FE-H

Electrostatic filters

PATENTED

Product	FE-H
Frame	Lightweight aluminium, fully recyclable
Power supply	230 Volt 50-60 Hz

SPECIFICATIONS

Electrostatic filter cell, model FE-H, built with aluminium frame, ionizing section and collector cell in aluminium monobloc configuration, electronics with internal voltage booster and operating indicator.

FUNCTIONS

Thanks to their standardized dimensions in compliance with the dimensional characteristics of traditional filter pockets and the watertight integrated electronic circuit, they guarantee perfect interchangeability with pocket modules and flat filters with standard sizes that require costly and continuous replacements.

APPLICATIONS

Electrostatic filters are used in civil and industrial systems where very high efficiency is required for medium-fine pollutants (←1 µm). Excellent solution against outdoor pollution from PM10, PM2.5 and PM1, as well as being an excellent protection for heat exchange coils and air distribution ducts from atmospheric pollutant contamination.

TECHNICAL FEATURES

Class EN779	F7
Initial pressure drop (Pa)	120
Operating temperature (°C)	50
Maximum operating relative humidity (%)	70

FILTER MATERIAL

Regenerability	Yes
Class UNI 11254	A
Class EN 1822	E12
Initial pressure drop (Pa)	24
ILH Efficiency on 0.4µm A	99,60
Fine dust limit value (g)	600
Limit temperature value (°C)	60
Relative humidity (%)	90

INSTALLATION

Electrostatic filter installation offers numerous alternatives in both civil and industrial fields. With simple operations it is possible to convert a pocket filtration system to an electrostatic filtration system, using the same sliding guides.

MAINTENANCE

This type of filter is fully regenerable, through washing with dedicated detergents that through a chemical reaction detach the particulate from the filter, avoiding costly and continuous replacements.

DISPOSAL

Depending on the type of use and the filtered pollutant, the washing liquid (water-soluble detergent) can be disposed of through normal channels and/or retained in dedicated containers to be delivered to specialized disposal companies.

DIMENSIONS

WxHxD	Flow rate air	Pressure drop initial	Wt.	Class of filtration	Efficiency ILH Particles ≥0,4 µm	Power supply electrical	Power electrical
mm	m^3/h	Pa	kg	UNI 11254	%	Volt/Hz	Watt
592 x 592 x 218	1300	24	19	A	99,60	230/50-60	16
	1700	42	19	B	99,50	230/50-60	16
	2100	60	19	C	98,40	230/50-60	16
	2550	87	19	D	97,30	230/50-60	16
	3360	149	19	-	93,20	230/50-60	16
287 x 592 x 218	600	24	10	A	99,60	230/50-60	9
	800	42	10	B	99,50	230/50-60	9
	1000	60	10	C	98,40	230/50-60	9
	1200	87	10	D	97,30	230/50-60	9
	1600	149	10	-	93,20	230/50-60	9

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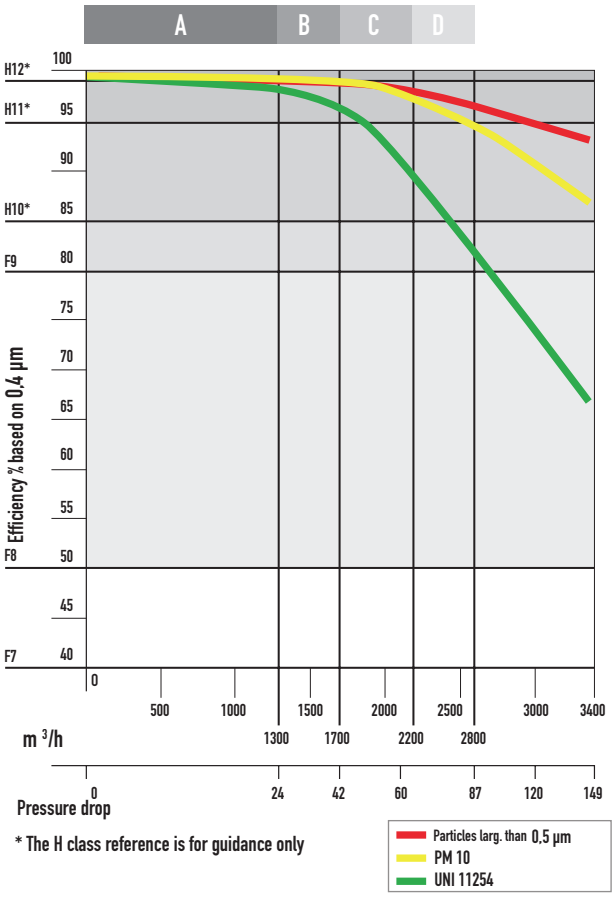
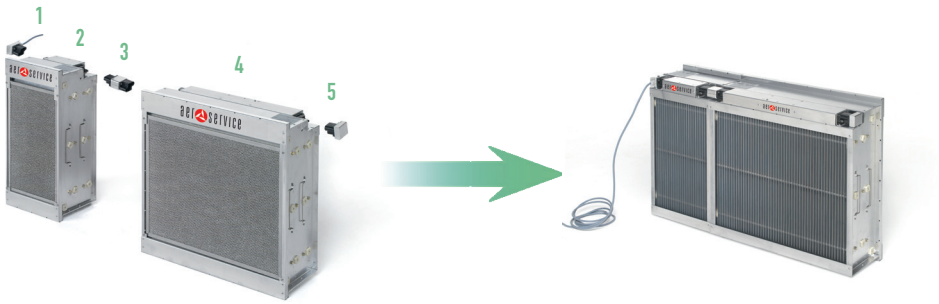
CLASSIFICATION ACCORDING TO UNI 11254

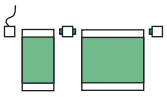
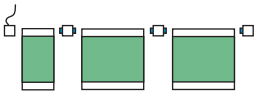
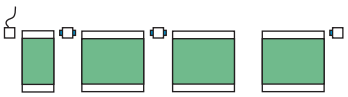
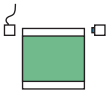
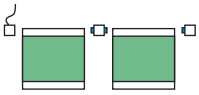
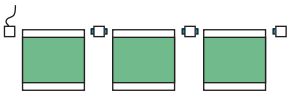
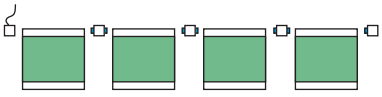


APPLICATION EXAMPLES: FILTER COMBINATIONS WITH RELATED CONNECTORS



LEGEND

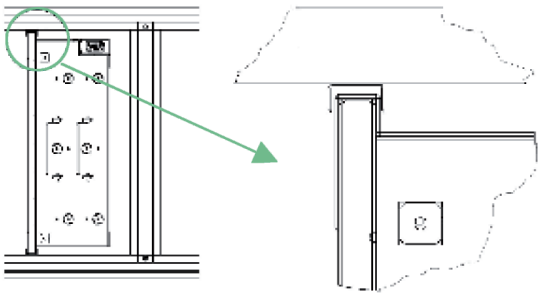
1 Power supply connector
2 Filter FE-H 287 x 592 x 218
3 Junction connector
4 Filter FE-H 595 x 592 x 218
5 Terminal connector

Composition example front section (not applicable in battery) and related technical characteristics efficiency mm	FE-H 287 x 592 x 218	FE-H 592 x 592 x 218	I	II	V	Flow rate air m^3/h	Pressure drop initial Pa	Class di filtration UNI 11254	Efficiency ILH Particles ≥0,5µm %
	1	-	1	1	-	650	24	A	99,60
	1	-	1	1	-	850	42	B	99,50
	1	-	1	1	-	1100	60	C	98,40
	1	-	1	1	-	1300	87	D	97,30
	1	-	1	1	-	1600	149	-	93,20
	1	1	1	1	1	1950	24	A	99,60
	1	1	1	1	1	2550	42	B	99,50
	1	1	1	1	1	3300	60	C	98,40
	1	1	1	1	1	3900	87	D	97,30
	1	1	1	1	1	5000	149	-	93,20
	1	2	1	1	2	3250	24	A	99,60
	1	2	1	1	2	4250	42	B	99,50
	1	2	1	1	2	5500	60	C	98,40
	1	2	1	1	2	6500	87	D	97,30
	1	2	1	1	2	8400	149	-	93,20
	1	3	1	1	3	4550	24	A	99,60
	1	3	1	1	3	5950	42	B	99,50
	1	3	1	1	3	7700	60	C	98,40
	1	3	1	1	3	9100	87	D	97,30
	1	3	1	1	3	11800	149	-	93,20
	-	1	1	1	-	1300	24	A	99,60
	-	1	1	1	-	1700	42	B	99,50
	-	1	1	1	-	2200	60	C	98,40
	-	1	1	1	-	2600	87	D	97,30
	-	1	1	1	-	3400	149	-	93,20
	-	2	1	1	1	2600	24	A	99,60
	-	2	1	1	1	3400	42	B	99,50
	-	2	1	1	1	4400	60	C	98,40
	-	2	1	1	1	5200	87	D	97,30
	-	2	1	1	1	6800	149	-	93,20
	-	3	1	1	2	3900	24	A	99,60
	-	3	1	1	2	5100	42	B	99,50
	-	3	1	1	2	6600	60	C	98,40
	-	3	1	1	2	7800	87	D	97,30
	-	3	1	1	2	10200	149	-	93,20
	-	4	1	1	3	5200	24	A	99,60
	-	4	1	1	3	6800	42	B	99,50
	-	4	1	1	3	8800	60	C	98,40
	-	4	1	1	3	10400	87	D	97,30
	-	4	1	1	3	13600	149	-	93,20

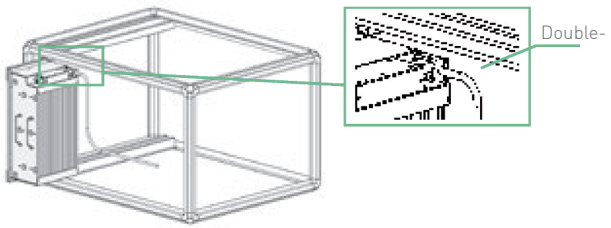
N.B. The filtration efficiency (UNI 11254) can be converted in a purely indicative way according to EN 1822, and therefore analysis of the relevant graph is recommended.

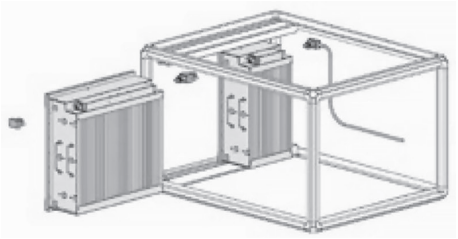
INSTALLATION

For easy installation, a C-profile must be provided to insert the electrostatic filter as shown in the figure; or use the existing one in the case of replacing fabric filters, ensuring perfect sealing.
The electrostatic filter must be powered at 230 volt 50/60 Hz through the dedicated connector (1) CA.
When using more than one filter, a junction connector (2) CG must be used to supply electrical power to the next filter.
In the terminal filter, the CT terminal connector must be provided for electrical protection (3).



1. Insert the power supply connector into an electrostatic cell, remove the adhesive protective film from the back of the power supply connector, clean the bottom and insert the filter into the support frame guides
2. Press the electrostatic cell onto the bottom so that the adhesive allows the power supply connector to remain attached to the back wall
3. Remove the cell leaving the power supply contact attached to the bottom
4. Fix the power supply connector with 4 self-tapping screws or rivets
5. Insert the filters one after another placing the junction connector between two filters
6. Insert the terminal connector at the head of the last filter and fix it mechanically with the supplied screw. This is an additional safety measure to prevent accidental electrical contact.





INSTALLATION ON TWO OR MORE ROWS

If it is necessary to electrically connect two rows of filters, the junction box (4) must be used.
This makes it possible to:

- provide a single electrical power supply
- provide a single filter enable command
- obtain a single alarm signal

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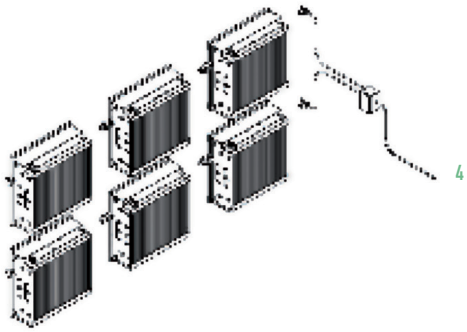
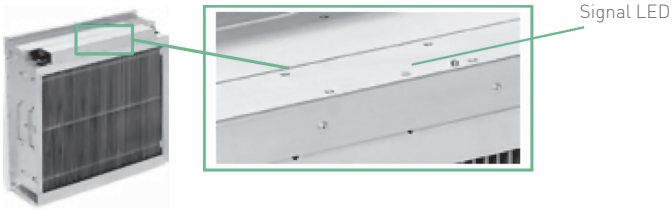


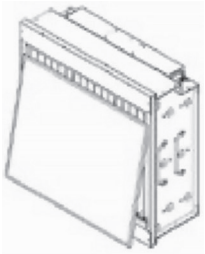
ELECTRONIC CIRCUIT SIGNALLING

The electrostatic filter features a green indicator LED that allows direct visualization of its correct operation on the filter installed in the air handling unit. A steady green LED indicates correct operation, while a flashing LED indicates filter blockage and intervention is required to remove the cause of the blockage.



FILTER MAINTENANCE

To perform correct maintenance, first remove the pre-filter built into the electrostatic cell by lifting it approximately one centimetre and extracting it as shown in the figure.



For washing, obtain the following:

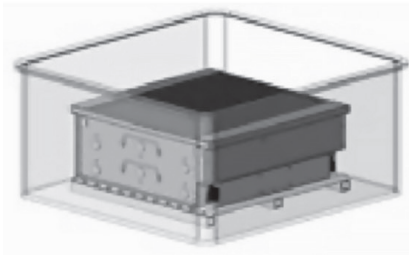
1. a plastic or stainless steel tank with a settling bottom
2. detergent (the one supplied by the machine manufacturer is recommended)
3. protective gloves and goggles
4. suitable clothing
5. running water.

Provide a stainless steel frame that keeps the filters raised from the bottom of the tank to have a sludge settling bottom. Prepare the tank with warm water (maximum 45°C) or cold water depending on the type of detergent being used. Add the detergent diluted according to the proportions indicated on the container label and proceed:

a. immerse the electrostatic cell in the tank
b. soak for the time indicated in the detergent usage instructions or until the dirt is completely dissolved from the cell
c. remove the cell, let it drip over the tank, rinse it thoroughly with running water taking care not to break the ionization

wires

d. Dry the cell keeping it raised from the floor with wooden strips or in a dryer at a maximum temperature of 60°C
e. ensure that the cell is clean and dry, then insert it into its seat according to the instructions on the sticker on the door



Stainless steel frame

N.B. Some alkaline-based detergents may leave residues on the surface of the blades and insulators, residues that cannot be removed with a simple rinse, and which cause voltage losses and therefore efficiency losses of the electrostatic cell in the presence of ambient humidity even at 50%. To remedy this phenomenon, immerse the cell for a few minutes in an acidulated bath and then rinse it again.
Wash the prefilter in the same way, taking care not to damage it by bending or fraying the filter mesh. In the event that maintenance is not carried out according to the instructions given here, the company assumes no responsibility for any breakdowns, malfunctions or shortening of maintenance intervals.

ACCESSORIES TO COMPLEMENT THE INSTALLATION

Description
1 230 V power supply connector for one filter row
2 230 V junction connector for one filter row
3 230 V closure connector for one filter row
4 Resin alarm
5 Junction box with 230 V alarm relay for 1-3 filter rows + bicolour LED
6 Junction box with 230 V alarm relay for 1 filter row
7 Microswitch for filter unit inspection
8 Electrostatic cell cleaning detergent in 10 kg container

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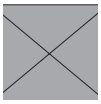

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