORAL electrostatic filters “EF - VOL” are designed for providing a free electrostatic air filtration, so without the installation of a suction system. If an industrial area is affected by a problem of generalised pollution, that affects the entire structure or a considerable part of it, it is both technically and economically convenient intervening with a filtration that covers the volume of the entire polluted area (from this derives the name of the model).

If it is not possible installing capillary filtration systems or if it is necessary improving the efficiency of a centralized system, the use of “EF - VOL” filters becomes indispensable.

Those filters are suitable for pollutants like welding fumes, processing fumes, powder and oil mists of various origins.



FILTEREF 20VOL [HORIZONTAL]

P R E S E N T A T I O N



Product

“EF-VOL” electrostatic filters are constructed with a strong structure of bent sheet metal, suitable for the suspended installation; the height from the ground can vary, according to the consistency and the density of the pollutants, from 3 to 5 meters. The units are equipped with a conveyor (for the air inlet); a suction fan with baffles for the correct addressing of air in outlet; a control panel separated from the unit for an easy installation of the unit into the structure; an electric panel placed on the machine with a red light that signals the anomalies (well visible also from a big distance).

The height from the ground for the installation of the volumetric should be calculated according to the type of pollutant and the structure of the building.



Features

Electrostatic filters ensure the purification of the air from polluting elements like fumes, dusts, oil mists, welding and processing fumes. Those pollutants can have granulometry with values that vary from 10 to 0,01 micron. The flow resistance of the electrostatic filter can vary from 40 Pascal (filter clean) to 80 Pascal (filter dirty). The concentration of the pollutant can be up to 50 mg/m. the temperature of the fluid must not exceed 60°C and the relative humidity can vary from 20% to 99%.



collecting Cell

Ionising Cell

Metallic Pre-Filter

Functioning

The air, that contains the polluting particles, is attracted on the filtration system by the suction fan; passing through the ionising section, the particles are charged with unipolar electricity (thanks to the tungsten wires fed with 10 kV direct current suspended between electrodes connected to the ground). In the following collecting section (composed by pure

aluminium plates fed with 5kV current, alternated with plates connected to the ground) the particles are repelled by the plates fed to the plates connected to the ground. Those last plates have the function to catch the polluting particles present in the fluid. The polluting particles kept in the filter must be periodically removed with simple maintenance operations.

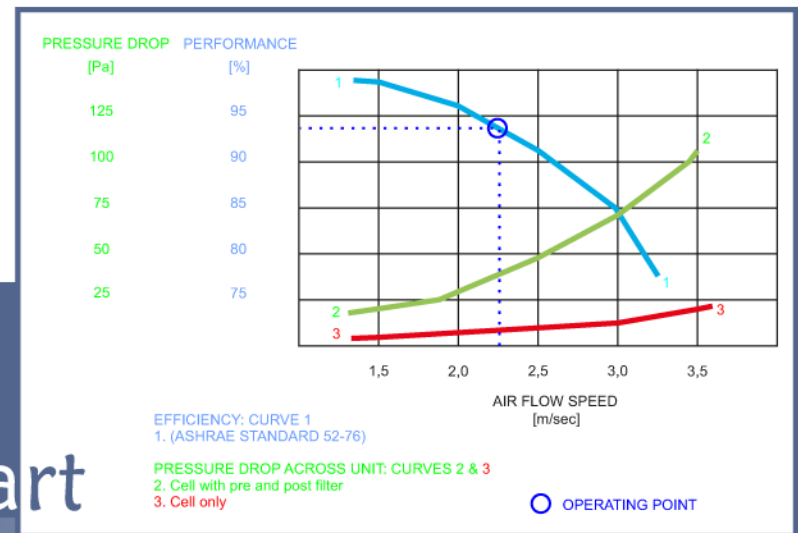


Chart efficiency

Monitoring System

The CORAL Monitoring System (AMS) is an electronic device of control and can be provided in two different versions for the models EF VOL:

- AMS Local: each single machine has its own AMS alphanumeric;
- AMS Centralized: there is a centralized touch screen with all the graphic monitoring functions for more than one machines.

A.M.S. Local

CORAL Monitoring System (AMS) Local is an electronic device of control and check, provided with the EF VOL. The AMS Local is composed by a principal printed circuit in which there are the CPU, the input stages and the output drivers. On this circuit there are also the control buttons and the LCD display. Thanks to a microprocessor, the AMS Local

disposes of smart function as the determination of the efficiency state of the collecting cell, that is the cell subject to maintenance. It also allows to check all the function of the device.



A.M.S. Centralized

CORAL Monitoring System (AMS) Centralized in the basic version is composed by a device with a display, that controls and shows all the principal working parameters.

In the more complete versions, the AMS is composed by a touch screen check and control panel. This panel can be assembled in local or in remote. The data transmission can be made by

Ethernet or wireless.

Thanks to a microprocessor, the AMS disposes of smart function as the determination of the efficiency state of the collecting cell, signalling the cadence of the maintenance.

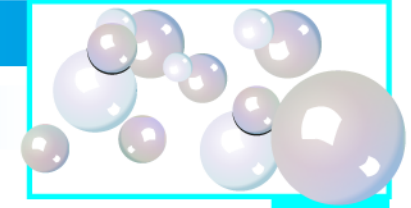
It also allows to check all the functions of the device with the graphic display of the alarm events, recording the list.



A.M.S.

VOLTAGE CONTROL
FILTERS AUTONOMY
TYPE OF POLLUTION
H.V. BOARD TEMPERATURE
REPORTING ANOMALIES

Self-washing Version

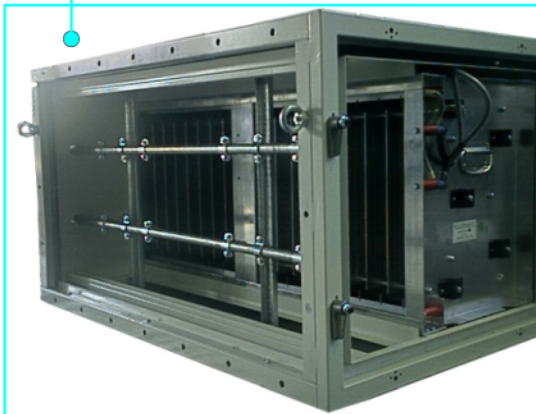


The “EF VOL” filters version “AUTOLAV” are equipped with several fixed nozzles, placed in front of the electrostatic cells that, when the machine is not working, carry out the cleaning operations. The washing cycle is carried out by the washing unit (external), through pipelines that feed the relative nozzles. For the drying, it is utilized the air flow generated by the suction fan. The system is controlled by a PLC.

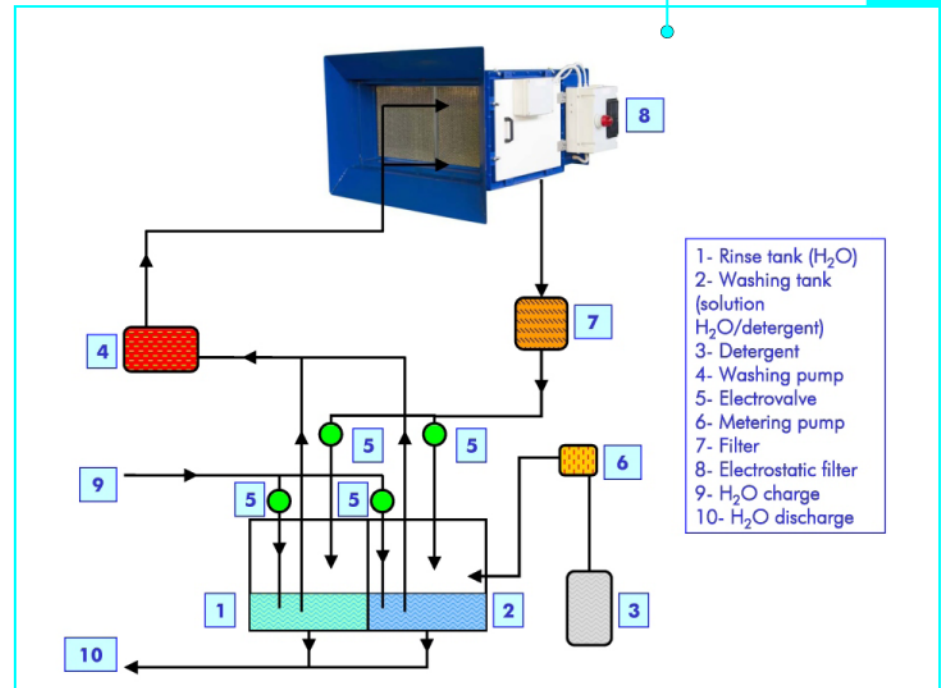
E F - V O L - S E L F - W A S H I N G

Washing Unit

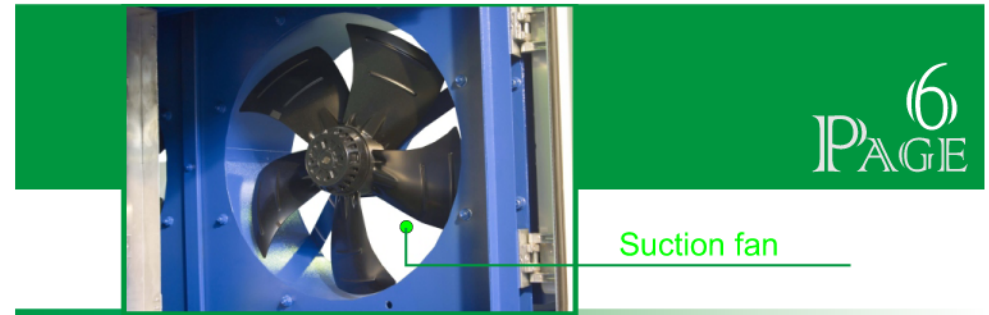
Electrostatic Cell with Nozzles



FUNCTIONING DIAGRAM



Models



Details



Technical data

| MODEL | CAPACITY m ³ /h | ELECTROSTATIC | | | PRESSIONE Pascal | WEIGHT Kg | ACUSTIC | |
|--------------------|-------------------------------|-----------------|-------------|-------------|---------------------|--------------|-------------------|-----------------|
| | | PREFILTER N. | CELLS N. | POWER kW | | | PRESSURE db(A) | TENSION Volt |
| EF 10 VOL | 2.500 | 1 | 1 | 0,25 | 200 | 105 | 70 | 220 1PH - 50 HZ |
| EF 20 VOL (VERT) | 5.000 | 2 | 2 | 0,50 | 200 | 210 | 72 | 220 1PH - 50 HZ |
| EF 20 VOL (ORIZZ.) | 5.000 | 2 | 2 | 0,50 | 200 | 210 | 72 | 220 1PH - 50 HZ |
| EF 40 VOL | 10.000 | 4 | 4 | 0,55 | 200 | 400 | 73 | 220 1PH - 50 HZ |
| EF 40 VOL | 10.000 | 4 | 4 | 0,55 | 200 | 400 | 73 | 400 3PH - 50 HZ |

The functionality, the simplicity of use and the efficiency are basic features for CORAL. The care of the detail and the continuous technical updating, addressed to the research of the perfecting, are the fulcrum of CORAL method.

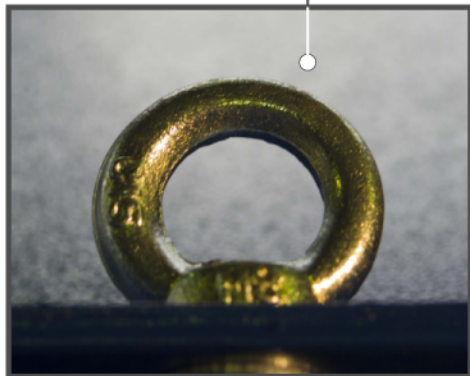
Installation

For a correct installation, the filter should be placed at an height of 3-5 meters from the ground, according to the dimensions of the space to purify. The “EF VOL” filter can be anchored in two different ways:

- with eyebolts: the filter can be anchored to the ceiling with the eyebolts present (mass produced) on the superior part of the filter;
- with a flask: if the filter is close to a wall, it can be anchored to the wall with the flask placed (mass produced) on the back of the filter

DETAILS FOR THE INSTALLATION

Eyebolt
for anchorage

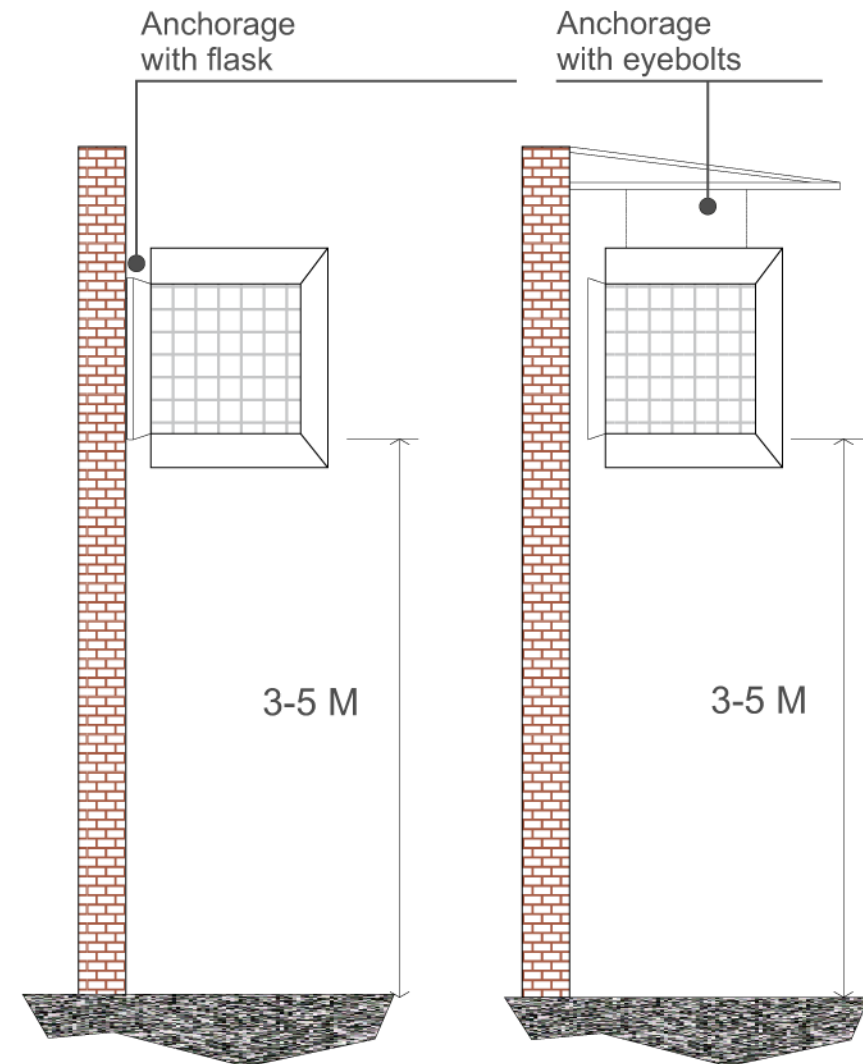


Flask
for anchorage



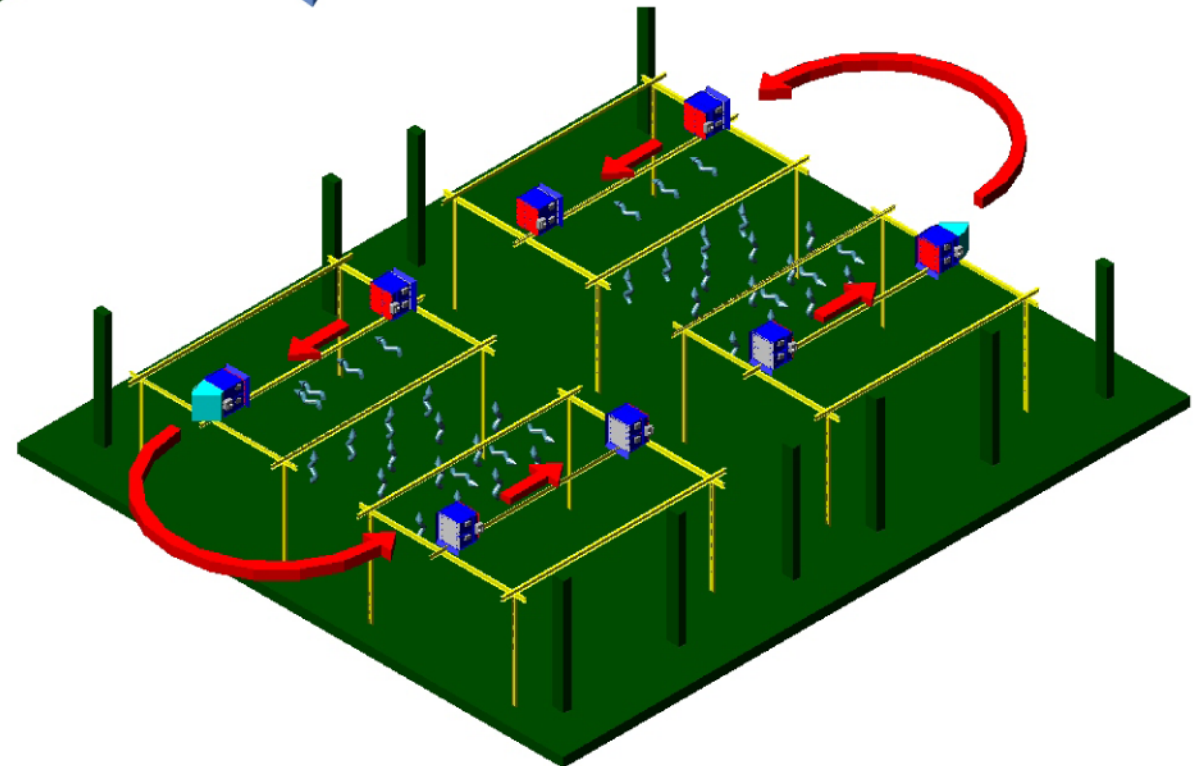
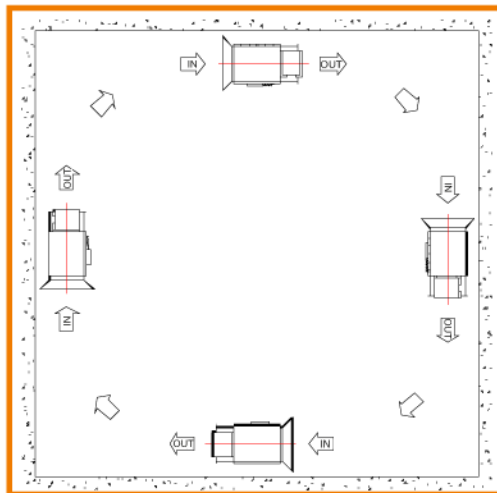
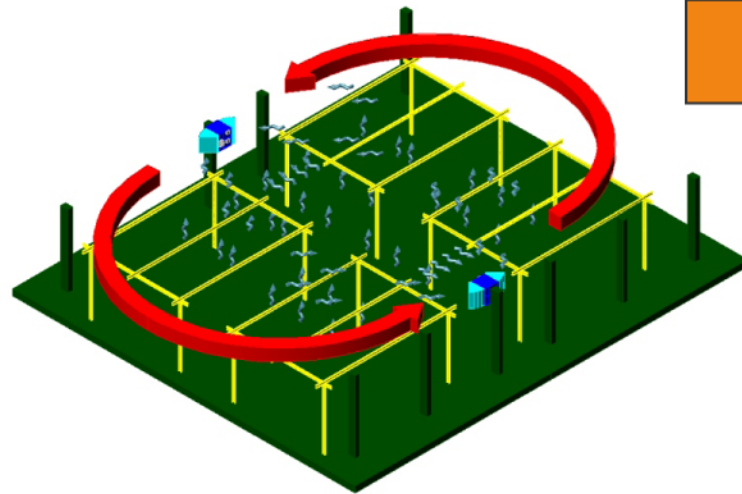
INSTALLATION

EXAMPLES



Examples & Installations

In the case of installation of more than one EF VOL unities, they must be placed creating a "RING" air circulation.



Examples & Installations



EF - VOL

Examples & Installations

