

# UC1200

## USERS MANUAL



*Nature System®*



*A.F.C. System®*

*Basic System*

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# 1 OVERVIEW

The air cleaner series UC1200 has been developed to improve the air quality in confined spaces. This machine has been specifically developed for use with modular ceiling systems, and comes with three distinct technology levels: Nature System, AFC System, Basic System.

## 1.1 AVAILABLE MODELS

The machine may be assembled in a number of configurations to optimise in the specific case.

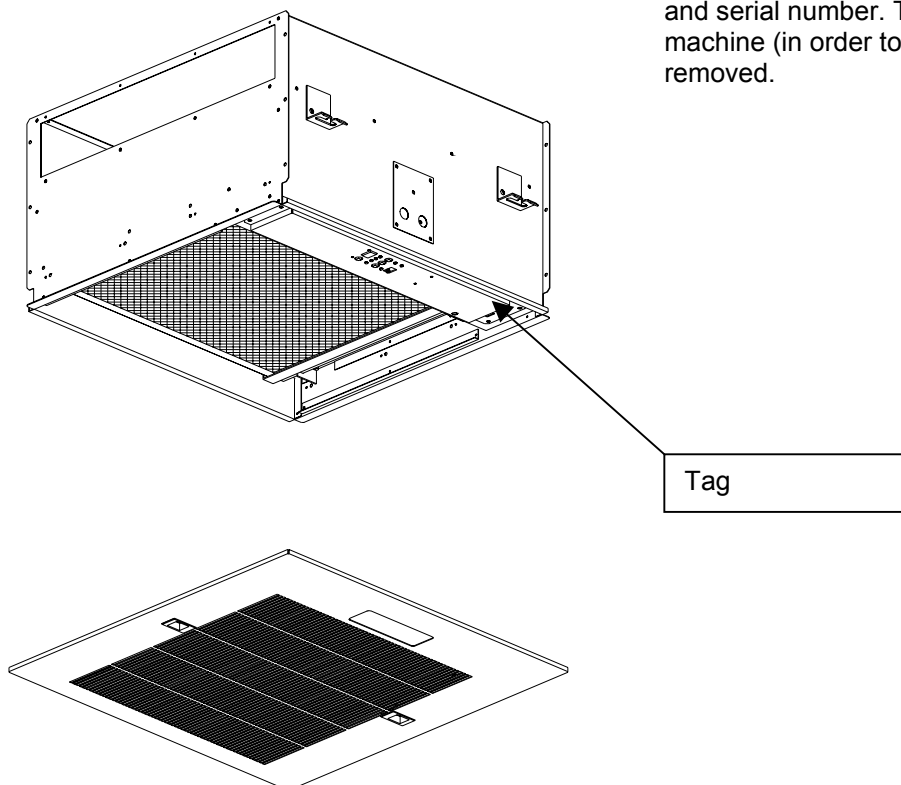
Following combinations are available :

UC12	UC12s
UC13	UC13s
UC122	UC122s
UC123	UC123s

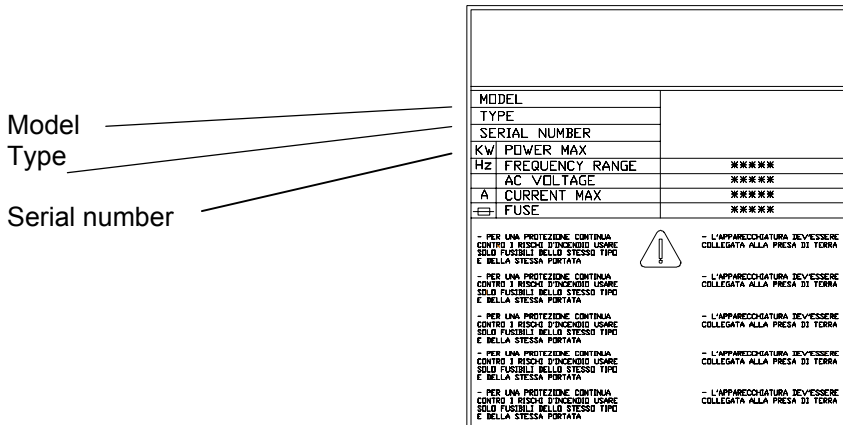
For all combinations, all technology levels may be applied Nature System, AFC System e Basic System.

## 1.2 IDENTIFICATION OF THE MACHINE

All machines are equipped with a tag showing model and serial number. This tag is positioned inside the machine (in order to access it, the inlet grill must be removed).



The tag shows the technical characteristics and serial number of the machine.



In case technical assistance is requested, always supply model, type and serial number of the machine, -as can be read on the tag.

### 1.3 MARKING

The CE conformity mark is shown on the tag.

## 2 PACKAGING AND TRANSPORT

### 2.1 PACKAGING

The machine is supplied in a cardboard box internally lined with polystyrene.

We recommend keeping all the packaging just in case the machine has to be returned to the manufacturer or the dealer for extraordinary maintenance or repairs.

The following objects should be found in the box:

- the required machine
- users' manual and guarantee leaflet
- remote control unit
- plug

#### TRANSPORT

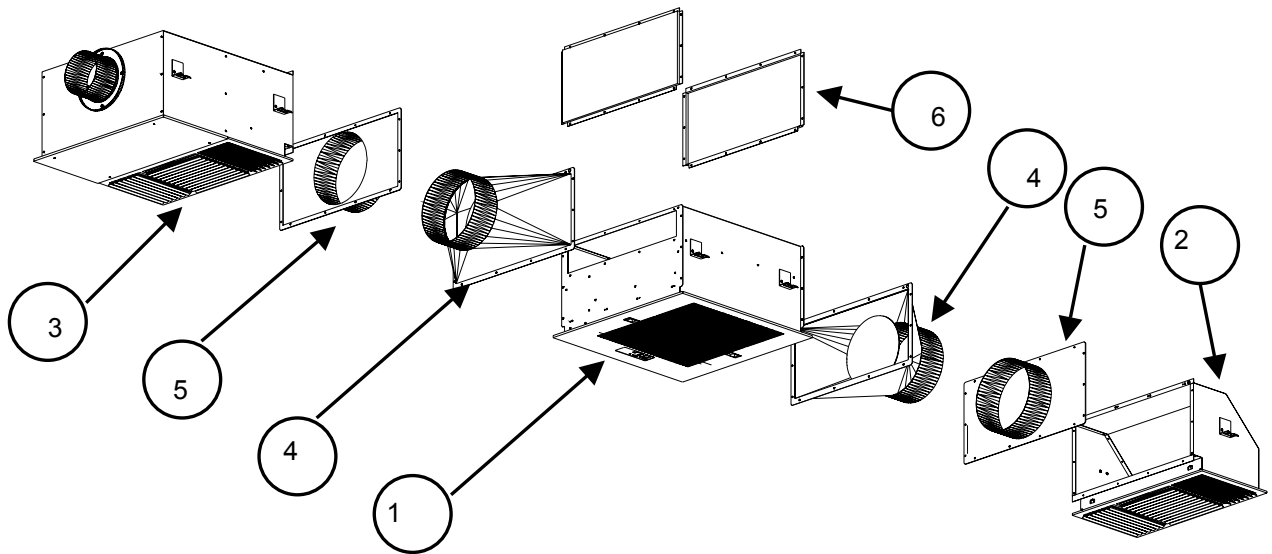
To limit damage and consequent charges for unforeseen repair work, if the machine has to be sent to the manufacturer for overhaul or repair, the following procedure is recommended:

- pack the machine in the original carton; if this is not possible, you must pack the machine with polystyrene protection.
- ship to the manufacturer or to the local dealer.
-

### 3 AVAILABLE VERSIONS

Utilizing the available accessories the machine may be configured in eight distinct ways to provide maximum results.

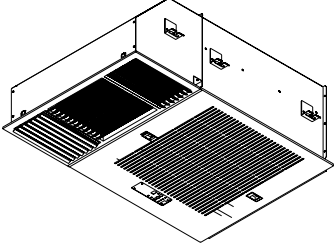
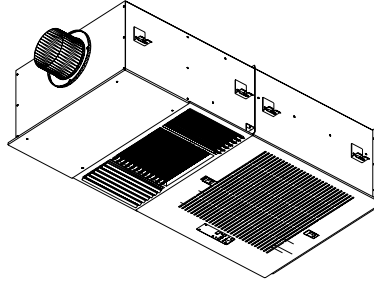
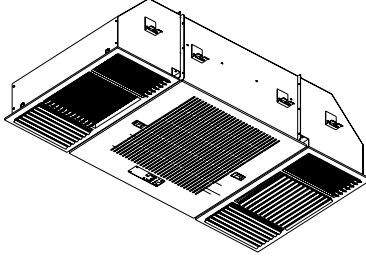
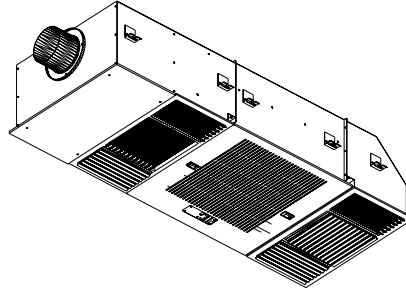
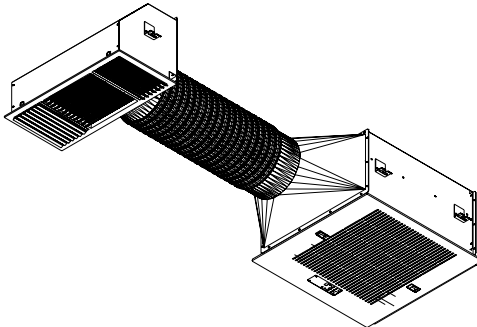
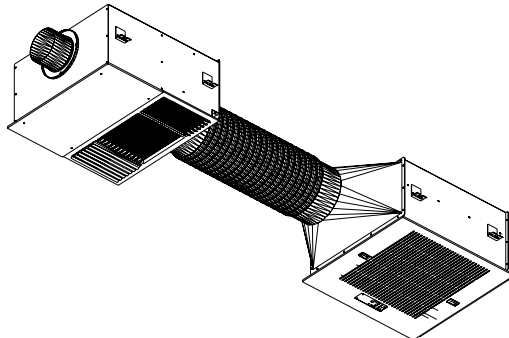
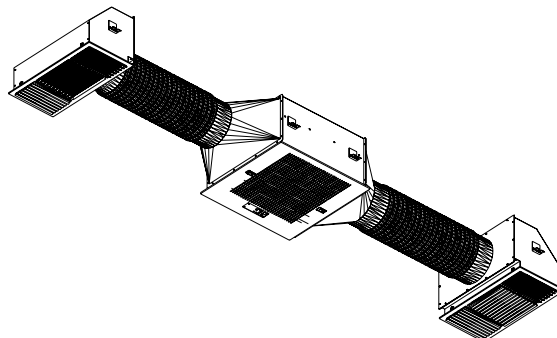
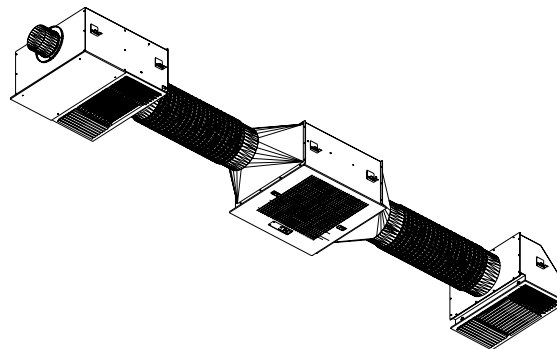
#### 3.1 AVAILABLE ACCESSORIES



Num.	CODE	DESCRIPTION	USE
1	UC1200-00 UC1200-01 UC1200-31 UC1200-32	Filter unit available in three technologies, additionally also as satellite unit.	This component is present in all configurations
2	UC1200-B	Air outlet unit	The air outlet unit may be used singular, or in couples, or combined with a re oxygenising unit. It may be attaches to or remote from the filter unit
3	UC1200-R	Re oxygenising unit	For any possible combination one re oxygenising unit may be used. It may be used alone or together with an other air outlet unit, separate or attached to the filter unit
4	UC1200-C	Cone Ø250	Is applied to the filter unit when using separate air outlet / re oxygenising units
5	UC1200-P	Connection panel with collar Ø250	Applied to the outlet unit / re oxygenising unit in order to connect the flexible ducting
6	UC1200-T	Closing panel	Is applied to the filter unit in cases where a single outlet / re oxygenising unit is used

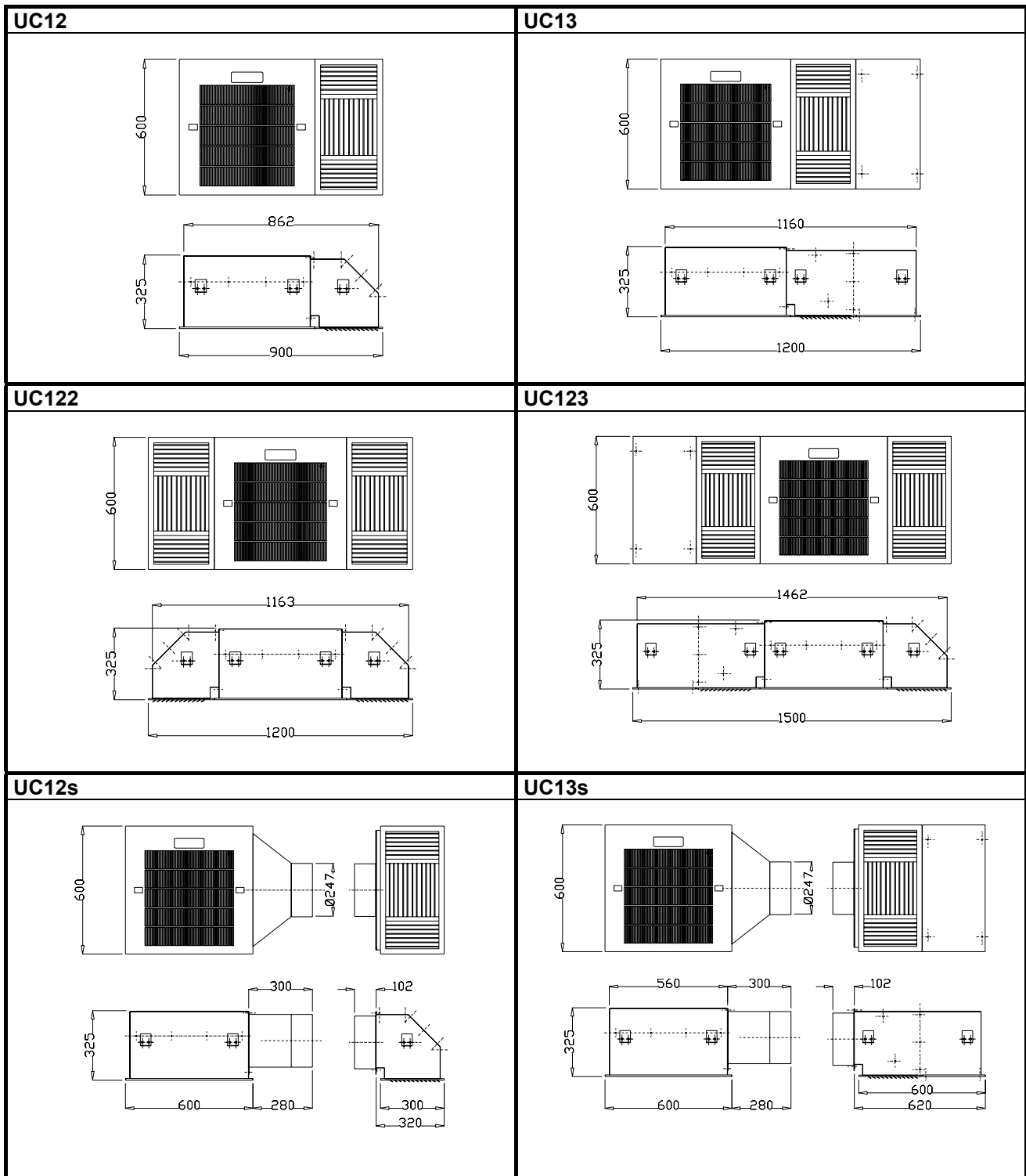


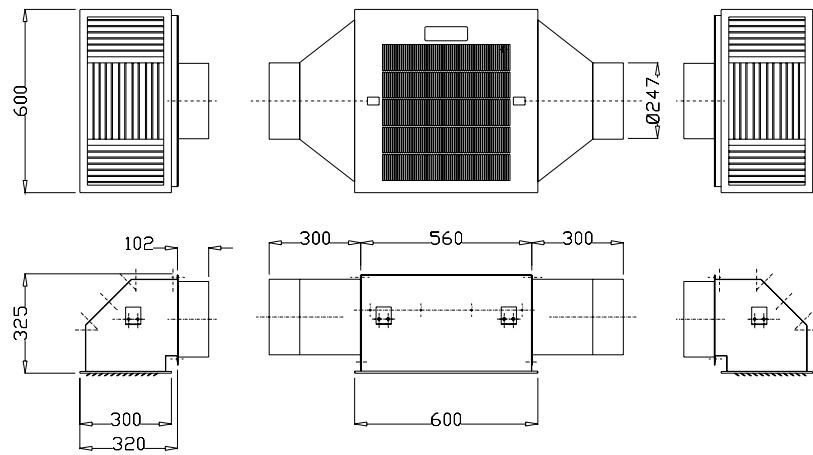
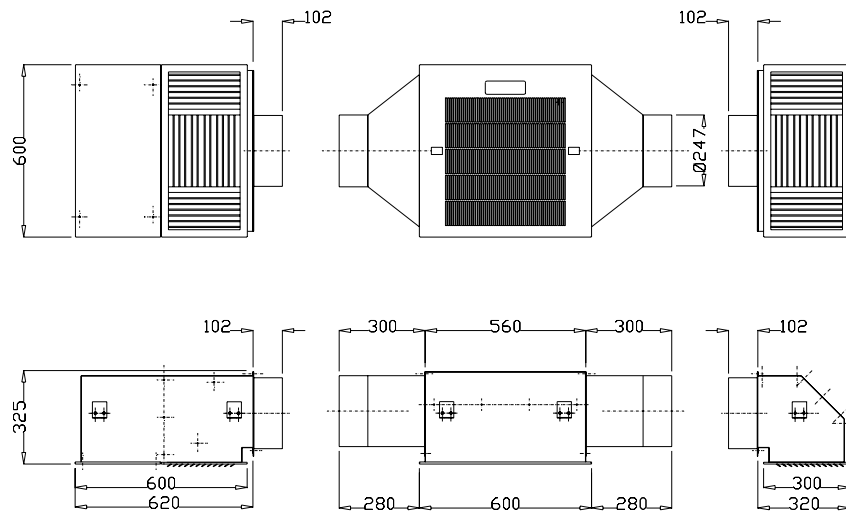
## POSSIBLE COMBINATIONS

<p><b>UC12</b></p>  <p>UC1200 with single outlet unit</p>	<p><b>UC13</b></p>  <p>UC1200 with re oxygenising unit</p>
<p><b>UC122</b></p>  <p>UC1200 with two outlet units</p>	<p><b>UC123</b></p>  <p>UC1200 with both outlet unit and re oxygenising unit</p>
<p><b>UC12s</b></p>  <p>UC1200 with separate single outlet unit</p>	<p><b>UC13s</b></p>  <p>UC1200 with separate re oxygenising unit</p>
<p><b>UC122s</b></p>  <p>UC1200 with two separate outlet units</p>	<p><b>UC123s</b></p>  <p>UC1200 with separate outlet and re oxygenising unit</p>

PS: The flexible connection hose is ordered separately

### 3.2 DIMENSIONS



**UC122s**

**UC123s**


## 4 ASSEMBLY OF THE MACHINE

As previously described, the machine may be supplied in eight configurations. The various components are supplied separately in individual packings. It is necessary to assemble the components before proceeding with the installation. The following tables may be found on the packings:

### Packing 670x670

UNITA' FILTRANTE MODELLO <b>UC1200</b>	<b>A</b>	<input type="checkbox"/> Unità remota cod. UC1200-00
		<input type="checkbox"/> BASIC SYSTEM cod. UC1200-01
		<input type="checkbox"/> AFC SYSTEM cod. UC1200-31
		<input type="checkbox"/> NATURE SYSTEM cod. UC1200-32
UNITA' DI RIOSSIGENAZIONE MODELLO <b>UC1200-R</b>	<b>B</b>	<input type="checkbox"/> Unità di riossigenazione cod. UC1200-R
ACCESSORI PER UC1200	<b>C</b>	<input type="checkbox"/> Nr 2 Bocchette cod. UC1200-B
		<b>D</b>

### Packing 670x370

ACCESSORI PER UC1200	<b>E</b>	<input type="checkbox"/> Nr 1 Bocchetta cod. UC1200-B
	<b>F</b>	<input type="checkbox"/> Nr 1 Coni di raccordo Ø250 cod. UC1200-C <input type="checkbox"/> Nr 1 Pannello raccordo Ø250 cod. UC1200-P

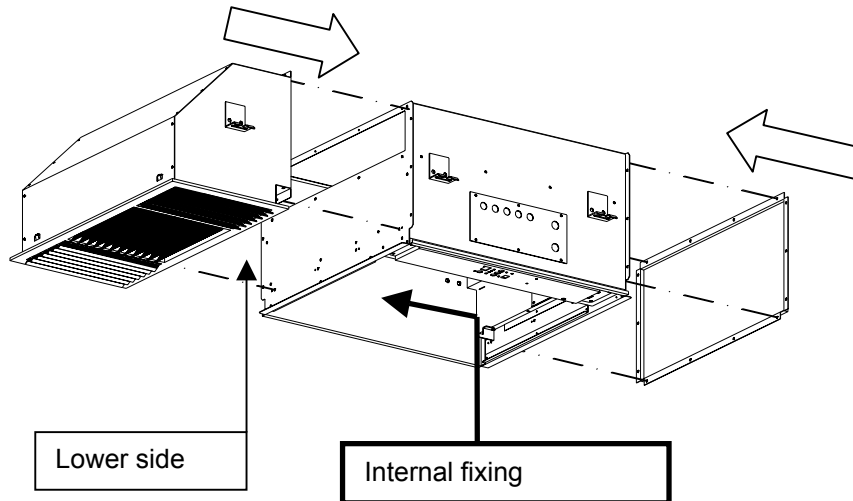
The different versions are supplied as follows:

Version	Packing dimension	Type	Qty
UC12	670x670x400	A	1
	370x670x400	E	1
UC13	670x670x400	A	1
	670x670x400	B	1
	670x400x30	G	1
UC122	670x670x400	A	1
	670x670x400	C	1
UC123	670x670x400	A	1
	670x670x400	B	1
	370x670x400	E	1

Version	Packing dimension	Type	Qty
UC12s	670x670x400	A	1
	670x670x400	D	1
UC13s	670x670x400	A	1
	670x670x400	B	1
	370x670x400	F	1
	670x400x30	G	1
UC122s	670x670x400	A	1
	670x670x400	D	2
UC123s	670x670x400	A	1
	670x670x400	B	1
	370x670x400	F	1
	670x670x400	D	1

#### 4.1 ASSEMBLY OF VERSION UC12

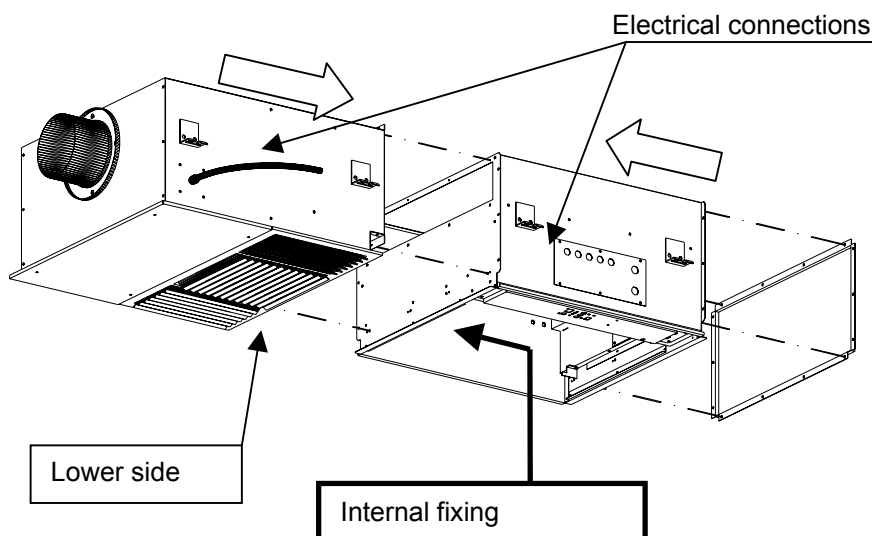
- a) Open the packings and extract the components
- b) Remove the grill by pushing the black hatches towards the center
- c) Extract prefilter and electrostatic cell
- d) Position the outlet unit next to the filter unit (can be fixed to one side or the other)
- e) Using the included self threading screws  $\text{Ø}3,8 \times 9$  secure the air outlet unit to the filter unit
- f) Position the closure panel on the opposite side and secure using the same type of screws
- g) To facilitate the fixing to the ceiling we recommend leave filter and grill out



ATTENTION: the outlet unit may be secured externally from three sides, whereas the lower side must be secured from inside the machine as seen on the drawing. The closing panel however may be secured to the filter unit with four external screws

#### 4.2 ASSEMBLY OF VERSION UC13

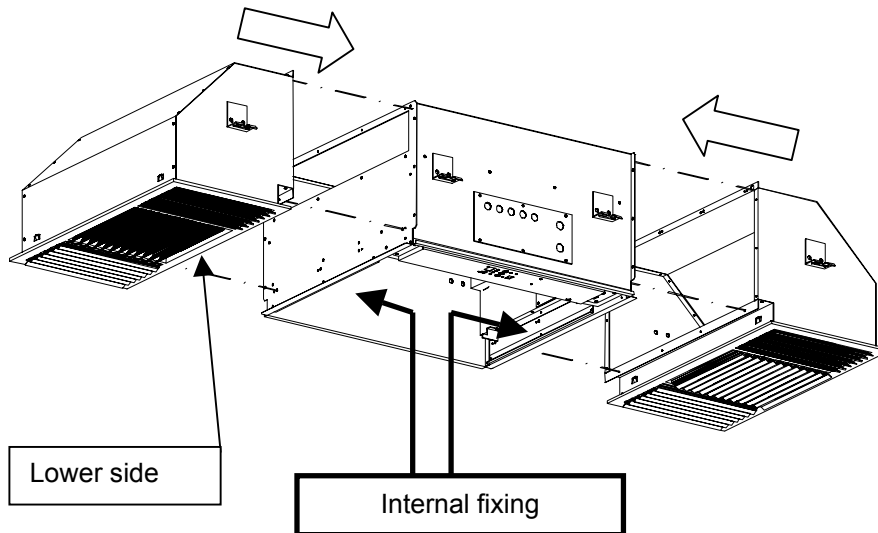
- a) Open the packings and extract the components
- b) Remove the grill by pushing the black hatches towards the center
- c) Extract prefilter and electrostatic cell
- d) Position the re oxygenising unit next to the filter unit (to facilitate the installation we recommend to leave all electrical connections on the same side)
- e) Using the included self threading screws  $\text{Ø}3,8 \times 9$  secure to the filter unit
- f) Position the closure panel on the opposite side and secure using the same type of screws
- g) To facilitate the fixing to the ceiling we recommend leave filter and grill out



ATTENTION: the re oxygenising unit may be secured externally from three sides, whereas the lower side must be secured from inside the machine as seen on the drawing. The closing panel however may be secured to the filter unit with four external screws

### 4.3 ASSEMBLY OF VERSION UC122

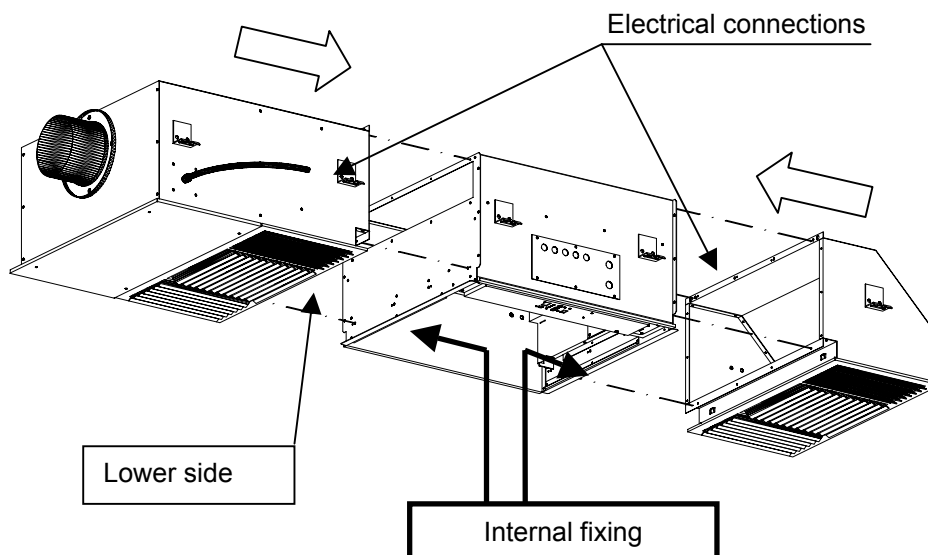
- Open the packings and extract the components
- Remove the grill by pushing the black hatches towards the center
- Extract prefilter and electrostatic cell
- Position the outlet unit on the side of the filter unit
- Using the included self threading screws  $\text{Ø}3,8 \times 9$  secure the air outlet unit to the filter unit
- To facilitate the fixing to the ceiling we recommend leave filter and grill out



**ATTENTION:** the outlet units may be secured externally from three sides, whereas the lower side must be secured from inside the machine as seen on the drawing

### 4.4 ASSEMBLY OF VERSION UC123

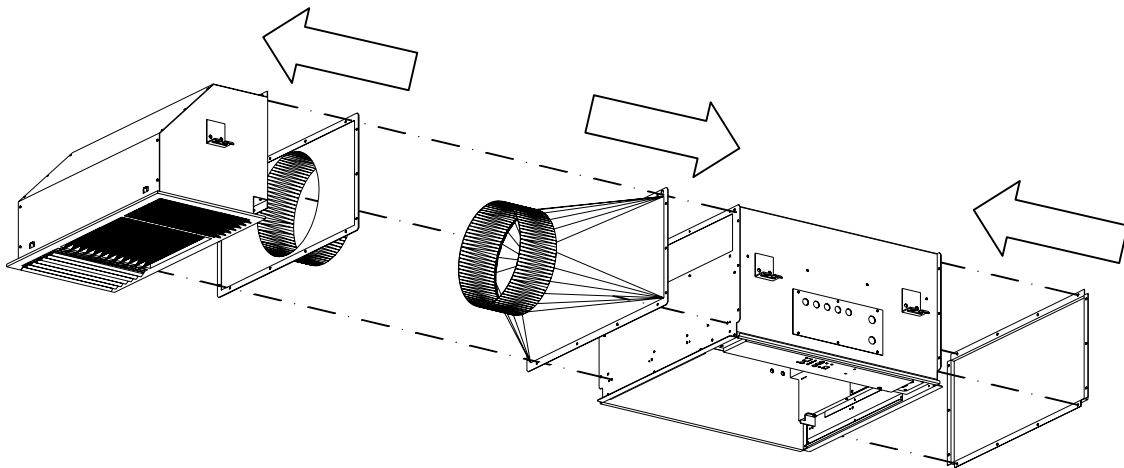
- Open the packings and extract the components
- Remove the grill by pushing the black hatches towards the center
- Extract prefilter and electrostatic cell
- Position the re oxygenising unit next to the filter unit (to facilitate the installation we recommend to leave all electrical connections on the same side)
- Using the included self threading screws  $\text{Ø}3,8 \times 9$  secure to the filter unit
- Position the outlet unit on the opposite side and use the same screws securing to the filter unit
- To facilitate the fixing to the ceiling we recommend leave filter and grill out



**ATTENTION:** the re oxygenising unit may be secured externally from three sides, whereas the lower side must be secured from inside the machine as seen on the drawing. This also applies to the outlet unit.

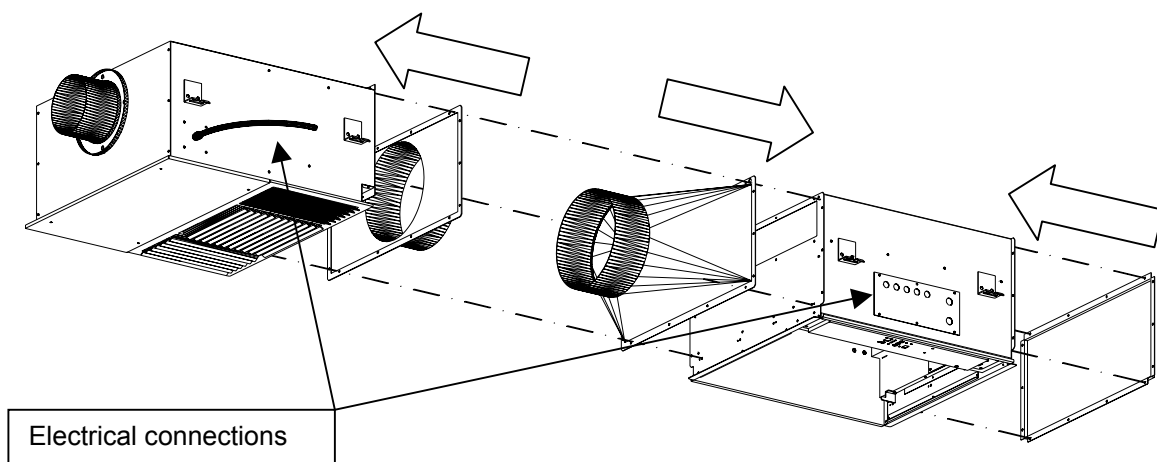
#### 4.5 ASSEMBLY OF VERSION UC12s

- a) Open the packings and extract the components
- b) Remove the grill by pushing the black hatches towards the center
- c) Extract prefilter and electrostatic cell
- d) Position the Ø250 cone to the side of the filter unit (can be secured on both right and left side)
- e) Using the included self threading screws Ø3,8x9 secure the cone Ø250 to the filter unit
- f) Position the closure panel on the opposite side and using the same screws secure it to the filter unit.
- g) Position the Ø250 panel on the outlet unit and secure using the included screws Ø3,8x9
- h) To facilitate the fixing to the ceiling we recommend leave filter and grill out



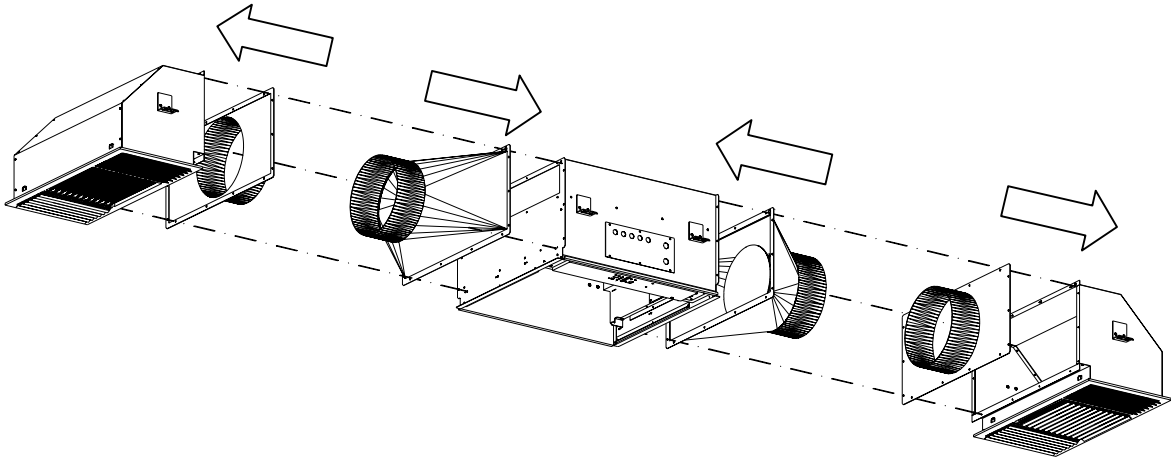
#### 4.6 ASSEMBLY OF VERSION UC13s

- a) Open the packings and extract the components
- b) Remove the grill by pushing the black hatches towards the center
- c) Extract prefilter and electrostatic cell
- h) Position the Ø250 cone to the side of the filter unit (to facilitate the installation, we recommend to have all electrical connections on the same side)
- d) Using the included self threading screws Ø3,8x9 secure the cone Ø250 to the filter unit
- e) Position the closure panel on the opposite side and using the same screws secure it to the filter unit
- f) Position the Ø250 panel on the re oxygenising and secure using the included screws Ø3,8x9
- g) To facilitate the fixing to the ceiling we recommend leave filter and grill out



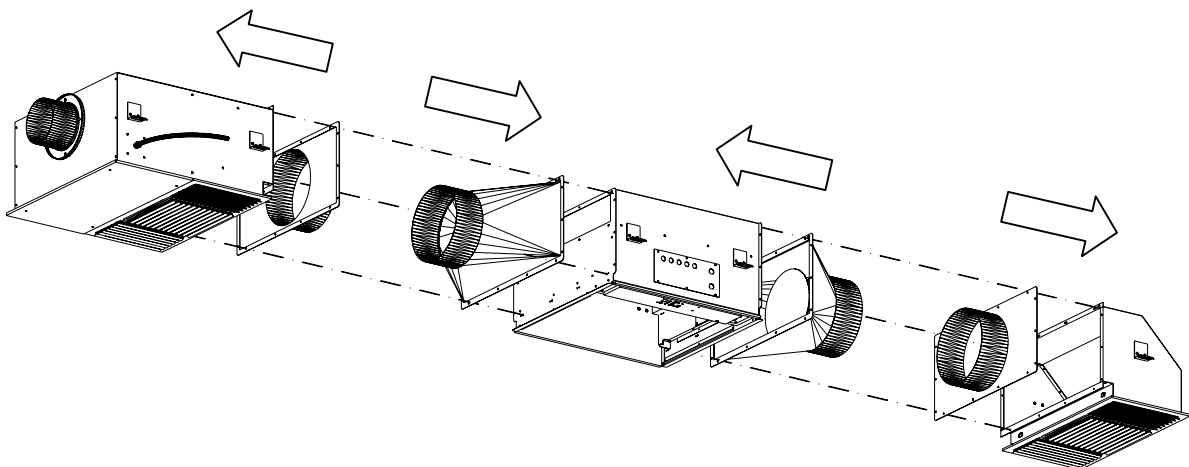
#### 4.7 ASSEMBLY OF VERSION UC122s

- a) Open the packings and extract the components
- b) Remove the grill by pushing the black hatches towards the center
- c) Extract prefilter and electrostatic cell
- d) Position the Ø250 cones to the side of the filter unit
- e) Using the included self threading screws Ø3,8x9 secure the cones Ø250 to the filter unit
- f) Position the Ø250 panel on the outlet unit and secure using the included screws Ø3,8x9
- g) To facilitate the fixing to the ceiling we recommend leave filter and grill out



#### 4.8 ASSEMBLY OF VERSION UC123s

- a) Open the packings and extract the components
- b) Remove the grill by pushing the black hatches towards the center
- c) Extract prefilter and electrostatic cell
- d) Position the Ø250 cones to the side of the filter unit
- e) Using the included self threading screws Ø3,8x9 secure the cones Ø250 to the filter unit
- f) Position the Ø250 panel on the outlet unit and secure using the included screws Ø3,8x9
- g) Repeat the operation for the second panel, this time on the re oxygenising unit.
- h) To facilitate the fixing to the ceiling we recommend leave filter and grill out

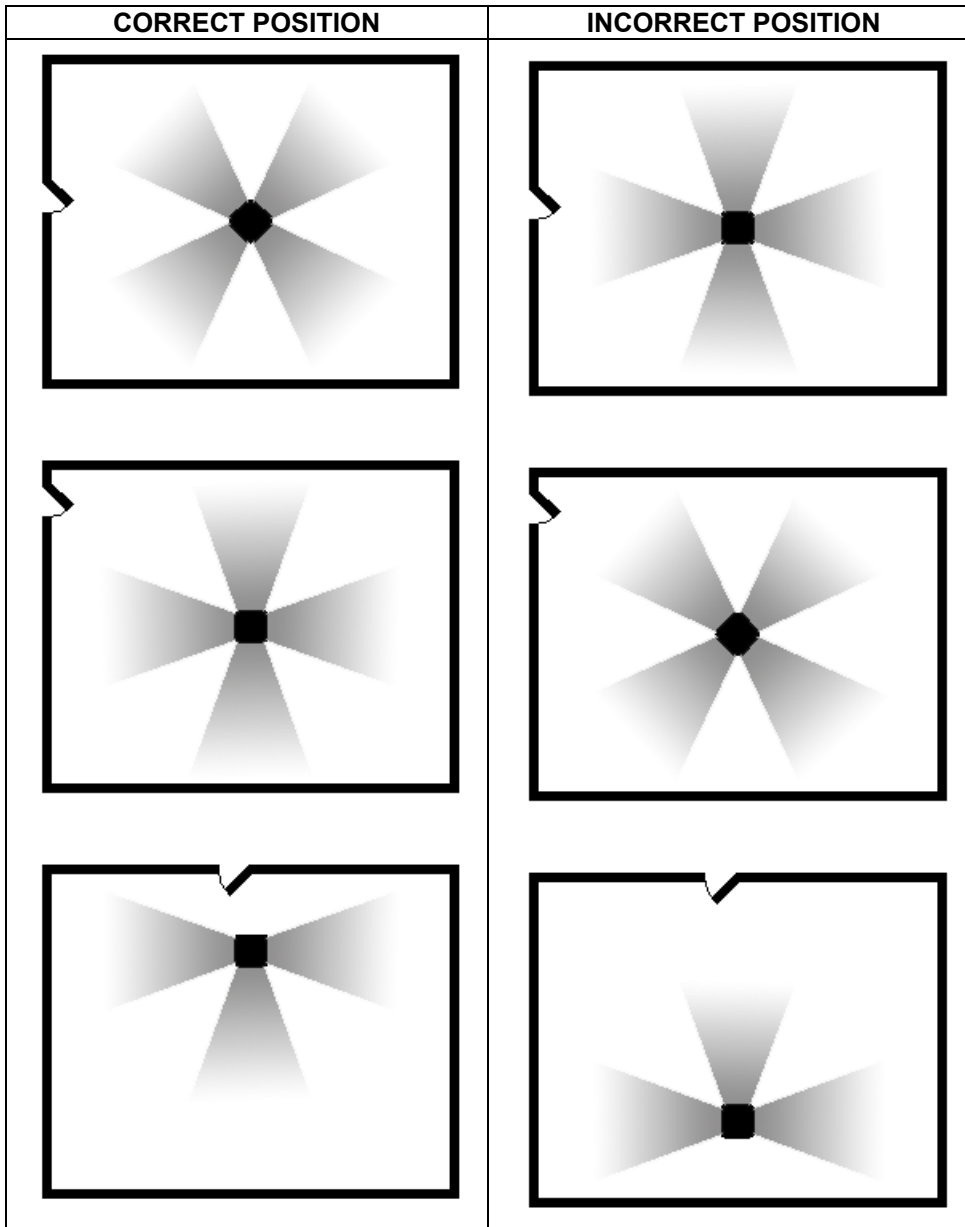




## 5 INSTALLATION

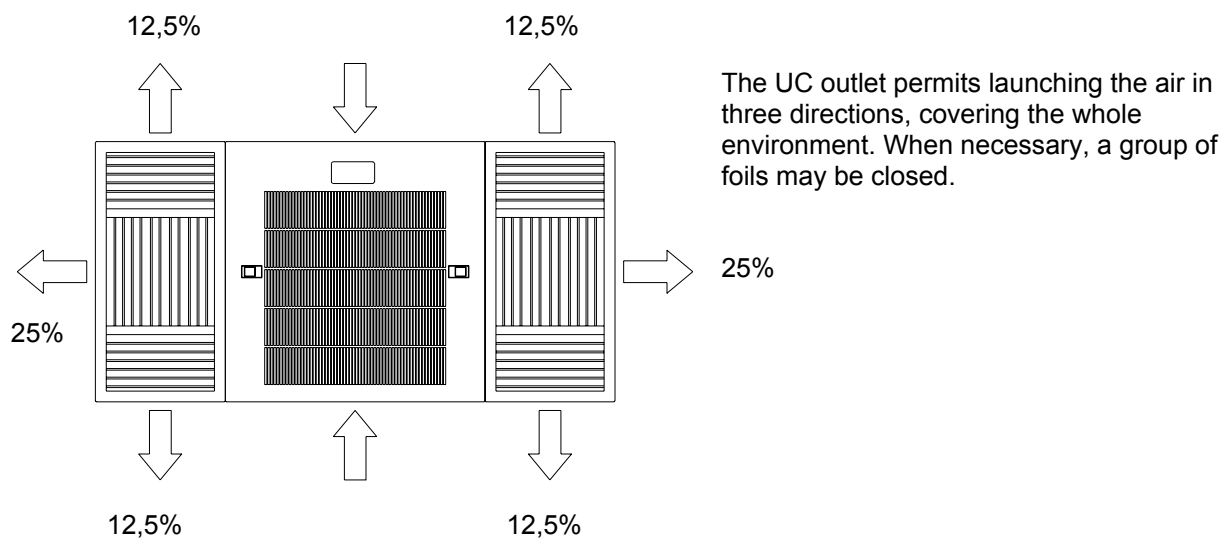
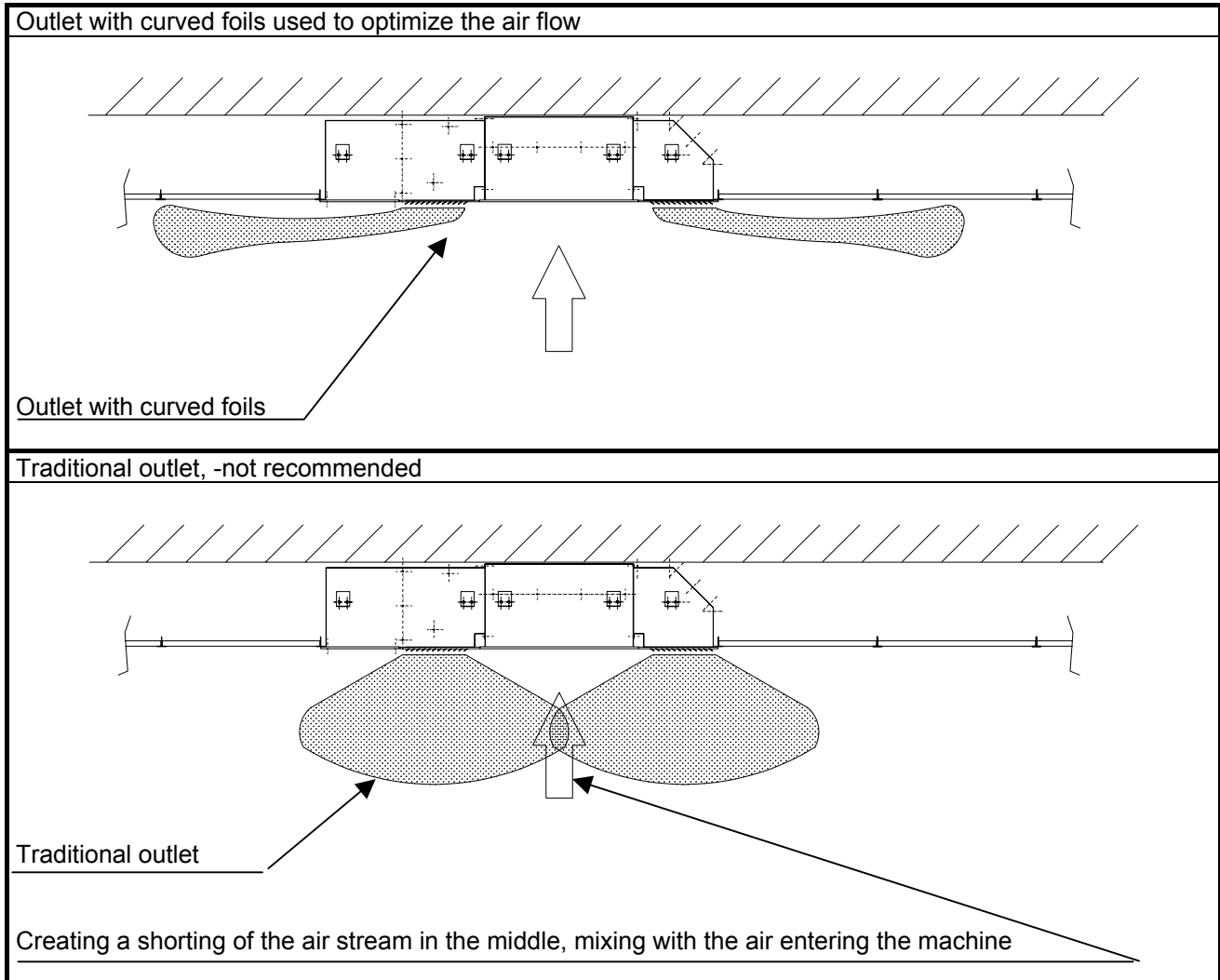
The UC1200 is normally used in suspended ceiling systems. It is however also possible to install it with other ceilings, - masking it in false beams etc.

### 5.1 CORRECT POSITION OF CEILING-MOUNTED MACHINES



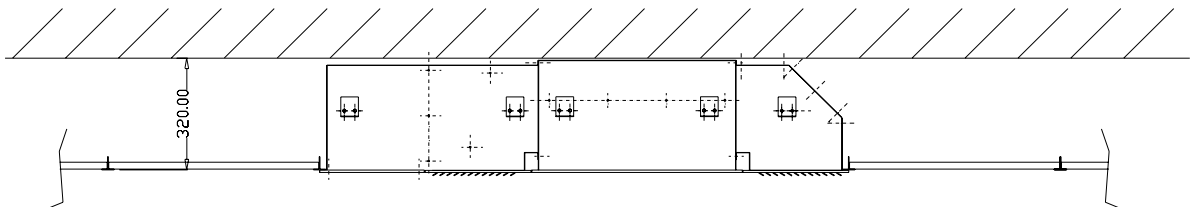
Ceiling machines must be installed at a height from the ground between 2.8 and 3.5 metres. If the following indications are respected during installation, the maximum efficiency will be obtained. The machine will carry out its work by pushing the air up flush with the ceiling, making it descend down along the walls and recalling it back from the centre of the room. The whole room will be involved in the cycle thanks to the “coanda” effect.

The outlets are equipped with curved foils with air directions. The particular design of the foils permits an optimal distribution pattern of the air, causing a so called "coanda" effect, also avoiding short circuiting in the centre area. Do not replace these outlets with models from other manufacturers.



## 5.2 INDICATIONS FOR CEILING

The machine may be used with any type of ceiling. The dimensions are well suited for use in 600x600 ceiling raster systems of T-profile type, such as most commonly found on the market.



The height of the machine requires at least 320mm space for proper installation.

### 5.3 FIXING IN CEILING

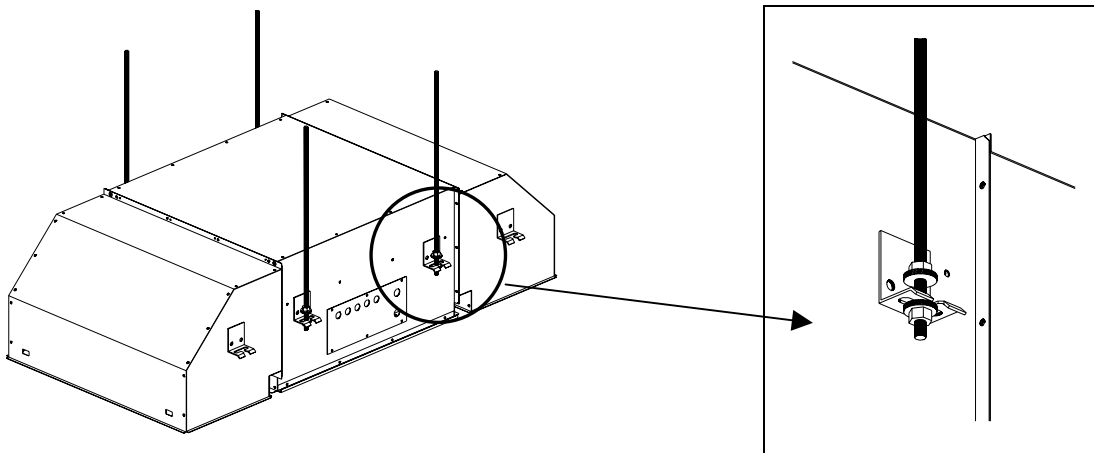
The machine may be directly fixed to the ceiling with appropriate fasteners for the type of ceiling material. It is up to the individual installer to make sure that the fasteners are adequate for the intended use. The machine is supplied with a hole template in order to avoid errors

The machine may be installed in two distinct ways :

- a) through use of external suspension brackets
- b) through holes in the ceiling side panel of the machine

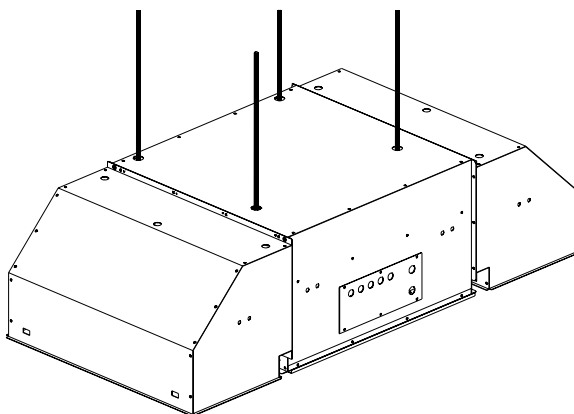
#### TYPE A

Suspension with external bars. This method is always recommended for cases with easy access to the side of the machine.



#### TYPE B

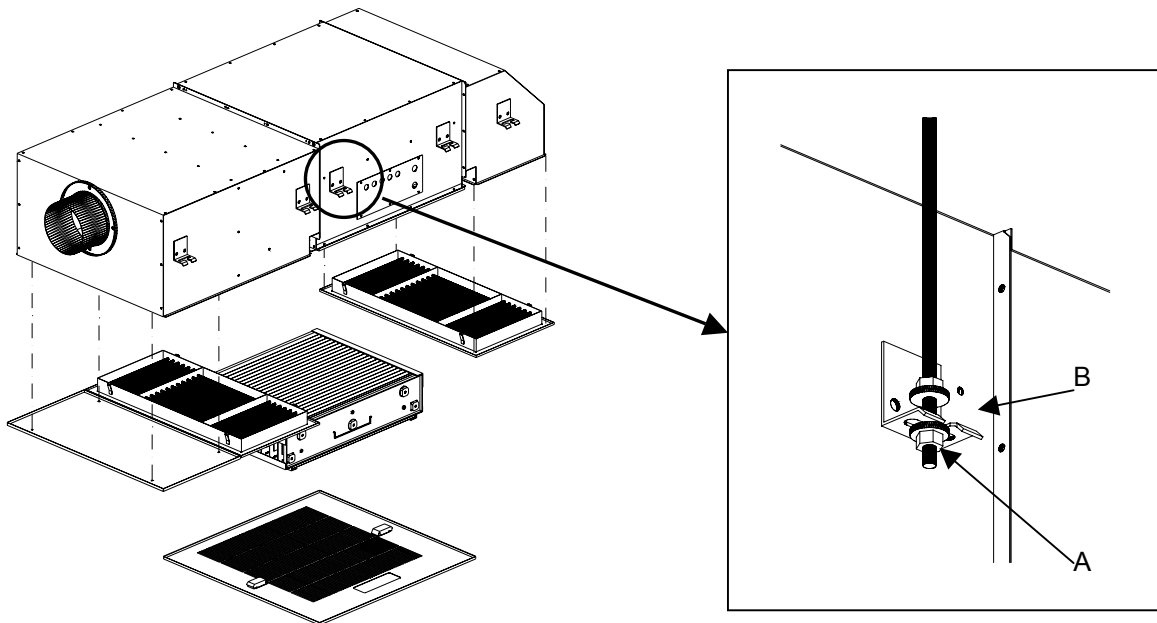
Suspension through the holes in the ceiling side panel. This is recommended when access to the side of the machine is difficult.



### 5.3.1 Installation type A

All the system components (filter unit, re oxygenising unit and outlet) are equipped with threaded inserts M6 to use with suspension bars. The brackets are supplied separate and must be mounted on the machine.

Before proceeding with the installation, it is recommended to remove from the machine the inlet grill, filters and adjoining parts (outlet units, re oxygenising unit) in order to lower the machine weight.



The machines must be anchored to the ceiling using threaded suspension bars M6 or M8, chains or other suspension means of sufficient strength.

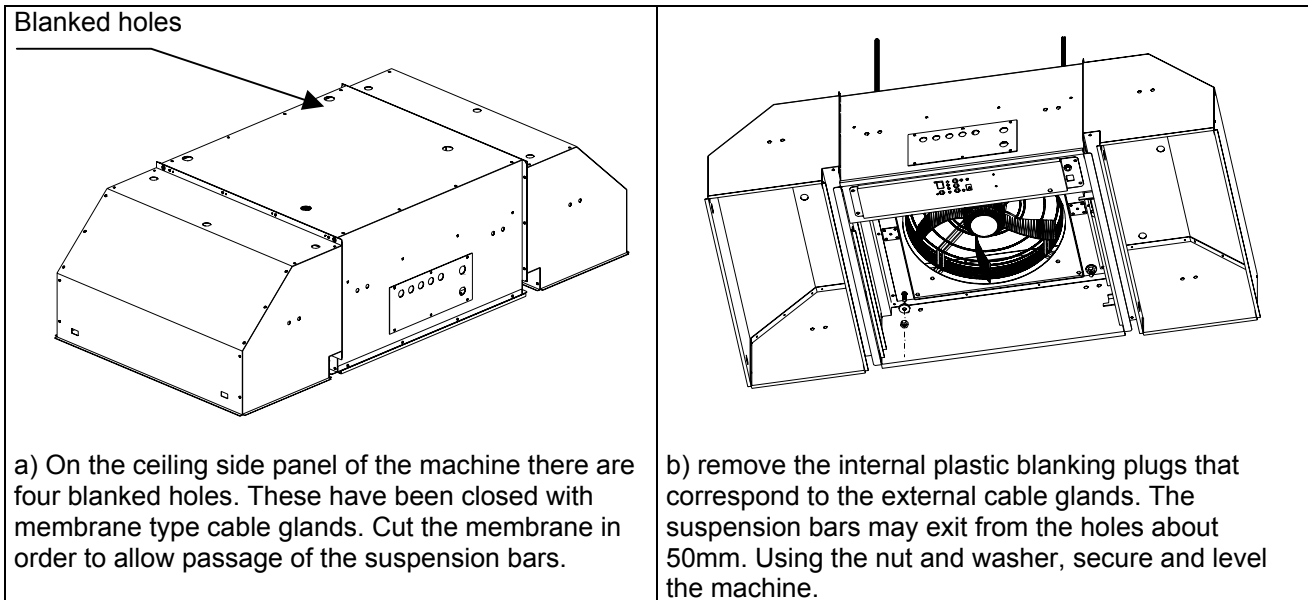
PS: WE recommend to use M6 or M8 threaded suspension bars with self locking nut and 8x24 washer on the lower part (pos A). On the upper part (pos B) the same washer with a normal nut may be used. This arrangement allows for easy suspension height adjustments and final levelling of the unit.

### 5.3.2 Installation type B

#### FILTER UNIT

Before proceeding with the installation, do the following :

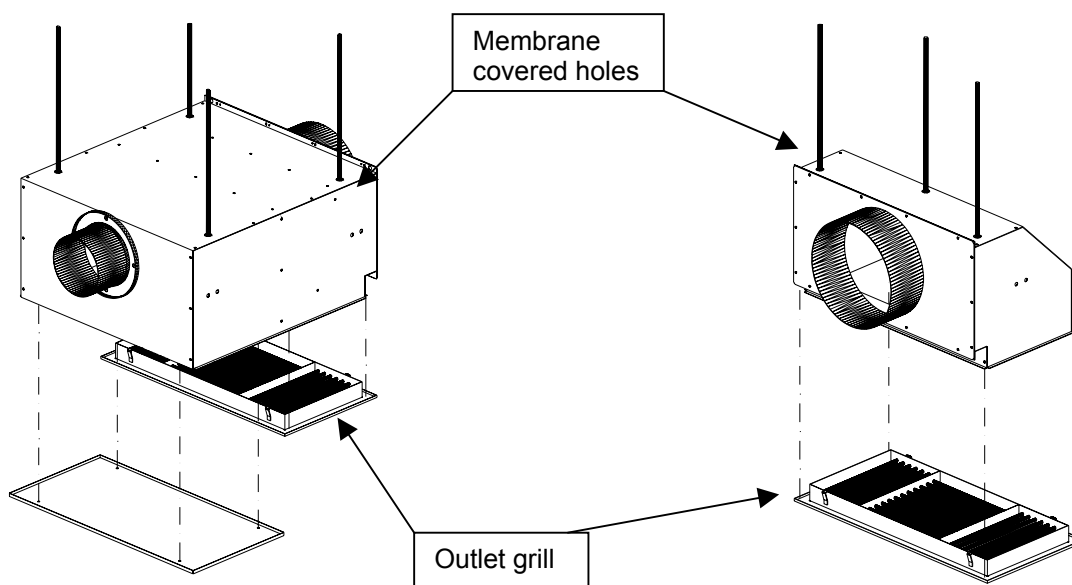
- remove inlet grill by pressing the black hatches towards the centre
- remove the filters
- remove the grills of the outlets, pulling outwards (spring secured)



#### RE OXYGENISING UNIT

In order to install the re oxygenising unit with passing suspension bars (type B), proceed as follows::

- remove the grills of the outlets, pulling outwards (spring secured)
- remove the lower inspection panel by unscrewing the 4 fixing screws (just in case of the re oxygenising unit)
- cut the membrane covering the top holes
- enter the suspension bars into the machine, and use the 8x24 washer and nut to secure. Level the machine.

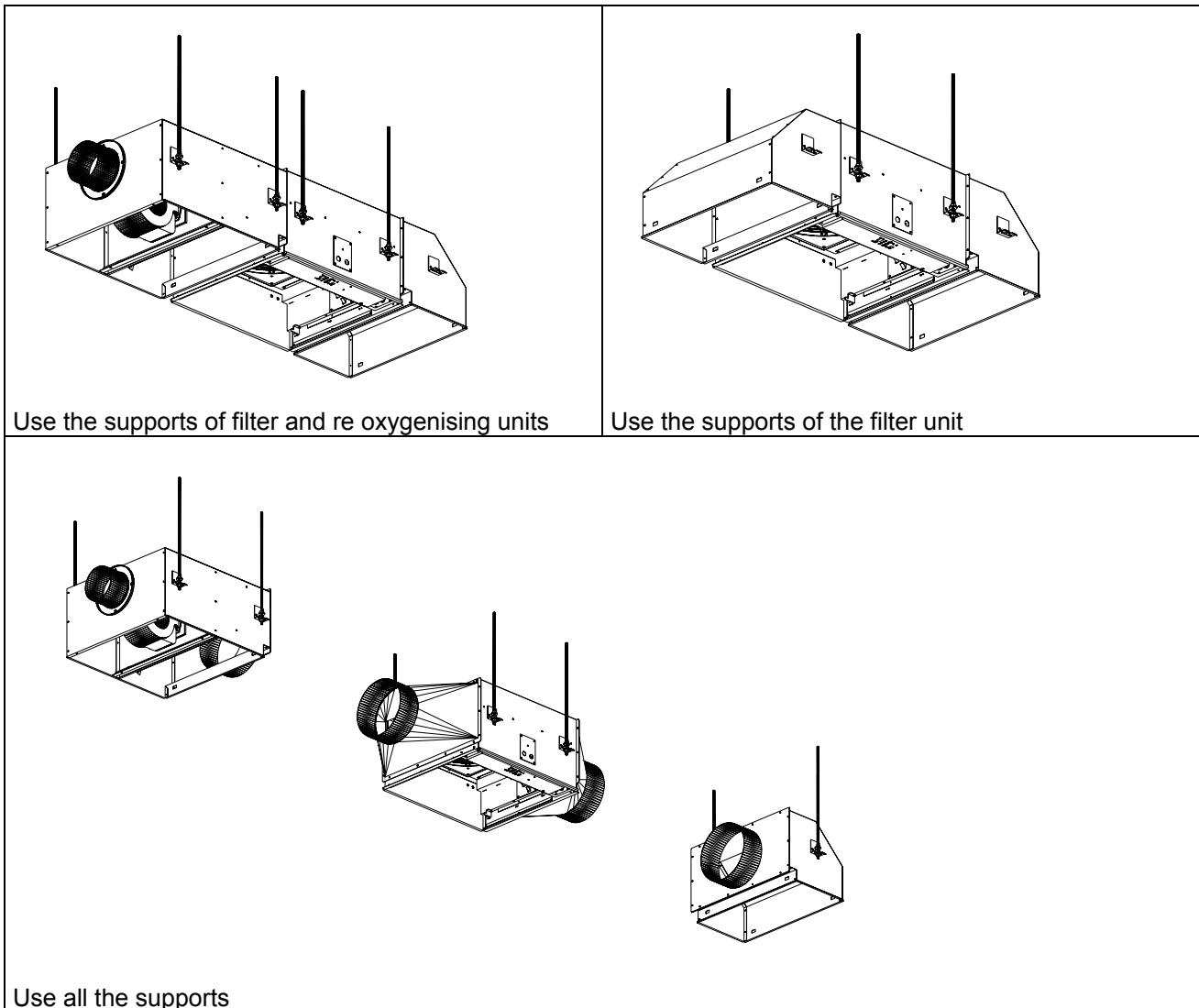


Re oxygenising unit

Outlet unit

### 5.3.3 Number of supports to use

Every system component is supplied with support brackets. For the compact versions (UC12, UC123, UC122 etc) it is not necessary to use all supports.



If the machines are to be fitted to suspended ceilings with 600x600 raster, it is sufficient to center it in one square. Finally, fit the filter and grills.

When installing units with separate outlet and / or re oxygenising unit, the connection between the components must be made with a **metallic** flexible duct of diameter Ø250. Flexible aluminium duct can be ordered as accessory together with the machine.

## 5.4 ADDING A RE OXYGENISING UNIT

Any indoor area containing people exercising activity must be equipped to provide the required supply of oxygen. This supply of oxygen is fundamental for the well being of the people. In areas with efficient air cleaning devices the supply of outside air for re oxygenising purpose is set at 12.5m<sup>3</sup> minimum.

For this reason the re oxygenising unit UC1200-R was created. The component, also having it's own ventilator, must be connected electrically to the filtering unit. This allows the re oxygenising unit fan speed to

be regulated according to the speed of the main ventilator, as selected with the remote control. The connection between the re oxygenising unit and outside air access point is made using a Ø150 flexible duct.

## 5.5 PILOT UNIT AND SATELLITE UNIT

The UC1200 unit may control one or more remote units (denominated satellites). The satellites do not have their own electronic control circuitry but is controlled by the main unit. This solution reduces the overall cost of the investment, provided the interconnected machines may always work in the identical manner. The main unit is denominated the **pilot unit**.

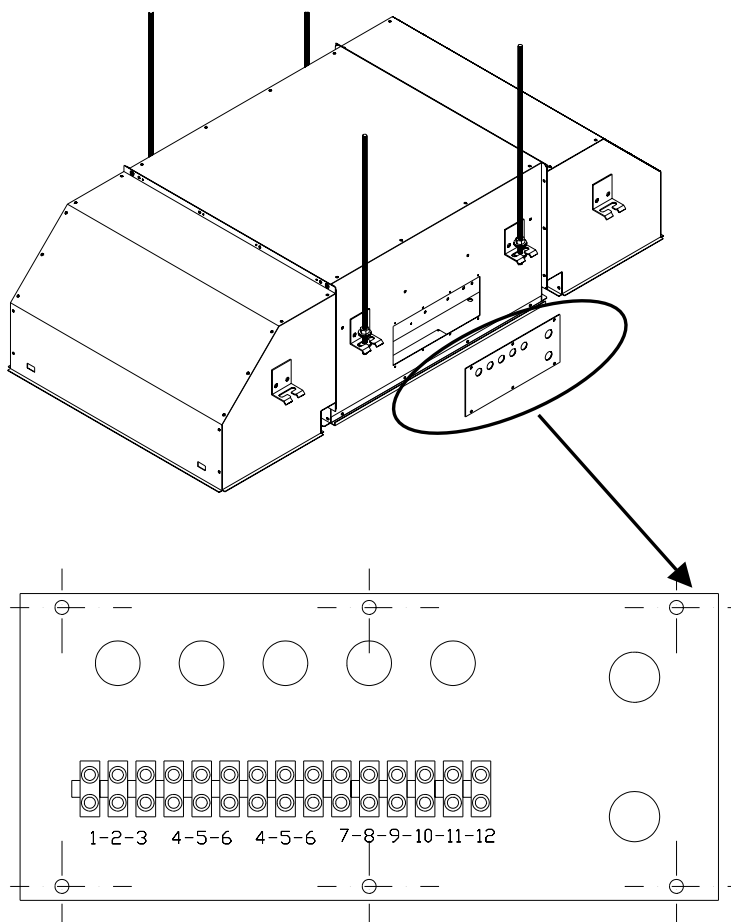
A pilot unit of type AFC System or Nature System will control up to two remote filter units and three re oxygenising units. A pilot unit of type Basic System will control one remote filter unit and two re oxygenising units.

## 5.6 ELECTRICAL CONNECTIONS

All electrical connections should be carried out by a qualified electrician.

### 5.6.1 Electrical connection

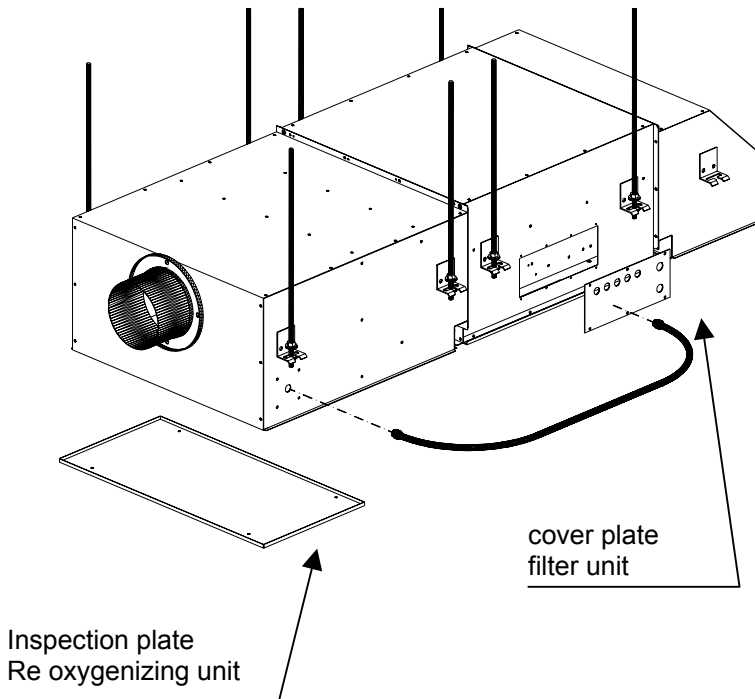
The electrical mains supply must be connected exclusively to the (pilot) filter unit. Re oxygenising units and possible satellite units all receive their power from the pilot filter unit.



- 1) Open the contacts cover plate removing the fixing screws
- 2) Insert the power cable through the cable gland in the plate and secure.
- 3) Connect the power to the contacts 1-2-3 on the terminal block
- 4) Close the cover plate



### 5.6.2 Connection of re oxygenizing unit to a pilot unit



The re oxygenizing unit may be mounted on the filter unit or separate. In both cases it is necessary to connect the fan motor of the re oxygenizing unit to the electrical terminals of the filter unit.

- 1) Open the filter unit contacts cover plate removing the fixing screws
- 2) Remove the inspection plate of the re oxygenizing unit
- 3) Open the junction box at the inside of the re oxygenizing unit
- 4) Use a 3G1.5 cable with suitable cable glands
- 5) Connect terminals 4-5-6 of the filter unit to the terminals in the re oxygenizing unit as follows:
  - (4) blue to neutral
  - (5) yellow-green to earth
  - (6) brown to 3rd speed (grey)

The fan speed of the re oxygenizing unit is controlled by the circuit of the filter unit, and is in relation to the speed of the fan speed selected for the filter unit.

For specific needs, it is possible to modify the performance of the re oxygenizing unit by connecting the brown cable (6) to one of the other available terminals: white, red, orange.

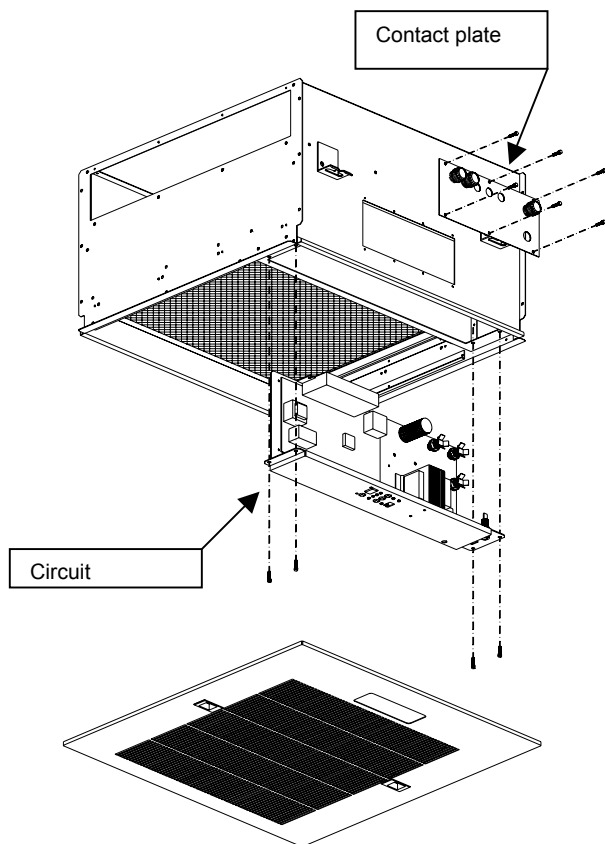
Fan speed	% air through re oxygenizing	Cable colour	Recommended cases of use
1	12%	White	The temperature on the outside is very different from the inside, and volume of air to introduce should be kept to minimum
2	19%	Red	Rooms with few occupants
3	27%	Grey	<b>Standard configuration</b>
4	33%±19%	Orange	The ducting connecting the re oxygenizing unit to the external air inlet is very long and the resistance in the ducting requires more fan power. The resulting air being provided depends on the resistance of the ducting.

## 5.7 ADDING A SATELLITE UNIT

A pilot unit of type AFC System or Nature System will control up to two remote filter units and three re oxygenising units. A pilot unit of type Basic System will control one remote filter unit and two re oxygenising units.

In order to make this configuration a machine of type UC1200-01, UC1200-31 or UC1200-32 is used, joined to a machine without control circuit, denominated UC1200-00, identical for all technology versions. The electrical connection between the two is all that is needed.

### 5.7.1 Connection of high voltage cables



- 1) Remove the grill by pushing the black hatches towards the center
- 2) Remove the 4 screws that secure the circuit and pull it downwards to extract
- 3) Remove the contact plate fixing screws
- 4) Use **exclusively** special high voltage supplied with the machine. Two cables (red and blue) are used for all systems, whereas Nature System and Basic System have an additional black cable.
- 5) Insert the special cables, fitted with appropriate sheet, through the hole labelled EAT OUT of the contact plate
- 6) Connect the high voltage cables to the red isolators of the circuit plate, matching the colours of cables (red to red, blue to blue, and if applicable, - black to green) .
- 7) Open the remote unit (satellite) as described above (point 1, 2 and 3)
- 8) Pass the cables with sheet through the hole EAT IN of the contact plate
- 9) Connect the high voltage cables to the red isolators as already done with the pilot unit
- 10) In case a second satellite is to be fitted, repeat the procedure as described above, using a new sheet with high voltage cables, making an electrical bridge between satellite unit 1 and satellite unit 2

**ATTENTION : the special high voltage cables and their accessories are critical for function and safety, and must under no circumstances be substituted with inferior products. They must only be connected to the red isolators of the circuit boards.**

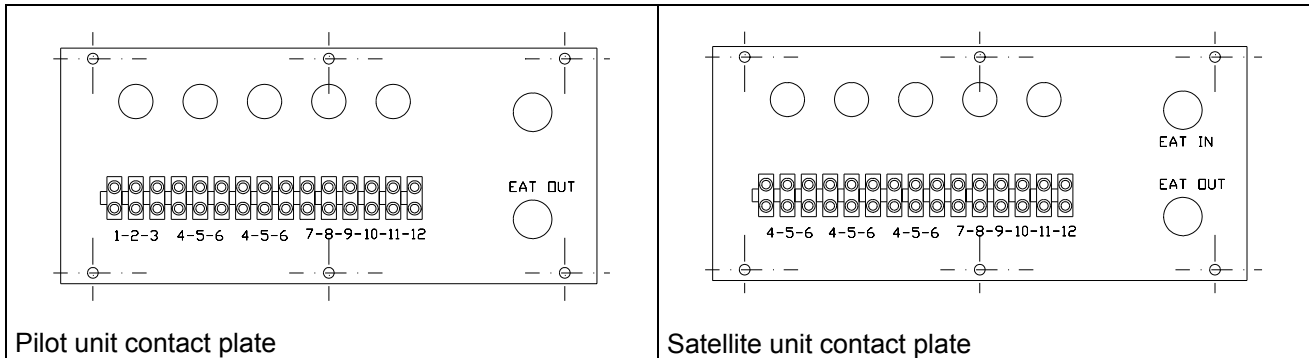
Before closing the machine, connect the micro switch and power to the fan motor.

### 5.7.2 Connecting cables for power and micro switch

The satellite unit is connected to the pilot unit for power and micro switch.

For power, use normal 3G1.5 cable and proceed :

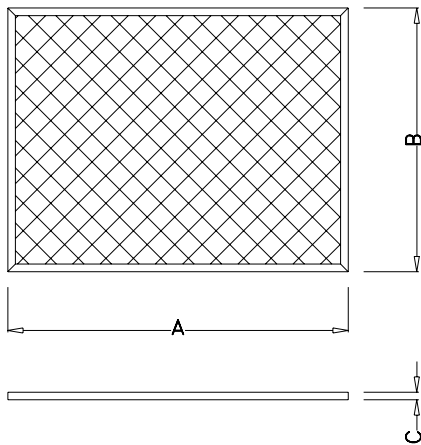
- 1) The pilot and satellite units must have contact plates as shown below and described previously.
- 2) Connect terminals 4-5-6 of the pilot unit to terminals 4-5-6 of satellite unit 1



- 3) In cases where a second satellite unit is required, connect terminals 4-5-6 of satellite 1 to terminals 4-5-6 of satellite 2
- 4) Use a 4G1 cable to connect the micro switch of the pilot unit utilizing terminals 7-8-9-10-11-12 on the contact plate of satellite unit 1 (and satellite 2 if installed) following the electrical diagrams.
- 5) In cases where satellite re oxygenizing units are installed use a 3G1.5 cable to connect satellite filter unit 1 to satellite re oxygenizing 1, according to previous paragraph. Repeat for second satellite unit if installed.
- 6) When done, close all covers.
- 7) Start the machines.

## 5.8 INSTALLED FILTERS

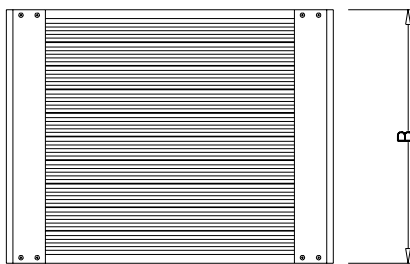
### 5.8.1 Metallic prefilter



FILTER MODEL	DIMENSIONS		
	A	B	C
115/3UC	472	400	6

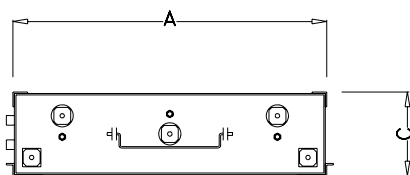
The metallic prefilter has the function of containing the larger particles present in the air. During operation the prefilter must always be in place. For maintenance operations, please take care not to bend or deform the prefilter.

## 5.9 THE ELECTROSTATIC CELL



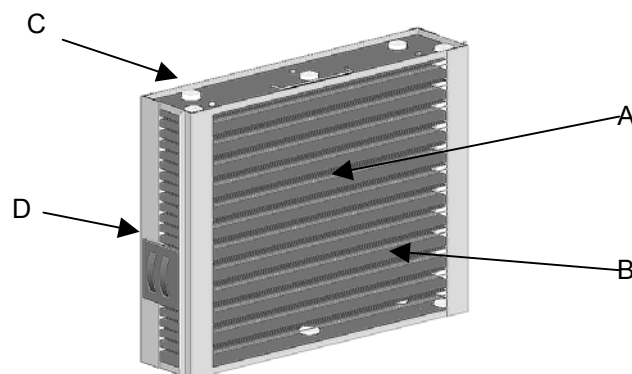
FILTER MODEL	DIMENSIONS		
	A	B	C
115/3R-UC	525	406	115

The electrostatic cell removes up to 99% of the polluting particles. It is made entirely of anti corrosive aluminum.



Components of the cell:

- a) ionizing wires
- b) captation blades
- c) insulators
- d) printed circuit



### 5.9.1 Ionizing wires

The wires must be always integral and taut. In case of eventual breakage of one of them proceed immediately with its changing.

### 5.9.2 Capitation blades

The blades must be at sight straight, without undulations. The blades must be also clean, without any strange particles among them.

### 5.9.3 Insulators

The insulators are made of a ceramic material which function is to insulate electrically. They should be clean, dry, integral

### 5.9.4 Printed circuit

The electric connection between the electronic circuit and the electrostatic cell takes place in the printed circuit. Check that the arcs of flexible material are integral and the base has not scorches or cracks.

## 6 SAFETY FEATURES

The machine is equipped with both electrical and mechanical safety devices that must never be altered or removed.

### 6.1 MECHANICAL SAFETY FEATUIRES

The grill has been particularly designed to avoid accidental contact with parts with tension, and may only be removed in case of maintenance or repair. In this case always remove power before removing the grill.

**DO NEVER INSTALL OR START THE MACHINE WITHOUT THE GRILL**

### 6.2 ELECTRICAL SAFETY FEATURES

For maintenance the inlet grill must be removed. A micro switch will at this moment cut the power, -in case this has not already been done.

**ALWAYS REMOVE POWER BEFORE MAINTENANCE**

The pin that operates the micro switch is essential to safety and must not be blocked in closed position to compromise safety. If the micro switch gets damaged, the machine will turn itself off. In this case contact the technical assistance for replacement.

#### 6.2.1 Safety features of electrical circuit

The electronic circuit is designed to turn itself off in case a malfunctioning which may compromise the integrity is detected. The circuit also contains a thermal fuse (on AFC System and Nature System only) which will cut power in case a short circuit should occur downstream from the transformer.

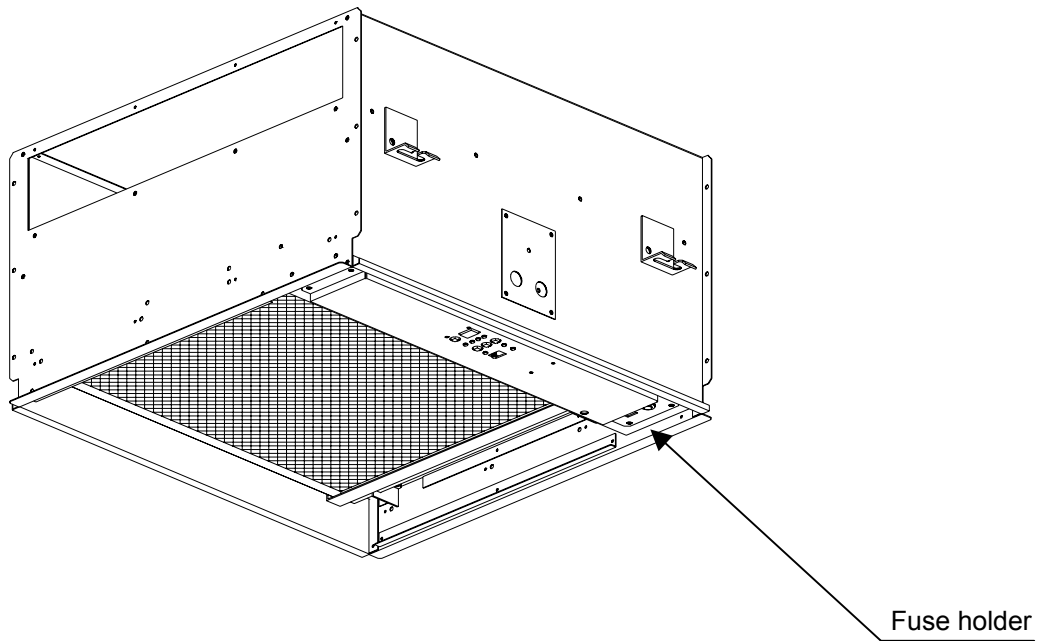
A fuse protecting the electrical mains is in place to safeguard against transformer short circuiting.

## 6.3 FUSES

To access the electrical fuse proceed as follows :

- remove power
- remove the inlet grill as described previously
- open the fuse holder

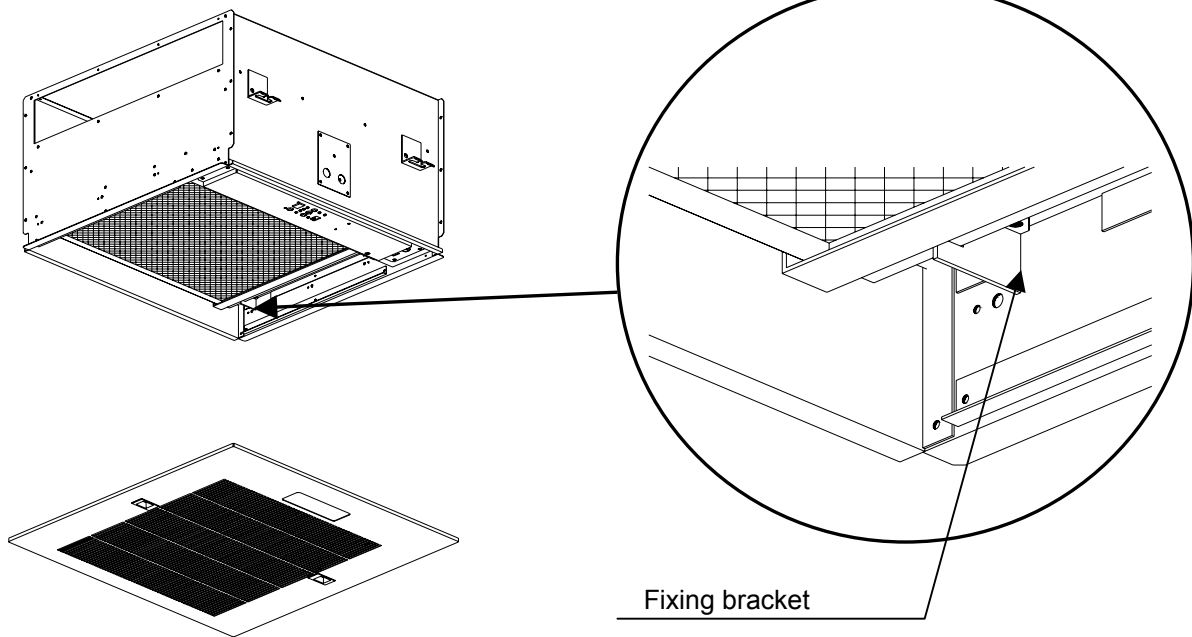
Replacement of defect fuses must be done by qualified personnel using fuses with same characteristics.



# 7 ORDINARY MAINTENANCE

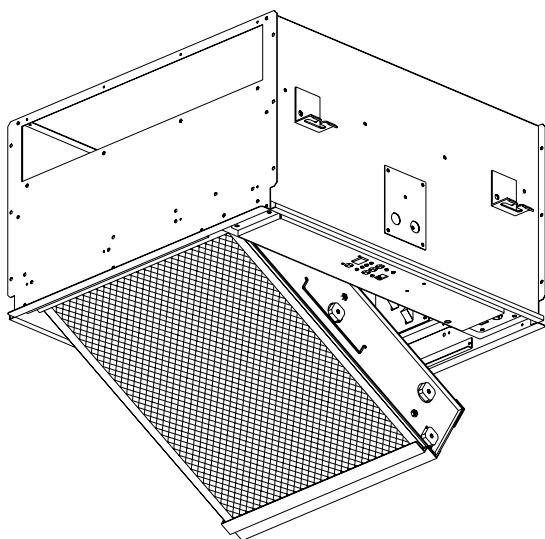
## 7.1 FILTER MAINTENANCE

In order to clean the filters, they should be extracted from the machine as follows:

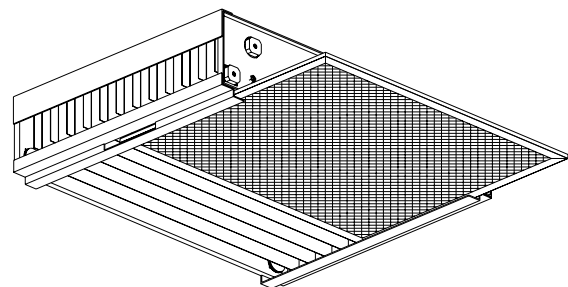


1) After having disconnected power, remove the inlet grill

2) The filter cell is locked in place by two fixing brackets. With one hand carefully elevate the cell, then turn the brackets to open position.



3) Now the filter cell can be carefully removed



4) Extract the prefilter by sliding it out along the tracks.

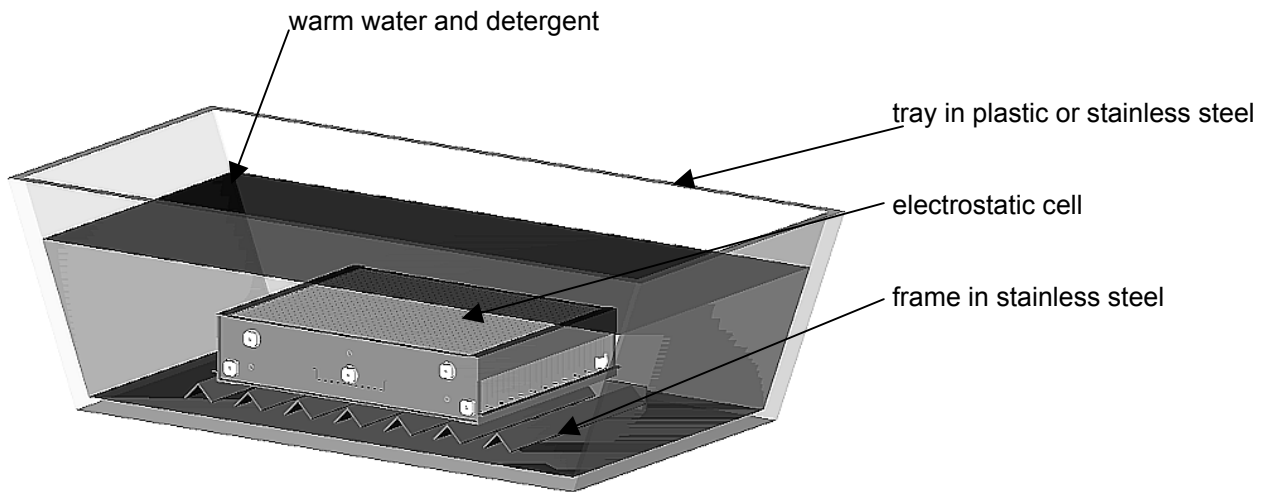
### 7.1.1 Washing the filters

Filter maintenance is important both for the correct operation of the machine and for constant performance with the passage of time. The following materials are required for maintenance:

- 1) Two plastic trays, one with the bottom raised 2-3 cm for decanting the dirt. As an alternative to the raised bottom, use a stainless steel frame.
- 2) Non-corrosive detergent for washing the electrostatic cells, supplied by an authorised dealer.
- 3) A rubber tube for rinsing the filters.
- 4) Vinegar.

Prepare the tray with the raised bottom with warm water (max 45°C). Dilute the detergent in the proportions indicated on the label of the detergent itself.

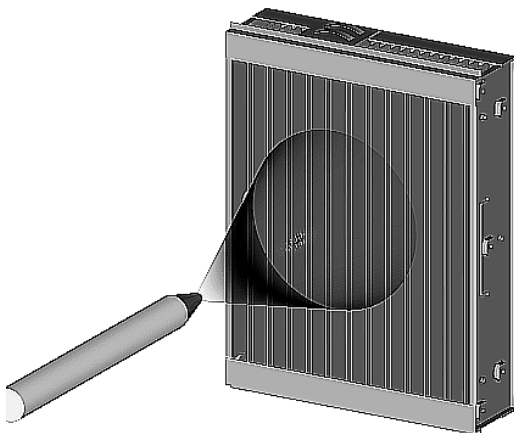
Put the vinegar and water in the other (1 litre of vinegar for every 20 litres of water).



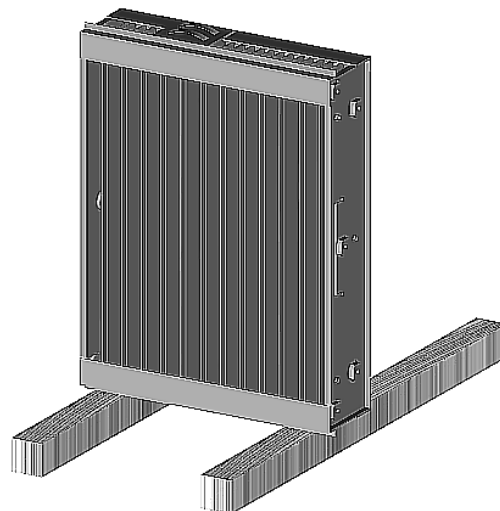
To wash, proceed as follows:

- a) immerse the electrostatic cell in the tray with the detergent and soak until the dirt is dissolved
- b) remove the electrostatic cell and rinse thoroughly with running water, taking care not to break the ionisation wires
- c) immerse the cell in the tray containing the water and vinegar and leave to soak for 5-10 minutes.

rinsing with current water



drying





- d) remove the cell and leave it to dry in a warm place, keeping it raised from the ground by wooden strips (ovens with a maximum temperature of 60°C are tolerated).
- e) examine the state of the ionisation wires, stretching them slightly to check their mechanical strength. Use a cotton flock and methylated spirits to remove any residual traces of dirt.
- f) Ensure that the cell is thoroughly clean and dry before reinstalling it.

When maintaining the pre-filter, first remove the dust deposited in it using an ordinary vacuum cleaner. Then proceed with washing as follows:

- a) Immerse the pre-filter in the tray containing the detergent diluted in warm water and leave to soak for about half an hour.
- b) Remove the pre-filter from the tray and rinse thoroughly with water.
- c) Leave to dry in a warm ventilated environment.

## 7.2 GENERAL INSPECTION OF THE FILTERS

The state of the filters must be inspected every time they are washed so as to prevent air cleaner malfunction and problems.

INSPECTION	FAULT	OPERATION
ionisation wires	breakage of a wire	change the ionisation wire
ionisation wires	rough surface with material deposits	clean the wire with a cloth soaked in alcohol or replace
ceramic insulators	dirty with material deposits	wash the cell again
ceramic insulators	breakage or presence of cracks	replace the insulators
high voltage terminal strip	burning caused by high voltage	replace the high voltage terminal strip

The following inspections must be made on the filters:

- check that the internal mesh of the pre-filter is compact and that no wires protrude from the containing meshes.
- check that the frame is not deformed or damaged.

If the pre-filter is badly damaged, replace it with a new one.

## 7.3 CLEANING THE MACHINE

To clean the outside, use a cloth sprayed with methylated spirits.

Use a brush with soft bristles to clean the air outlet fins.

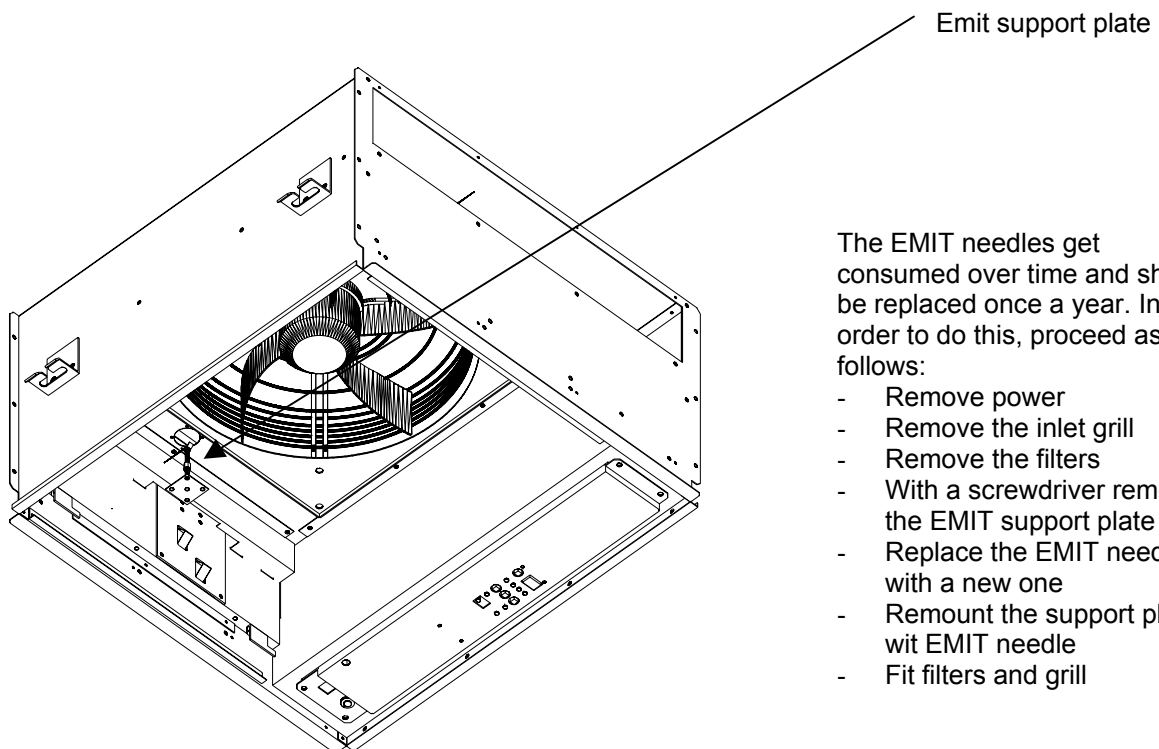
To clean the inlet grill, use a vacuum cleaner with a dusting attachment.

## 8 EXTRAORDINARY MAINTENANCE

It is recommended to have the machine inspected by qualified personnel once a year (normally during the summer season). This is useful to assure the machine always operated at full efficiency.

### 8.1 SOSTITUTION OF ION EMITTER NEEDLES

This operation applies to Nature System and Basic System only.



The EMIT needles get consumed over time and should be replaced once a year. In order to do this, proceed as follows:

- Remove power
- Remove the inlet grill
- Remove the filters
- With a screwdriver remove the EMIT support plate
- Replace the EMIT needle with a new one
- Remount the support plate with EMIT needle
- Fit filters and grill

## 9 AVAILABLE VERSIONS

The SINTESYS line is manufactured in three versions. For distinguishing which version you have, you should control the label placed outside on the machine or to check the control panel.



Nature System<sup>®</sup> is the Top version and identifies the Environmental Revitalizer. It is used a digital technology for the controlling of all functions. The operations carried out by this machine are reported in the following definitions.

### *NATURE SYSTEM*<sup>®</sup>

Identifies the method used in confined environments to obtain an air quality as close as possible to a “natural” one.

### ENVIRONMENTAL REVITALISATION (RIVITALIZZAZIONE AMBIENTALE<sup>®</sup>)

Identifies the operation carried out by the apparatus to create ionic equilibrium, inside a confined environment, as close as possible to the ideal one for **well-being**.

### ENVIRONMENTAL REVITALIZER (RIVITALIZZATORE AMBIENTALE<sup>®</sup>)

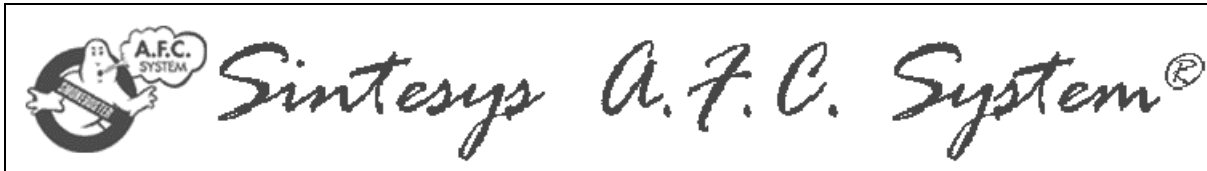
Identifies the apparatus which, in an equilibrated manner, carries out various complex operations with the maximum security and reliability to render the environment comfortable, with characteristics similar to natural ones uncontaminated by the presence of man.

### HIGH-EFFICIENCY FILTERING

Identifies the operation of purifying the confined environment. This operation is carried out with an efficiency which is constant with time and in a completely autonomous manner, thanks to the microprocessor which guarantees optimal performance whatever situations it is used in.

### NIGHT-TIME DEODORIZATION

Identifies the work carried out by the Revitalizer during the night to eliminate the stagnant odour from the premises as well as typical residual odours in badly-aired environments.  
The air is fresher and bracing the next day.



AFC SYSTEM<sup>®</sup> is the Top version of Environmental Air Purifiers and is using a digital technology for the controlling of its functions. The operations carried out by this machine are reported in the following definitions:

#### AFC SYSTEM<sup>®</sup>

Identifies the method used by the microprocessor of the machine to gesture in complete autonomously way the parameters of the filtration, depending from the chosen performance of function and the level of saturation of the electrostatic cell.

#### HIGH-EFFICIENCY FILTERING

Identifies the operation of purifying the confined environment. This operation is carried out with an efficiency which is constant with time and in a completely autonomous manner, thanks to the microprocessor which guarantees optimal performance whatever situations it is used in.



BASIC SYSTEM is a basic version and is using a traditional technology.

# 10 NATURE SYSTEM<sup>®</sup>

The NATURE SYSTEM<sup>®</sup> is composed of the following elements:

## ***Electronic control of environmental revitalisation (rivitalizzazione ambientale<sup>®</sup>)***

The System automatically carries out all the controls and gives the commands to the Environmental Revitalisation along with the information required on the operating status of the apparatus.

## ***Infrared remote control unit***

The remote control unit allows the user to control the operation of the Revitalizer from a distance of about 6÷7 metres; in particular, the air flow can be varied.

## ***High-efficiency filtration unit***

This element feeds the filtering System in a completely automatic manner, maintaining constant high efficiency in all situations.

## ***Environmental Revitalisation Unit***

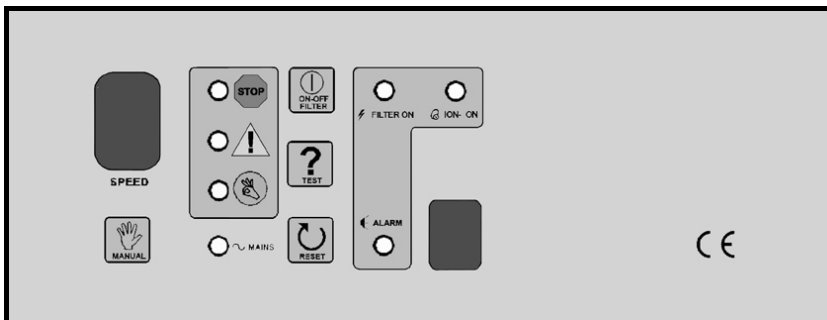
This element feeds environmental revitalisation in an optimal manner to reach ionic equilibrium in completely different situations and environments.

## 10.1 CONTROL PANEL

All information regarding the operating status of the machine is displayed on the control panel.

The control panel allows the user to:

- select the air flow
- activate/deactivate environmental revitalisation
- turn off any alarms indicating apparatus malfunctions
- constantly control all the functions relating to operation (air flow, environmental revitalisation, filtration efficiency, alarm situation).



The devices which permit manual operation and visual control of the operating conditions are given here below.

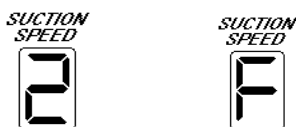
### 10.1.1 DISPLAY

When the machine works normally, the single-figure display shows the operating air flow (0-1-2-3).

If, on the other hand, the letter F appears, this means that operation of the electrostatic cell is not correct.

The reason may be a deposit of pollutant on the surface of the ionisation wires (see paragraph "ELECTRONIC CIRCUIT ALARM SIGNALS").

**If the letter F appears together with the indication ALARM, the operation of the Revitaliser does not stop, however it is an indication of efficiency reduction.**



### 10.1.2 RECEIVER



The receiver permits the reception of the signal coming from the infrared remote control unit to obtain speed changes, activation of the night-time deodorization phase or switching off of the apparatus; if one of the four remote control buttons has been pressed, the Led flashes for about 1 second.

### 10.1.3 MANUAL, TEST, ON-OFF FILTER AND RESET BUTTONS

The MANUAL button allows the air flow to be modified manually (0-1-2-3); the setting is memorised and maintained even if there is a power failure. The machine can be turned off by turning to flow 0 (fan off).



Pressing the button indicated, a test on the operation of the electronic circuit signals is carried out. The air purifier is in perfect operating conditions only if all the Leds go on. Otherwise call our service network.



The ON/OFF button is for activating/deactivating the filtration or revitalisation function. It is used when you need to completely dry the filtering unit after washing, or to use the machine for the ventilation function only.



The RESET button is for turning off the ALARM signal if the circuit protection device has tripped as a result of a continuous discharge or short circuit in the electrostatic cells. If the alarm persists even after resetting, call the technical service.



### 10.1.4 OPERATION OF THE MACHINE

These four LEDs indicate the operating status of the environmental Revitalizer:

A - MAINS  
(green Led):

power on (constant)

B - ALARM  
(red Led):

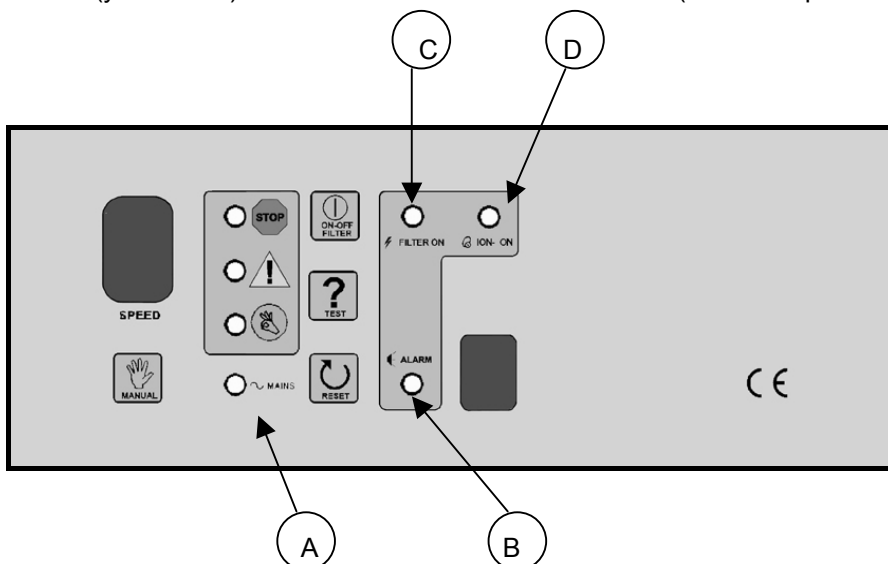
when this is on, it means that there is a problem with the high-efficiency filtration unit. All the filtration and revitalisation functions are stopped (call the technical service).

C - FILTER ON  
(yellow Led):

when this is on, it means that filtering is on.

D - ION- ON  
(yellow Led):

when this is on, it means that revitalisation is on (ionic re-equilibrium).



### 10.1.5 FILTERING STATUS

The three Leds indicate the state of filtering efficiency and therefore only go on when filtration is activated; only one Led lights up at a time. The indications on filtering status are:

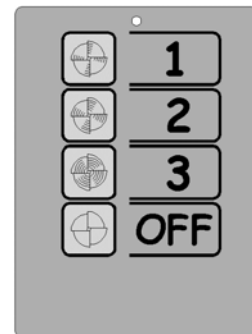


- MAINTENANCE (red Led): saturated filter to be cleaned or replaced (maintenance); in this case all the filtering and revitalisation functions are stopped.
- PRE-ALARM (yellow Led): efficient filtering but not at the maximum levels (pre-alarm)
- FILTER OK (green Led): high filtering efficiency

### 10.2 INFRARED REMOTE CONTROL UNIT

The remote control unit allows you to control the Revitalizer, modifying the air flow and activating night-time revitalisation from a distance of about 6-7 metres. The following functions are provided:

- 1st FAN SPEED key: sets the "maintenance" flow (room half empty)
- 2nd FAN SPEED key: sets the "normal use" flow (room half-full)
- 3rd FAN SPEED key: sets the "emergency" flow (room crowded)
- OFF key: turns off the air purifier



How to use: point the remote control towards the control panel, taking care that you are in line with it at a distance no greater than 6-7 metres.

When one of the four keys is pressed, the red LED at the top of the remote control unit goes on to indicate that transmission is in progress. Almost at the same time, the red LED located in the receiver of the control panel flashes, indicating that the signal has been received.

The infrared transmitter is powered by a 9-volt battery, type PP3 (transistor).

### 10.3 POWER SUPPLY AND ANTI BLACK-OUT SYSTEM

The machine is powered by a mains voltage of 210 to 240V AC at 50 Hz.

A momentary (or prolonged) power failure does not cause the resetting of the machine functions and when power is restored the machine goes back into operation on its own.

**ATTENTION: always connect the apparatus to the earth to protect persons, things and animals and respect CEI 11-29, CEI 64-8, and EN 60335 standards.**



## 10.4 ENVIRONMENTAL REVITALISATION (RIVITALIZZAZIONE AMBIENTALE®)

The Revitalizer revitalises the air in a confined environment in a completely automatic manner and until the pollutant has been completely cleaned from the environment.

This phase is automatically activated after the complete purification of the air so that the phenomenon of electrostatic charging of the pollutants cannot occur as they would be deposited on the walls, on the furnishings and in the respiratory tract. The revitalisation of the air is for re-establishing the ionic equilibrium in the environment after all the pollutants have been cleansed from it.

During the normal operation of this phase, the yellow led ION-ON lights up with fixed light.

**Table A Advantages of negative ionisation**

ASPECTS INVOLVED	EFFECTS PRODUCED
<b>Air quality</b>	<b>Improvement</b>
<b>Odours</b>	<b>Reduction</b>
<b>Arterial pressure</b>	<b>Reduction</b>
<b>Cardiovascular system</b>	<b>Improvement</b>
<b>Metabolism</b>	<b>Increase</b>
<b>Allergies</b>	<b>Reduction</b>
<b>Respiratory capacity</b>	<b>Improvement</b>
<b>Insomnia</b>	<b>Reduction</b>
<b>Mental concentration</b>	<b>Increase</b>

The Revitalizer only goes off when the user turns the operating capacity to 0 by means of the control panel or the remote control unit, or if an alarm trips due to malfunction arising from problems in the electrostatic cells or in the electronic parts (ALARM, MAINTENANCE ). In this case only the fan works.

## 10.5 PURIFICATION

The Revitalizer purifies the air by means of a high-efficiency electrostatic filter whose operation is governed by an electronic circuit which guarantees optimal and constant performance with time in any situation.

## 10.6 NORMAL CONDITIONS OF OPERATION

In normal conditions of operation the Revitalizer alternates the purification phase with the revitalisation phase, so that the environmental conditions described above can be created.

The purification phase is indicated by the yellow FILTER-ON and the green FILTER-OK Leds lighting up, while the revitalisation phase is shown by the yellow Led ION-ON lighting up (without flashing).

## 10.7 NIGHT-TIME REVITALISATION WITH ENVIRONMENTAL DEODORIZATION

If the Revitalizer is off or in flow position 2 or 3, this phase is activated by pressing button 1 of the infrared remote control unit three times consecutively, while if the flow is 1, the button should be pressed twice. During this phase, night revitalisation is signalled by the flashing of the yellow ION-ON and FILTER ON leds, and must only be used during the period when the premises are not occupied by people.

After this activation it is possible to change the fan speed.

The benefits which can be found with night-time revitalisation are especially evident the following morning when an air quality at a level never found before will be noted.

Night-time revitalisation must be turned off in the morning by pressing the OFF button on the remote control unit or turning the display to 0 (zero) by means of the MANUAL button; then activate the daytime operating phase by turning the Revitalizer to one of the 3 speeds available, by means of the remote control unit or the MANUAL button.

## 10.8 SIGNALS

The electronic control of this apparatus provides the user visually with all the information on operation required for correct use, and makes available the means for fast checking to seek any small anomalies, by means of the RESET-TEST-ON/OFF FILTER buttons.

## 10.9 STATE OF FILTRATION EFFICIENCY

As described in paragraph CONTROL PANEL, the three Leds of FILTRATION STATUS provide indications on the state of filtration efficiency.

The environmental revitalisation cycle remains active until optimal air filtration is obtained, indicated by the FILTER OK or PRE-ALARM Leds. If optimal filtration is not guaranteed, the red Led MAINTENANCE, will go on and the automatic revitalisation cycle will be deactivated (FILTER ON and/or ION-ON Leds off). In this case only the electric fan will run.

To turn off the alarm, simply turn off the Revitalizer, turning it to 0 (zero), and then start it again at any one of the three speeds; if the operating condition with the red MAINTENANCE Led persists, carry out a general check of the filtering system, see ORDINARY MAINTENANCE.

## 10.10 OPTIMAL APPLICATION OF THE REVITALIZER

NATURE SYSTEM® guarantees restoration of the conditions of purity and ionic re-equilibrium in all contaminated environments. You get the maximum results with NATURE SYSTEM® if you first identify the particular type of problem the Revitalizer must solve. For this reason, eight types of Revitalizer suitable for specific applications have been defined.

- TYPE **A**: suitable for premises such as bars, casinos, discos, pubs, amusement arcades, etc.
- TYPE **B**: suitable for premises such as restaurants, pizzeria, cafes, ice-cream parlours, butcher shops, etc.
- TYPE **C**: suitable for premises such as shops and stores for food, clothing, electrical appliances, etc.
- TYPE **D**: suitable for premises such as offices, computer rooms, professional offices, waiting rooms, laboratories, etc.
- TYPE **E**: suitable for premises such as hospital wards, and for treating illnesses of the respiratory tract, allergies, etc.
- TYPE **F**: suitable for environments in built-up areas and with high environmental pollution
- TYPE **G**: suitable for environments with high radon concentrations
- TYPE **H**: suitable for garden nurseries, flower shops and flower-growing in general

## 10.11 ELECTRONIC CIRCUIT ALARM SIGNALS

The electronic circuit detects every cause of imperfect air filtration. If there is a slight drop in the efficiency of the machine, the yellow PRE-ALARM Led will light up. If, however, the drop in efficiency is greater, filtering will be blocked completely and the red MAINTENANCE Led will go on. These signals can also come on because of faults in the physical state of the electrostatic cells.

TYPE OF ALARM	CAUSE	OPERATION
yellow LED on PRE-ALARM or letter F on the display	electrostatic cell dirty	carry out normal maintenance
yellow LED on PRE-ALARM	electrostatic cell not properly clean	if small dirty areas have remained, washing must be carried out again
yellow LED on PRE-ALARM	electrostatic cell damp	dry the cell thoroughly and particularly in the zone of the insulators
yellow LED on PRE-ALARM	electrostatic cell not properly rinsed	there may be detergent on the insulators; the cell must be thoroughly rinsed again
yellow LED on PRE-ALARM	small bodies trapped between the collection blades	the foreign bodies deposited on the blades must be removed
red LED on MAINTENANCE	electrostatic cell very dirty	carry out normal maintenance as soon as possible
red LED on MAINTENANCE and ALARM	electrostatic cell very dirty because of breakage of an ionisation wire	the wire must be removed and replaced immediately
red LED on MAINTENANCE and ALARM	electrostatic cell short circuited due to collection blade being bent	the blade must be straightened (call a specialised technician)
red LED on MAINTENANCE and ALARM	electrostatic cell short circuited by body trapped between the blades	the body must be removed taking care not to break the ionisation wires
letter F on the display	ionisation wires dirty or oxidised	clean the wires with a rag soaked in alcohol; if the problem persists, the wires must be replaced

It is possible that the operating status of the Revitalizer can be modified with some infrared remote control units for television sets or banknote readers for videogames by modifying the speed fan and the status of the machine. Check that this does not happen by pointing the TV remote control at the Revitalizer and press the ON/OFF button.

## 10.12 ELECTRONIC CIRCUIT ANOMALOUS SIGNALS

In some cases signals such as the following may occur:

- the display goes off momentarily,
- the letter 'P' on the display goes on,
- the letter 'N' on the display goes on.

The first case is the automatic circuit protection tripping when ionisation voltage has been discharged to the earth. In this case, it is necessary to check that the pre-filter is properly fitted in its seat and that it does not oscillate when the Revitalizer is working.

The other two cases are due to activation of particular test programs due to the simultaneous pressure of two buttons on the control panel of the circuit. To eliminate this activation, first disconnect the power plug and wait 5-10 seconds before putting it back in.

If the electronic circuit is damaged, fault signals of the following kind may occur:

- more than one of the filter efficiency Leds go on at the same time
- fan runs without any speed indication on the display
- no fan speed variation or fan fails to run
- the ALARM and MAINTENANCE Leds go on with indication of the operating speed without the filter cell being inserted.

In these cases you must call the nearest service centre.

# 11 AFC SYSTEM®

## **AFC SYSTEM®**

The system automatically carries out all the controls and gives the commands to the high-efficiency filtration along with the information required on the operating status of the apparatus.

### ***Infrared remote control unit***

The remote control unit allows the user to control the operation of the machine from a distance of about 6÷7 metres; in particular, the air flow can be varied.

### ***High-efficiency filtration unit***

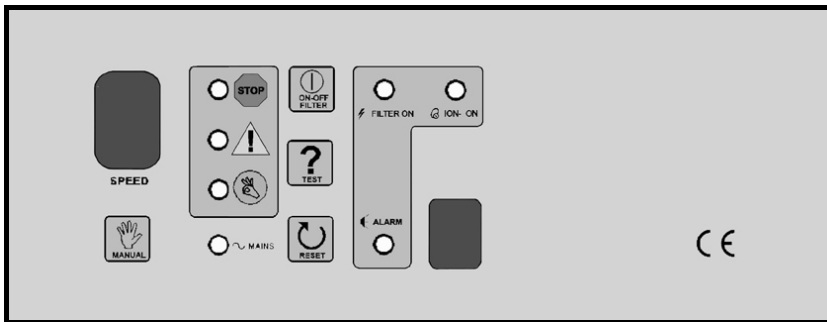
This element feeds the filtering System in a completely automatic manner, maintaining constant high efficiency in all situations.

## 11.1 CONTROL PANEL

All information regarding the operating status of the machine is displayed on the control panel.

The control panel allows the user to:

- select the air flow
- turn off any alarms indicating apparatus malfunctions
- constantly control all the functions relating to operation (air flow, filtration efficiency, alarm situation).



The devices which permit manual operation and visual control of the operating conditions are given here below.

### 11.1.1 DISPLAY

When the machine works normally, the single-figure display shows the operating air flow (0-1-2-3).

If, on the other hand, the letter F appears, this means that operation of the electrostatic cell is not correct. The reason may be a deposit of pollutant on the surface of the ionisation wires (see paragraph "ELECTRONIC CIRCUIT ALARM SIGNALS").

**If the letter F appears together with the indication ALARM, the operation of the machine does not stop, however it is an indication of efficiency reduction.**



### 11.1.2 (RECEIVER)



The receiver permits the reception of the signal coming from the infrared remote control unit to obtain speed changes or switching off of the apparatus; if one of the four remote control buttons has been pressed, the Led flashes for about 1 second.

### 11.1.3 MANUAL, TEST, ON-OFF FILTER AND RESET BUTTONS

The MANUAL button allows the air flow to be modified manually (0-1-2-3); the setting is memorised and maintained even if there is a power failure. The machine can be turned off by turning to flow 0 (fan off).



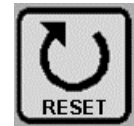
Pressing the button indicated, a test on the operation of the electronic circuit signals is carried out. The air purifier is in perfect operating conditions only if all the Leds go on. Otherwise call our service network.



The ON/OFF button is for activating/deactivating the filtration function. It is used when you need to completely dry the filtering unit after washing, or to use the machine for the ventilation function only.



The RESET button is for turning off the ALARM signal if the circuit protection device has tripped as a result of a continuous discharge or short circuit in the electrostatic cells. If the alarm persists even after resetting, call the technical service.



## 11.2 OPERATION OF THE MACHINE

These four LEDs indicate the operating status of the environmental Revitalizer:

A - MAINS  
(green Led):

power on (constant)

B - ALARM  
(red Led):

when this is on, it means that there is a problem with the high-efficiency filtration unit.

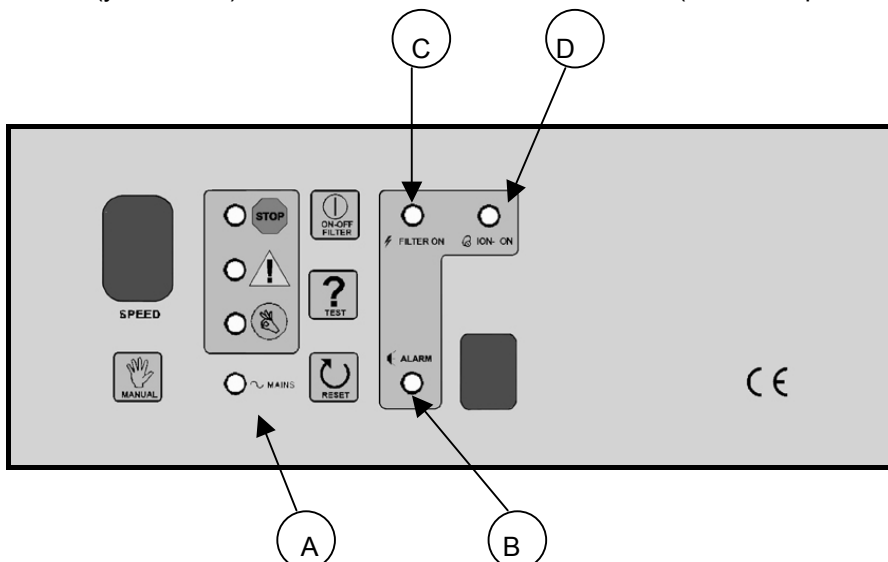
All the filtration and revitalisation functions are stopped (call the technical service).

C - FILTER ON  
(yellow Led):

when this is on, it means that filtering is on.

D - ION- ON  
(yellow Led):

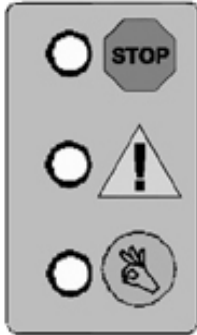
when this is on, it means that revitalisation is on (ionic re-equilibrium).





### 11.3 FILTERING STATUS

The three Leds indicate the state of filtering efficiency and therefore only go on when filtration is activated; only one Led lights up at a time. The indications on filtering status are:

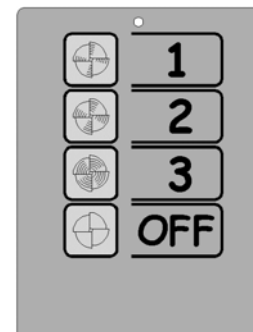


- MAINTENANCE (red Led): saturated filter to be cleaned or replaced (maintenance); in this case all the filtering functions are stopped.
- PRE-ALARM (yellow Led): efficient filtering but not at the maximum levels (pre-alarm)
- FILTER OK (green Led): high filtering efficiency

### 11.4 INFRARED REMOTE CONTROL UNIT

The remote control unit allows you to control the machine, modifying the air flow from a distance of about 6-7 metres. The following functions are provided:

- 1st FAN SPEED key: sets the "maintenance" flow (room half empty)
- 2nd FAN SPEED key: sets the "normal use" flow (room half-full)
- 3rd FAN SPEED key: sets the "emergency" flow (room crowded)
- OFF key: turns off the air purifier



How to use: point the remote control towards the control panel, taking care that you are in line with it at a distance no greater than 6-7 metres.

When one of the four keys is pressed, the red LED at the top of the remote control unit goes on to indicate that transmission is in progress. Almost at the same time, the red LED located in the receiver of the control panel flashes, indicating that the signal has been received.

The infrared transmitter is powered by a 9-volt battery, type PP3 (transistor).

### 11.5 POWER SUPPLY AND ANTI BLACK-OUT SYSTEM

The machine is powered by a mains voltage of 210 to 240V AC at 50 Hz.

A momentary (or prolonged) power failure does not cause the resetting of the machine functions and when power is restored the machine goes back into operation on its own.

**ATTENTION: always connect the apparatus to the earth to protect persons, things and animals and respect CEI 11-29, CEI 64-8, and EN 60335 standards.**

## 11.6 PURIFICATION

The Air Purifier purifies the air by means of a high-efficiency electrostatic filter whose operation is governed by an electronic circuit which guarantees optimal and constant performance with time in any situation.

## 11.7 SIGNALS

The electronic control of this apparatus provides the user visually with all the information on operation required for correct use, and makes available the means for fast checking to seek any small anomalies, by means of the RESET - TEST - ON/OFF FILTER buttons.

## 11.8 STATE OF FILTRATION EFFICIENCY

As described in paragraph CONTROL PANEL, the three Leds of FILTRATION STATUS provide indications on the state of filtration efficiency.

The purifying cycle remains active until optimal air filtration is obtained, indicated by the FILTER OK or PRE-ALARM Leds. If optimal filtration is not guaranteed the red Led MAINTENANCE will go on (Led FILTER ON off). In this case only the electric fan will run.

To turn off the alarm, simply turn off the machine, turning it to 0 (zero), and then start it again at any one of the three speeds; if the operating condition with the red MAINTENANCE Led persists, carry out a general check of the filtering system, see ORDINARY MAINTENANCE.

## 11.9 ELECTRONIC CIRCUIT ALARM SIGNALS

The electronic circuit detects every cause of imperfect air filtration. If there is a slight drop in the efficiency of the machine, the yellow PRE-ALARM Led will light up. If, however, the drop in efficiency is greater, filtering will be blocked completely and the red MAINTENANCE Led will go on. These signals can also come on because of faults in the physical state of the electrostatic cells.

TYPE OF ALARM	CAUSE	OPERATION
yellow LED on PRE-ALARM or letter F on the display	electrostatic cell dirty	carry out normal maintenance
yellow LED on PRE-ALARM	electrostatic cell not properly clean	if small dirty areas have remained, washing must be carried out again
yellow LED on PRE-ALARM	electrostatic cell damp	dry the cell thoroughly and particularly in the zone of the insulators
yellow LED on PRE-ALARM	electrostatic cell not properly rinsed	there may be detergent on the insulators; the cell must be thoroughly rinsed again
yellow LED on PRE-ALARM	small bodies trapped between the collection blades	the foreign bodies deposited on the blades must be removed
red LED on MAINTENANCE	electrostatic cell very dirty	carry out normal maintenance as soon as possible
red LED on MAINTENANCE and ALARM	electrostatic cell very dirty because of breakage of an ionisation wire	the wire must be removed and replaced immediately
red LED on MAINTENANCE and ALARM	electrostatic cell short circuited due to collection blade being bent	the blade must be straightened (call a specialised technician)
red LED on MAINTENANCE and ALARM	electrostatic cell short circuited by body trapped between the blades	the body must be removed taking care not to break the ionisation wires
letter F on the display	ionisation wires dirty or oxidised	clean the wires with a rag soaked in alcohol; if the problem persists, the wires must be replaced

It is possible that the operating status of the machine can be modified with some infrared remote control units for television sets or banknote readers for videogames by modifying the speed fan and the status of the machine. Check that this does not happen by pointing the TV remote control at the Air Purifier and press the ON/OFF button.

## 11.10 ELECTRONIC CIRCUIT ANOMALOUS SIGNALS

In some cases signals such as the following may occur:

- the display goes off momentarily,
- the letter 'P' on the display goes on,
- the letter 'N' on the display goes on.

The first case is the automatic circuit protection tripping when ionisation voltage has been discharged to the earth. In this case, it is necessary to check that the pre-filter is properly fitted in its seat and that it does not oscillate when the machine is working.

The other two cases are due to activation of particular test programs due to the simultaneous pressure of two buttons on the control panel of the circuit. To eliminate this activation, first disconnect the power plug and wait 5-10 seconds before putting it back in.

If the electronic circuit is damaged, fault signals of the following kind may occur:

- more than one of the filter efficiency Leds go on at the same time
- fan runs without any speed indication on the display
- no fan speed variation or fan fails to run
- the ALARM and MAINTENANCE Leds go on with indication of the operating speed without the filter cell being inserted.

In these cases you must call the nearest service centre.

# 1 2 BASIC SYSTEM

## **BASIC SYSTEM**

The System carries out the controls and gives the commands for filtration and negative ionisation along with the information required on the operating status of the apparatus.

### ***Infrared remote control unit***

The remote control unit allows the user to control the operation of the machine from a distance of about 6÷7 metres; in particular, the air flow can be varied.

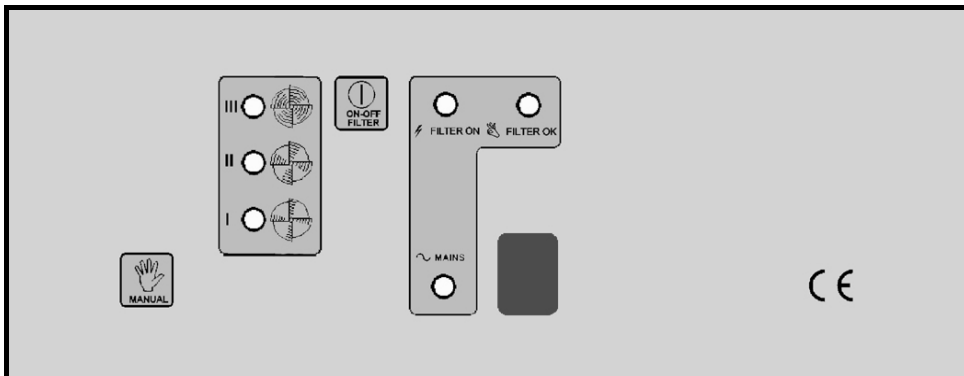
### ***Negative ionisation***

The BASIC SYSTEM allows a continually, negative environmental ionisation.

## 12.1 CONTROL PANEL

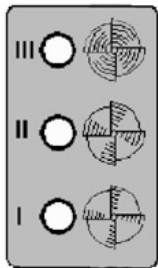
For modifying the operating status of the machine it is possible to use the control panel or the remote control. All information regarding the operating status of the machine is displayed on the control panel. The control panel allows the user to:

- select the air flow
- control of all the functions relating to operation (air flow, filter on, alarm situation).



The devices which permit manual operation and visual control of the operating conditions are given here below.

## 12.2 VISUALISATION OF SPEED



The control panel shows the speed of the machine by lighting on the yellow Led corresponding to:  
 speed 3 (fast), speed 2 (medium), speed 1 (slow)

### 12.2.1 RECEIVER



The receiver permits the reception of the signal coming from the infrared remote control unit to obtain speed changes, if one of the four remote control buttons has been pressed, the Led of receiver will be on.

### 12.2.2 MANUAL AND ON-OFF FILTER BUTTONS

The MANUAL button allows the air flow to be modified manually (OFF-1-2-3); the setting is memorised and maintained even if there is a power failure.



The ON/OFF button is for activating/deactivating the filtration function and the negative ionisation. It is used when you need to completely dry the filtering unit after washing, or to use the machine for the ventilation function only.



### 12.3 OPERATION OF THE MACHINE

These three Leds indicate the operating status of the Air Purifier:

A - FILTER ON  
(yellow led):

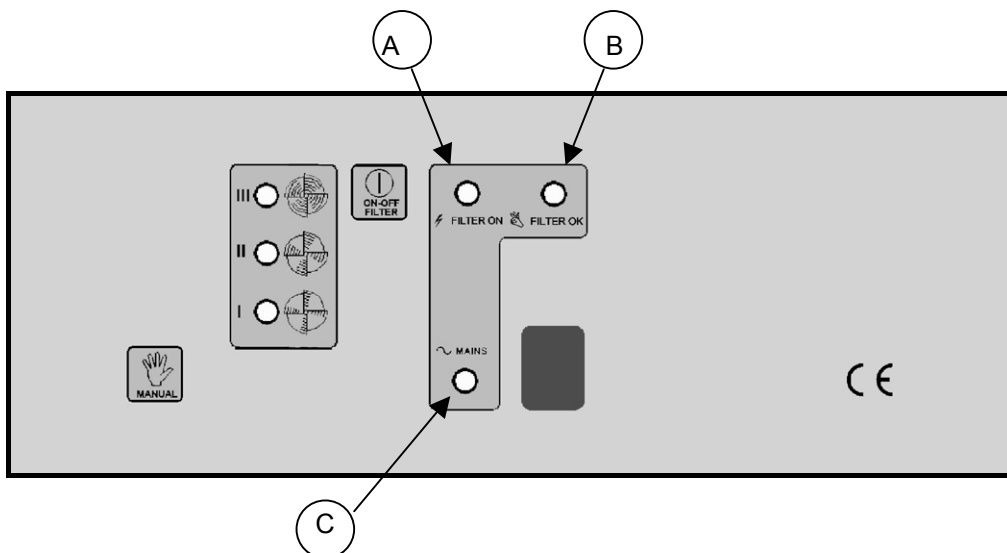
when this is on, it means that filtering and ionisation are on.

B - FILTER OK  
(green led):

high filtering efficiency and emission of ions

C - MAINS  
(green led):

power on (constant)



## 12.4 INFRARED REMOTE CONTROL UNIT

The remote control unit allows you to control the machine, modifying the air flow from a distance of about 6-7 metres. The following functions are provided:

- 1st FAN SPEED key: sets the "maintenance" flow (room half empty)
- 2nd FAN SPEED key: sets the "normal use" flow (room half-full)
- 3rd FAN SPEED key: sets the "emergency" flow (room crowded)
- OFF key: turns off the air purifier



How to use: point the remote control towards the control panel, taking care that you are in line with it at a distance no greater than 6-7 metres.

The infrared transmitter is powered by a 9-volt battery, type PP3 (transistor).

## 12.5 POWER SUPPLY AND ANTI BLACK-OUT SYSTEM

The machine is powered by a mains voltage of 210 to 240V AC at 50 Hz.

A momentary (or prolonged) power failure does not cause the resetting of the machine functions and when power is restored the machine goes back into operation on its own.

**ATTENTION: always connect the apparatus to the earth to protect persons, things and animals and respect CEI 11-29, CEI 64-8, and EN 60335 standards.**

## 12.6 PURIFICATION

The Air Purifier purifies the air by means of a high-efficiency electrostatic filter whose operation is governed by an electronic circuit.

## 12.7 SIGNALS

The electronic control of this apparatus provides the user visually with all the information on operation required for correct use, and makes available the means for fast checking to seek any small anomalies.

## 12.8 STATUS OF FILTRATION EFFICIENCY

The environmental air cleaning cycle remains active until the Led FILTER OK is on. If optimal filtration is not guaranteed, the Led FILTER OK starts to flash. In this case only the electric fan will run.

It is necessary to carry out a general maintenance check of the filtering system, for that see paragraph ORDINARY MAINTENANCE.

## 12.9 ELECTRONIC CIRCUIT ALARM SIGNALS



The electronic circuit will light up an eventually block of filtration. The causes often can be resolved by a small operation.

TYPE OF ALARM	CAUSE	OPERATION
green Led FILTER OK is flashing	electrostatic cell dirty	carry out normal maintenance
	electrostatic cell not properly clean	if small dirty areas have remained, washing must be carried out again
	electrostatic cell damp	dry the cell thoroughly and particularly in the zone of the insulators
	electrostatic cell not properly rinsed	there may be detergent on the insulators; the cell must be thoroughly rinsed again
	small bodies trapped between the collection blades	the foreign bodies deposited on the blades must be removed
	electrostatic cell short circuited due to breakage of an ionisation wire	the wire must be removed and replaced immediately
	electrostatic cell short circuited due to collection blade being bent	the blade must be straightened (call a specialised technician)

It is possible that the operating status of the machine can be modified with some infrared remote control units for television sets or banknote readers for videogames by modifying the speed fan and the status of the machine. Check that this does not happen by pointing the TV remote control at the Air Purifier and press the ON/OFF button.

## 13 TECHNICAL DATASHEETS

FILTER UNIT UC1200									
model	capacity m <sup>3</sup> /h	dB	Watt	Power. V - Hz	Dimensions mm	Wt. Kg	n° cells	type of installation	remote control
UC1200	1 <sup>a</sup> speed 750 2 <sup>a</sup> speed 1100 3 <sup>a</sup> speed 1450	44 53 58	165	230 – 50	depending on version	28	1	ceiling	YES

RE OXYGENISING UNIT UC1200-R									
model	capacity m <sup>3</sup> /h	dB	Watt	Power. V - Hz	Dimensions mm	Wt. Kg	n° cells	type of installation	remote control
UC1200-R	1 <sup>a</sup> speed 170 2 <sup>a</sup> speed 230 3 <sup>a</sup> speed 450		125	230 – 50		28	1	ceiling	YES

## 14 CERTIFICATIONS

All machines are in possession of certification which attests to the high quality of the air treated and the high quality of the materials used to build them.

### 14.1 CERTIFICATION C.N.R.

The machines are in possession of C.N.R. certification, which attests to the efficiency of filtration declared for each model and certifies that ozone production is much lower than the limits laid down in law. For further clarification or to receive this certification, contact the manufacturer.

### 14.2 CERTIFICATION OF COMPONENTS

The electrical components used for the construction are being certified or are in possession of ISO29000 and quality certification meeting the requisites of current standards for electrical and mechanical safety, in accordance with EEC Machine Directive 89/392.