WESTERN™
AIRCONDITIONING
WARMTEPOMPEN

AER Slim SERIES

RESIDENTIAL FCU

"EVO" Version

(thickness 119mm)

INSTALLATION, USE AND MAINTENANCE MANUAL

INDEX

1-INTRODUCTION

The AERSLIM series units are designed for heating, cooling, dehumidification and filtration of residential buildings and services structures (office blocks, public buildings and the like).

These units are not designed for:

- Outdoor operation
- Operation in damp, explosive or dusty environments
- Operation in corrosive environments, in particular for aluminium battery blades
- Operation in environments exposed to electromagnetic interference

These machines are not intended for operation by persons (including children) with reduced physical, mental or sensory abilities, or persons who have not received adequate information or training, unless they are supervised by a person responsible for their safety.

Installation and maintenance of the machines should be carried out by qualified persons (each for their own specific task) who must have received the necessary instructions. These operations must be carried out in compliance with the applicable safety regulations in force. These regulations may concern, for example, occupational safety (use of eye and hand protectors etc.), electrical installations and systems, pressure vessels, refrigeration equipment, and lifting equipment.

The manufacturer/seller will not be responsible for any damage to persons or property deriving from failure to observe the prescriptions contained in this manual, failure to carry out regular maintenance or from the use of non-original spare parts or alteration of the product condition with respect to condition upon receipt. Additionally, in all the above-listed cases, the product official warranty will be forfeited.

This manual must be kept with the machine at all times.

2-RECEIPT

The machines are delivered packed in cardboard boxes. Do not place weights on top of the cartons and do not stack more boxes than are in the stacks at the time of delivery.

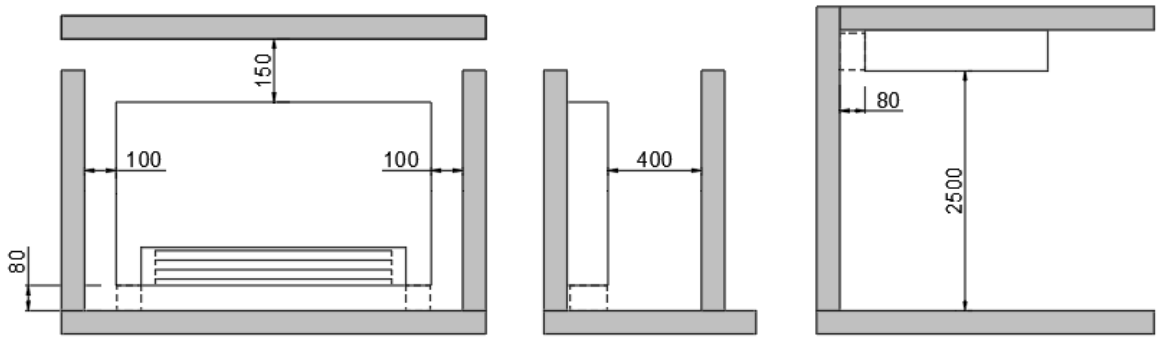
Check that the identification label shows the same code as ordered and that there is no damage to the packaging or the product. In case of non-compliance, contact the manufacturer or the seller immediately and do not install the product.

Do not dispose of any packaging material freely in the environment; dispose of it in compliance with the rules on waste disposal.

3-POSITIONING

The unit must be fixed to the wall (vertical versions VB, VD) or the ceiling (horizontal versions HB and HD). The wall must be perfectly vertical (90° with respect to the floor) and the ceiling must be perfectly horizontal (parallel to the floor). Installation on sloped walls or ceilings or on uneven or curved surfaces is not allowed.

Observe the minimum dimensions shown in the figure, which are necessary for easy installation and correct operation of the unit.



The unit must not be exposed to direct sunlight or sources of heat. Select a setting within the room so that the unit can treat the whole room evenly, without, however, occupants being directly hit by the airflow.

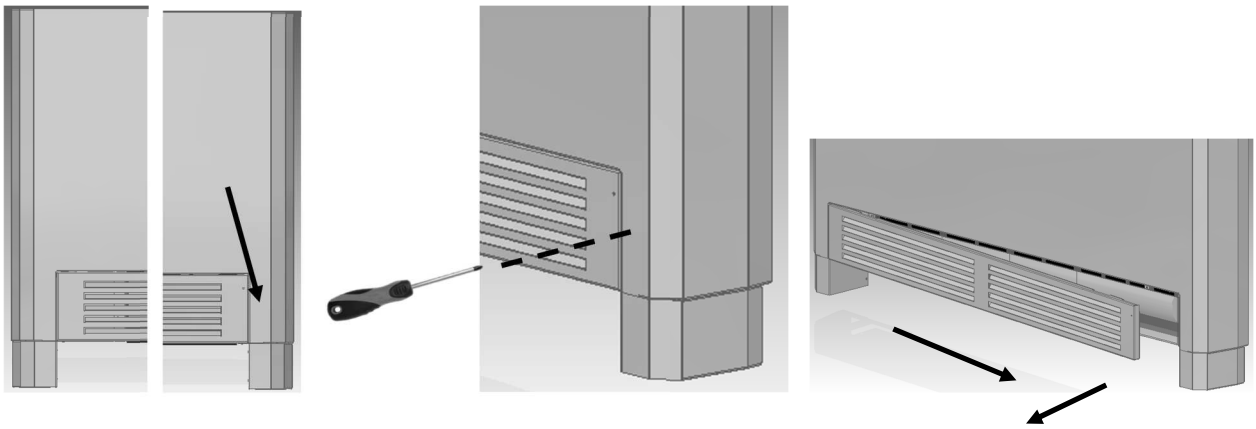
4-INSTALLATION

Remove the cardboard packaging and all external polystyrene side protectors before installing. The machine must always be moved by two people and must be handled only at sufficiently resistant points (metal main frame), taking care not to damage weaker parts, in particular the filters, the grids and the control unit.

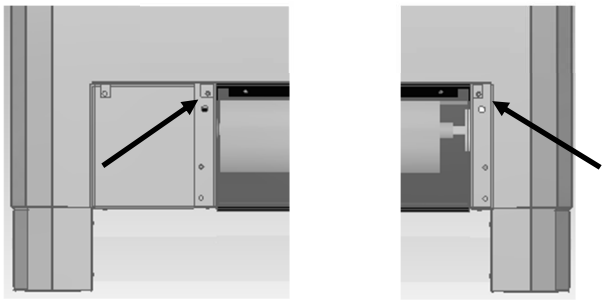
If the CZ accessories (support feet) are present, install them as described in the special section.

For units equipped with cabinet, this must first be removed by following the procedure below. The pictures below refer to left connections units (standard version SX). For right connection units (optional version DX) the position of screw to fix cabinet and inlet panel is on the opposite side than below pictures.

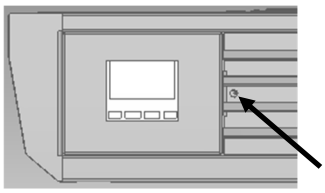
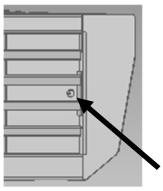
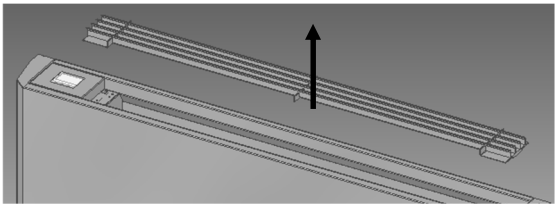
With a cross-head screwdriver with a maximum diameter of 3.5 mm. remove the screw in the hole at the right end of the front intake grille. Rotate forward and lift the intake grille to remove it.



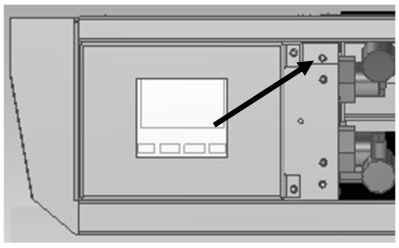
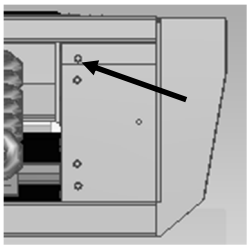
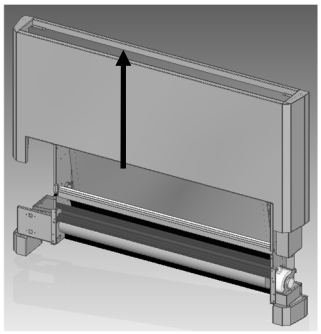
Remove the two screws that secure the cabinet to the fan-coil structure, behind the intake grille.



Remove the screw at the right end of the delivery grille (if it has forward-facing blades) or at the left end (if it has rear-facing blades) and remove the grille by releasing it from the opposite side with respect to the screw.

Remove the two screws that secure the cabinet cross piece to the fan-coil structure and remove the cabinet by lifting it up.

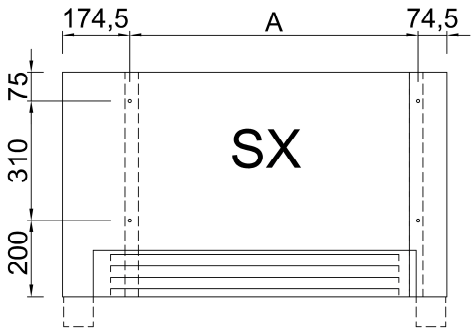




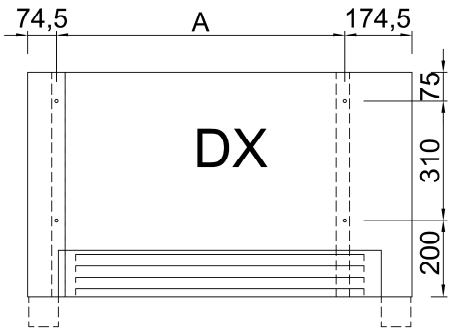
<u>After installation completion, it will be necessary to reassemble all the components in reverse order with respect to the order in which they were disassembled. It is strictly forbidden (serious risks of personal injuries) to use the unit if any of the components have not been correctly reassembled.</u>

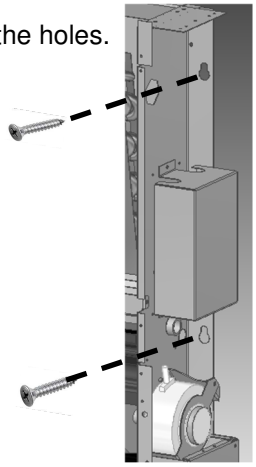
The unit is equipped with four slots to fix it to the wall or ceiling using plugs and bolts. Make sure that the wall material and fixing accessories not included in the supply (plugs and bolts) are suitable for supporting the weight of the unit.

WEIGHTS		**15**	**35**	**45**	**55**
Unit weight (VB-HB)	**kg**	17	20	23	26
Unit weight (VD-HD)	**kg**	9	12	15	18
Coil inside volume	**litres**	0.47	0.8	1.13	1.46

Drill the wall according to the indicated distances and insert the four anchor bolts into the holes.







	15	**35**	**45**	**55**
A (mm)	351	551	751	951

Fix the unit to the wall with the four screws (depending on the size of the screw heads, washers may be required). On installation completion the unit must be perfectly level or slightly sloping in the condensate drain direction. Installations with an opposite slope to the condensate drain are not allowed as this can prevent the natural outflow.

5-HYDRAULIC CONNECTIONS

The machine is equipped with a battery suitable for working with water, possibly mixed with glycol.

To prevent the formation of condensate on unit surfaces during the summer, whenever the fan is not in operation, it is recommended to stop the flow of chilled water via a motorised valve.

All pipes, and particularly those containing chilled water, must be insulated to prevent condensate from dripping.

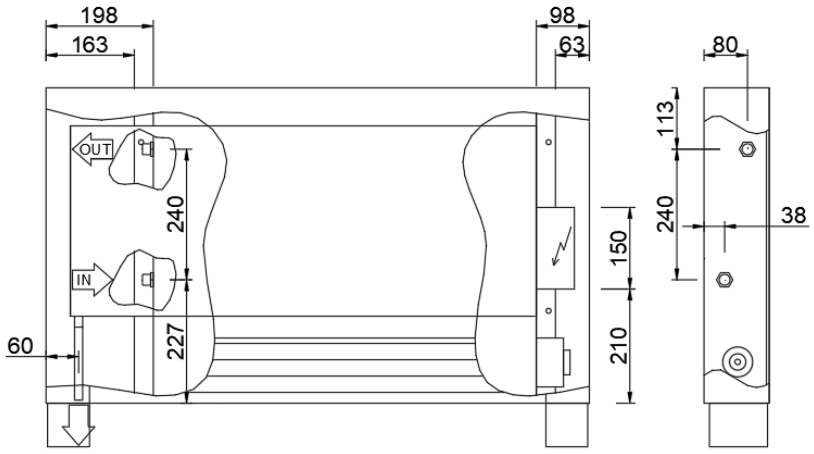
To facilitate maintenance, it is advisable to use manual ball valves so that the machine can be bypassed within the system.

When connecting the pipes, in order not to twist the battery and valve lines, it is recommended to use a wrench and backup wrench.

The valves can be factory installed or supplied as a kit (to be assembled by the installer). In any case, take care to observe the indications regarding water in-flow and out-flow.

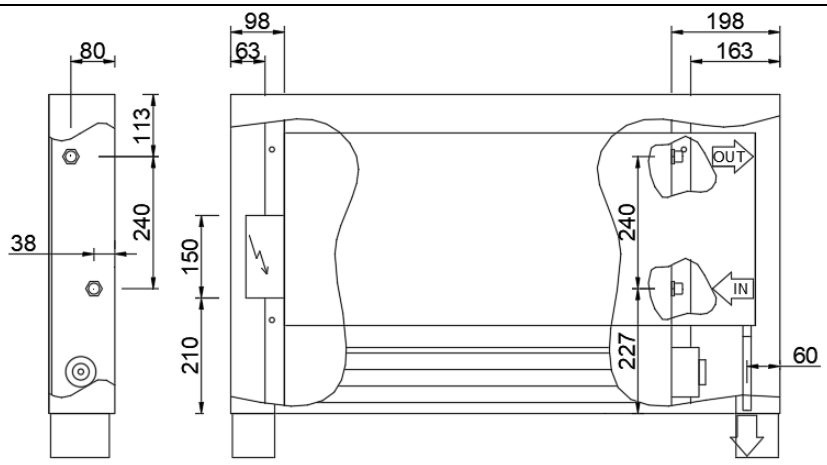
Horizontal version

Without valve (left connections SX)



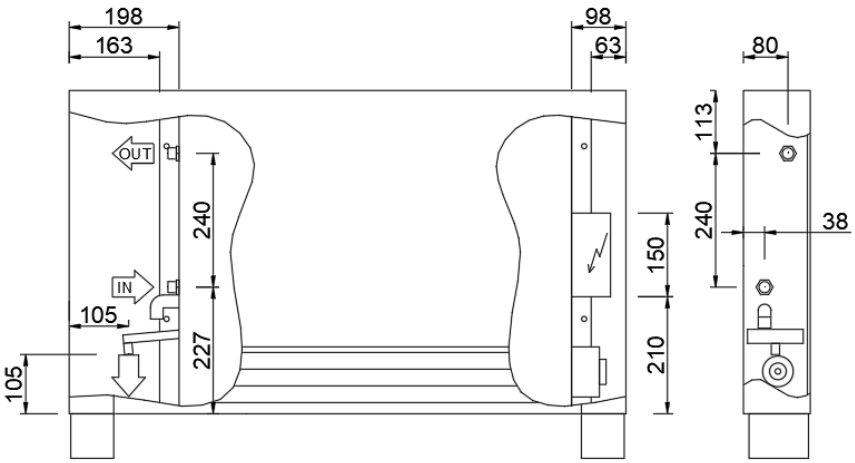
Horizontal version

Without valve (right connections DX)



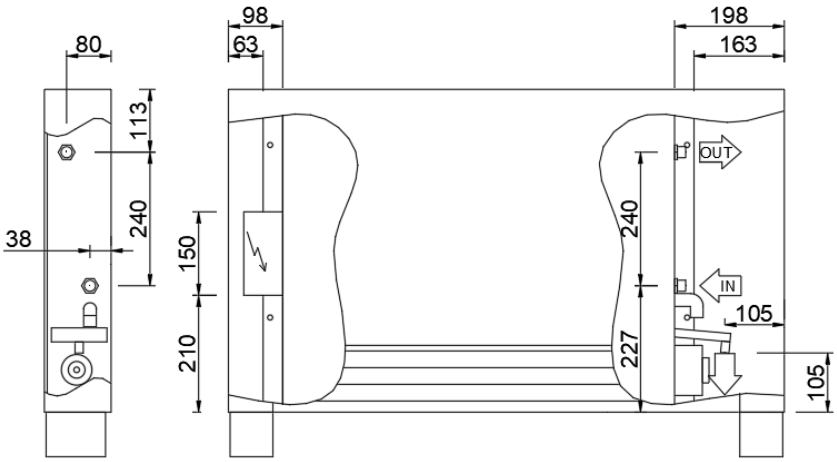
Vertical version

Without valve (left connections SX)



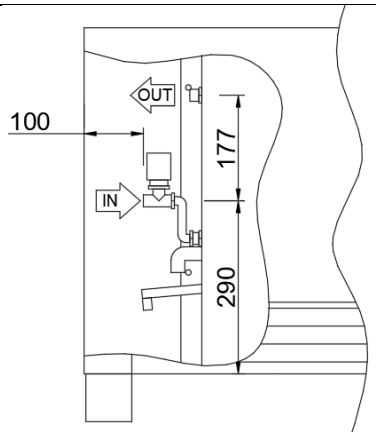
Vertical version

Without valve (right connections DX)

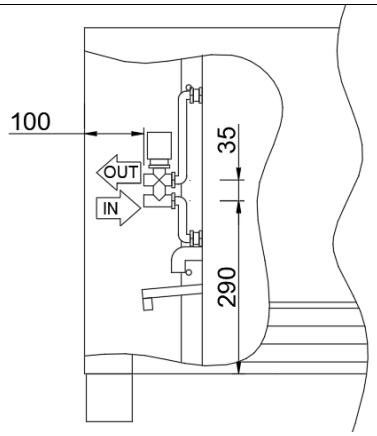


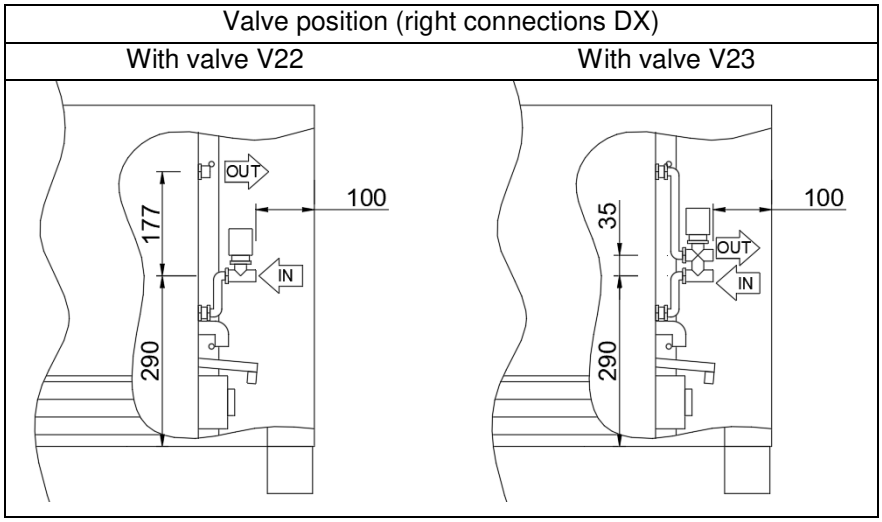
Valve position (left connections SX)

With valve V22

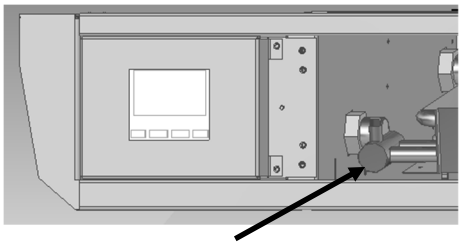


With valve V23

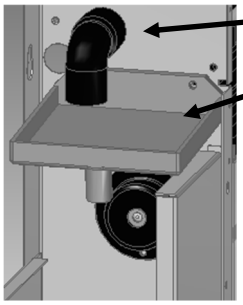




After completing the hydraulic installation and loading the system, the battery must be vented through the special needle valve. Repeat the venting operation after operating the circulation pump until you are sure to have removed all the bubbles.



VENTING VALVE



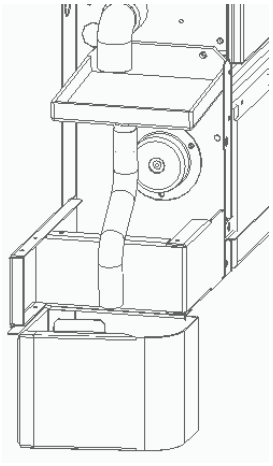
RUBBER ELBOW

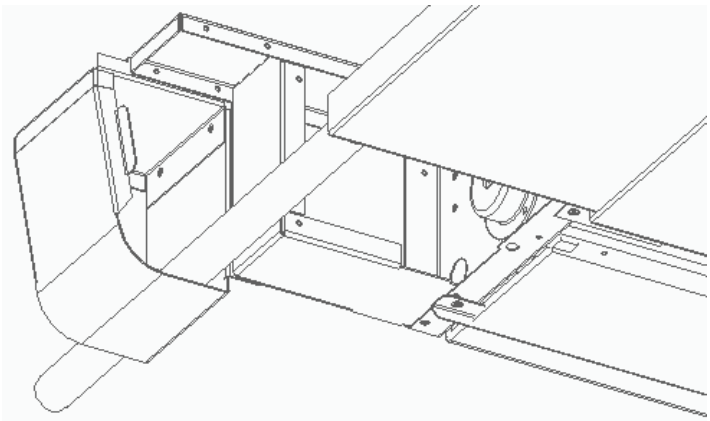
AUXILIARY TANK

Before connecting the condensate drain pipe, check that the main tank is level or slightly inclined towards the drain. In the vertical version, also check that the auxiliary tank is correctly fixed to the side and that the rubber elbow adheres to the drain of the main tank. In the horizontal versions, check that the rubber drain hose adheres to the metal elbow of the main tank.

Use a drain pipe with an inside diameter not smaller than 16mm. We recommend using a white water drain; If there is a chance of foul smells coming from the drain, a siphon must be installed. The pipe gradient must be constant and not less than 1%; if it is necessary to overcome reverse slopes, install a drain pump (follow the instructions in the pump installation sheet); in any case, the pump must be installed below the unit tray level.

For vertical units, connect the condensate drain pipe to the auxiliary tank. For horizontal versions, extend the existing drain pipe, which is connected to the metal elbow of the main tank. When installing the front panel, check that there is no drain pipe reverse slope.





After carrying out condensate drain connections, pour at least 2 litres of water from a bottle into the tank (slowly, in small quantities over a period of 5 minutes) and check for proper drainage.

6-INSTALLATION OF VALVE KIT (Accessory)

The valves supplied as a KIT must be assembled and integrated in the unit as shown in the figures of section 5.

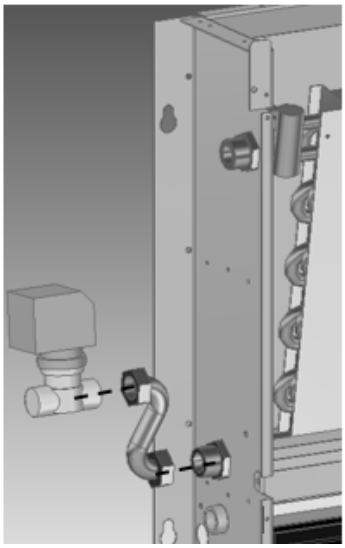
Always place fiber or rubber flat gaskets between hydraulic parts (for example, between a valve and a pipe or between a battery and a pipe).

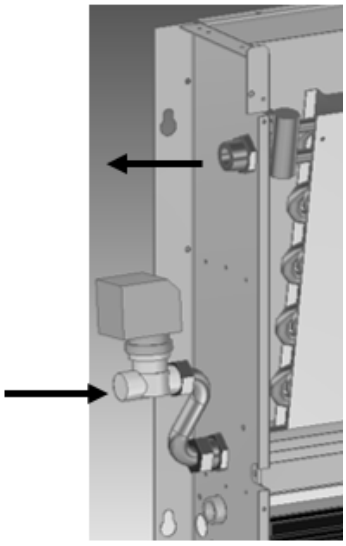
Insulate all the pipes (upstream and downstream of the valve) and the valve body to avoid condensate dripping out of the auxiliary tank.

Make sure that the actuator is facing up or horizontally with respect to the valve body. Installations with the actuator facing down are not permitted.

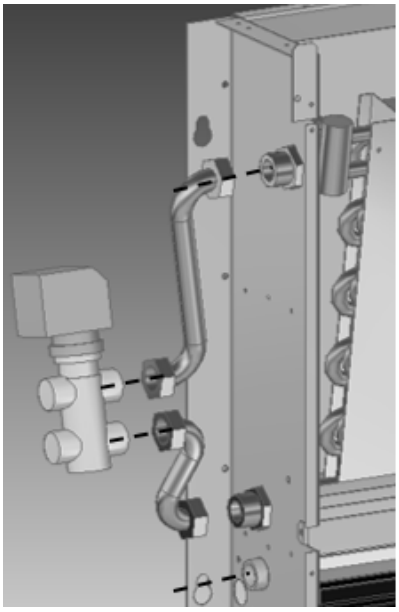
The following pictures refer to left connection units (standard version SX). For right connection units (optional version DX) the position of valve and pipes are mirrored.

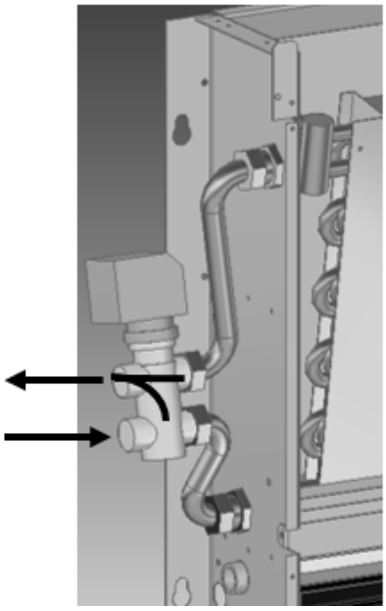
2-WAY VALVE KIT ASSEMBLY





4 DOOR/3-WAY VALVE KIT ASSEMBLY





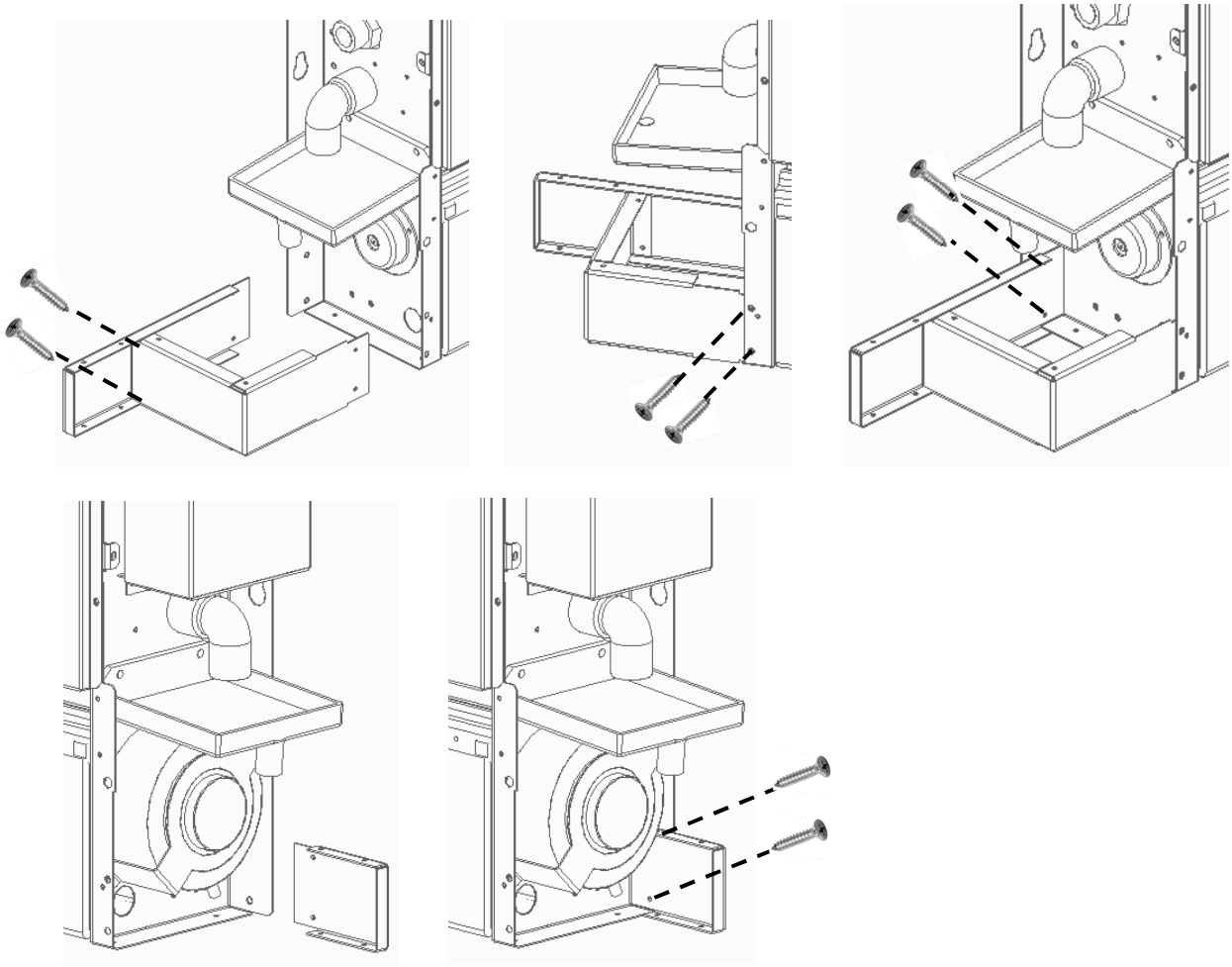
After assembling the KIT, remove the valve protective cap and fix the actuator by means of the threaded ring nut (the shape of the actuator may be different from the one shown in picture, depending on the type).

Actuator

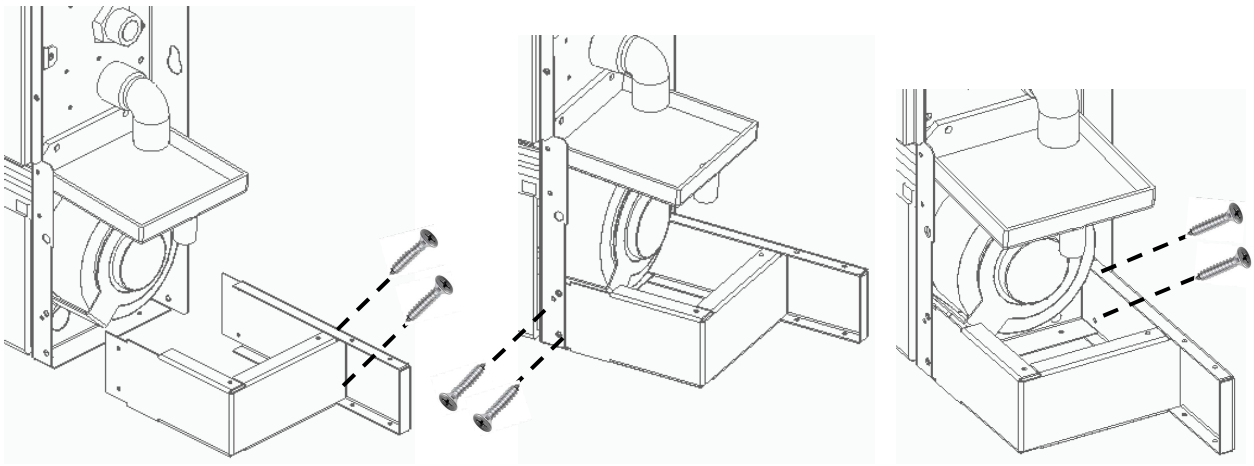
Protective cap

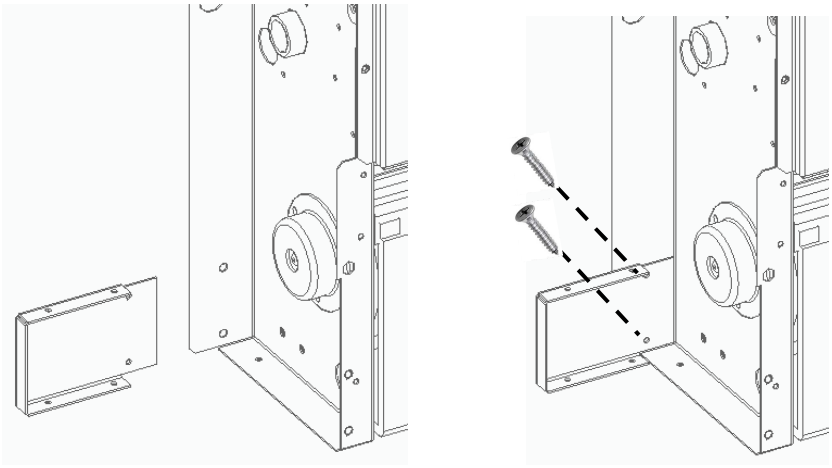
7-INSTALLATION OF SUPPORT FEET (Accessory)

Remove the cabinet and filters as described in the specific sections.
Fix the two galvanized metal plate brackets to the right and left sides with the supplied screws.
Left connections unit

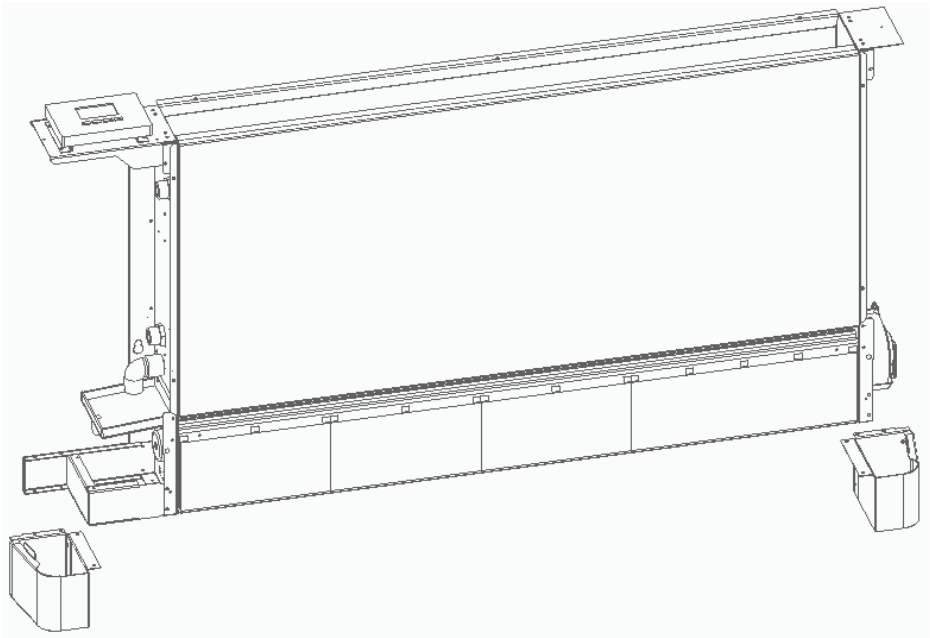


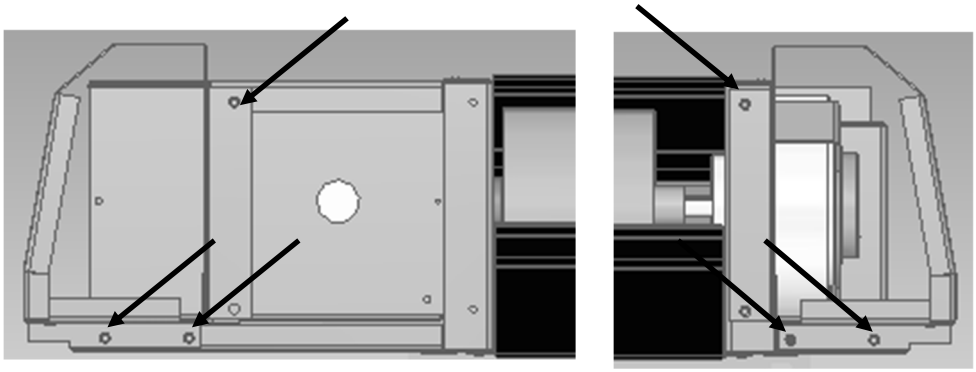
Right connections unit



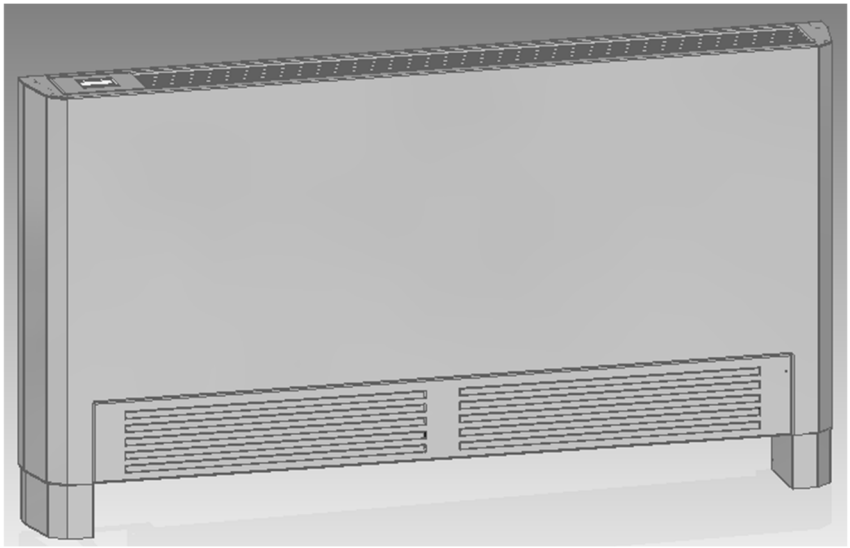


Fix the two feet (right and left, not interchangeable) with six self-tapping screws as shown in the figure using the holes provided. After installation completion, make sure that they are firmly secured to the fan-coil structure.





Reassemble the filters and the cabinet



8- ELECTRICAL CONNECTIONS

Provide a manual disconnector near the machine to be able to cut it off the power line during maintenance operations.

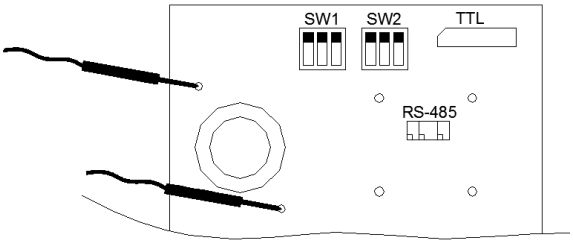
Provide a fuse or magnetothermal cutoff switch to protect the machine.

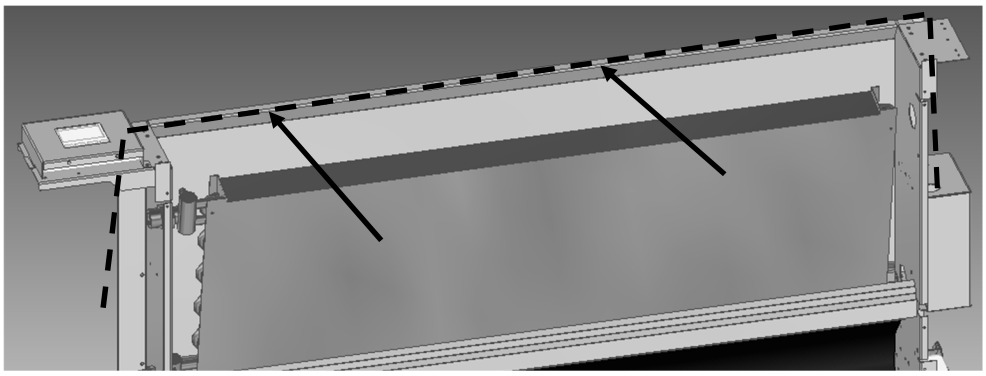
The power cables must be sized taking into account the maximum machine absorption value, shown on the label and in the technical manual; however, they should not be less than 0.75 sq.mm.

Check that the voltage and frequency of the power mains is 230V - 50Hz.

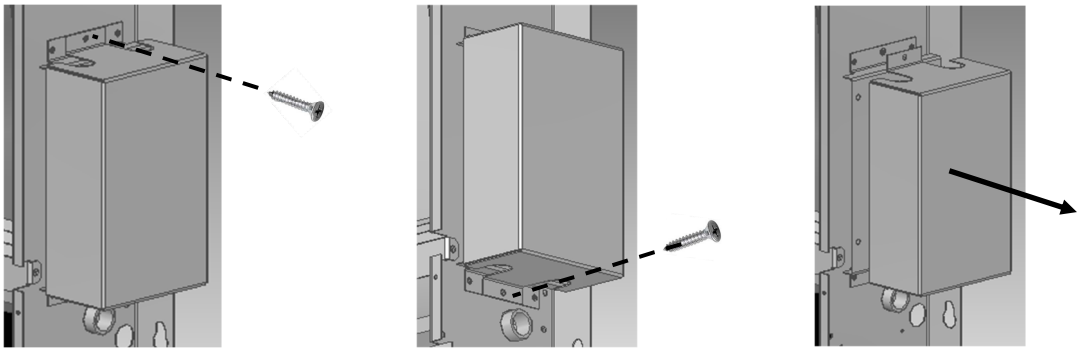
Before carrying out any machine servicing, make sure that the main power supply is switched off and that it can not be turned back on unintentionally. Before opening the electrical box, wait at least 60 seconds after disconnecting the power supply. In any case, after opening the electrical box, before touching the board or the electrical connections, check with a tester (set to direct V) that the voltage at capacitor ends is less than 38V (test points are provided on the board for this specific purpose). Stop servicing the machine if the measured voltage is higher than 38V.

The unit has hydraulic and electrical connections on opposite sides; if the electrical pre-setting has been provided on the same side as the hydraulic connections, it is possible to reach the opposite side by routing the wires over the back panel; the wires, routed in this way, will then be covered by the covering cabinet cross piece.





To remove the control panel cover, unscrew the two screws that fix it to the side of the unit



Before carrying out the electrical wiring, refer to the specific wiring diagram of the unit supplied with the machine. After completing the electrical installation, replace the control panel cover and secure it with the two screws.

9-SCHEDULED MAINTENANCE

Machine maintenance may only be performed by qualified and trained personnel.

Before carrying out any machine servicing, make sure that the main power supply is switched off and that it can not be turned back on unintentionally. Make sure that the motor has stopped before removing any unit panel.

The motor, the battery and the fan do not require routine maintenance. The filter requires regular cleaning.

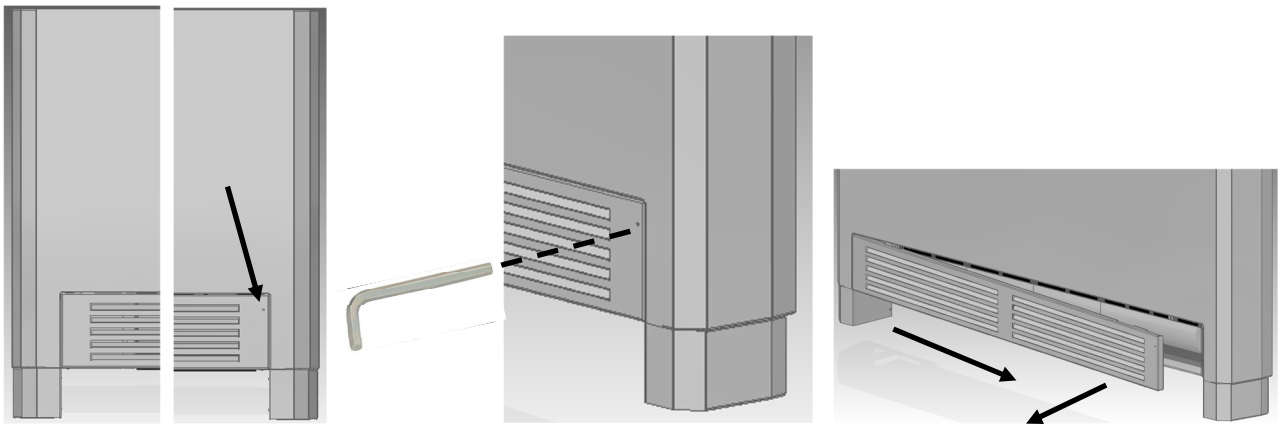
9.1-Cleaning

In order to keep the cabinet paint finish in good condition, it is necessary to periodically clean it (every 6 months or more often depending on the environment). Before carrying out any cleaning, make sure that the main power supply is switched off and that it can not be turned back on unintentionally. Also make sure that the surfaces (particularly in the presence of a radiant panel) are not excessively hot. Wipe the outside surfaces of the cabinet with a soft damp cloth. Do not use rough or abrasive cloths or aggressive detergents. In the event that there are traces of rust, remove them with an adequate treatment and repaint the component.

9.2-Filter

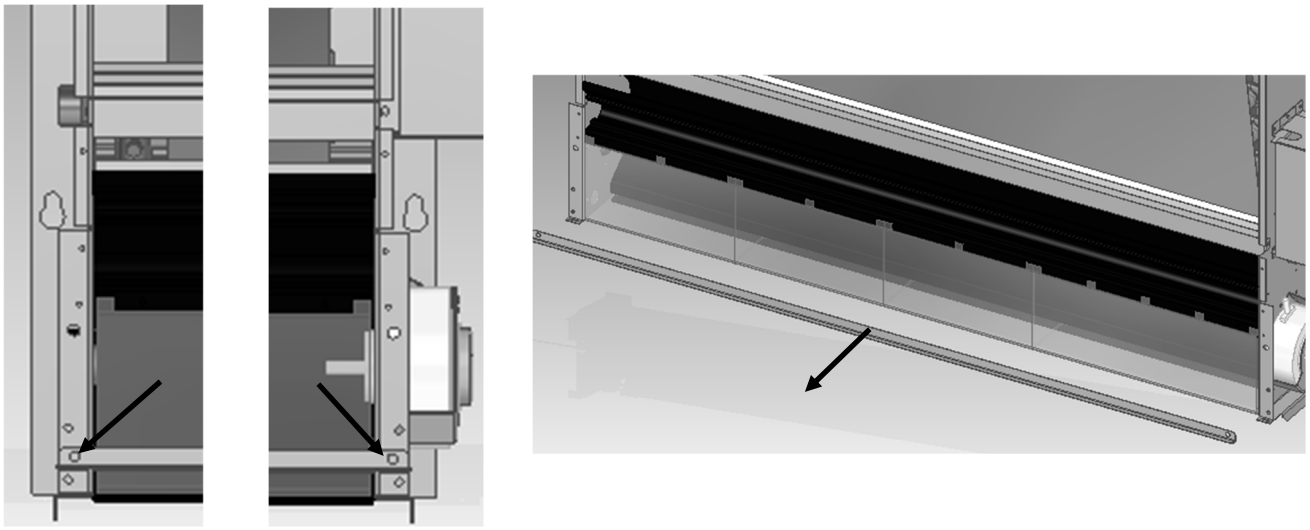
The filter must be cleaned periodically, every 6 months or more often in dusty environments. Thorough filter cleaning reduces unit operating noise and increases energy efficiency. Before carrying out any filter cleaning, make sure that the main power supply is switched off and that it can not be turned back on unintentionally. Also make sure that the fan has stopped.

To access the filter (versions with cabinet) unscrew, with the supplied 2mm Allen wrench, the screw in the hole at the right (for left connection unit) or left (for right connection unit) end of the front intake grille. Rotate forward and lift the intake grille to remove it.

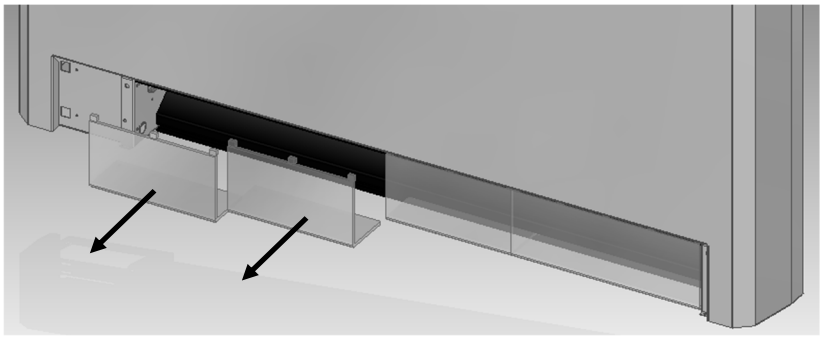


Remove the two screws that secure the cabinet to the fan-coil structure, behind the intake grille.

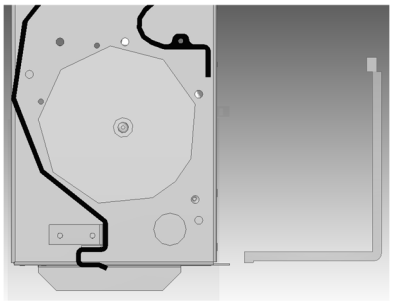
To access the filter (versions without cabinet), remove the two screws that fix the metal corner component located in front of the filters.



Gently remove, taking care not to damage them, all the modules that make up the filters.



	15	**35**	**45**	**55**
Module L=200	0	1	2	3
Module L=300	1	1	1	1



The filter can be cleaned gently with a vacuum cleaner and then washed with warm water. Before replacing the filters, allow them to dry in a ventilated environment away from direct sunlight. If any filters are damaged, they must be replaced. To re-install the filters, insert the lower part in its special guide and reassemble all the components previously removed.

FOR SAFETY REASONS, IT IS NOT PERMITTED:

- To use the unit without filters, with damaged or with incorrectly positioned filters;
- To use the unit without the front intake grille (cabinet version) or without the corner component in front of the filters (version without cabinet). The screws that secure these components must also be tightened hard - as they were when the unit was first delivered.

Should it be not possible to restore the filters and their guards, the unit must be kept powered off making sure that power supply cannot be resumed unintentionally.

If these prescriptions are not complied with, there are risks of serious personal injury, for which the Manufacturer will not be accountable.

10-UNSCHEDULED MAINTENANCE

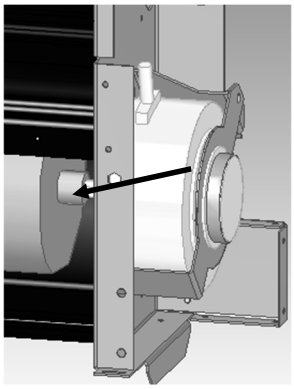
Unscheduled machine maintenance may only be performed by qualified and trained personnel. Maintenance carried out during the warranty period and not authorised by the Manufacturing Company will forfeit the warranty.

Before carrying out any machine servicing, make sure that the main power supply is switched off and that it can not be turned back on unintentionally. Make sure that the motor has stopped before removing any unit panel.

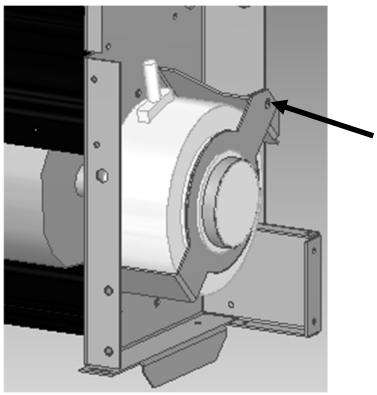
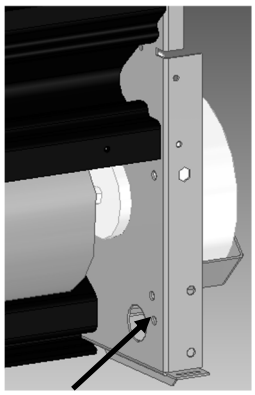
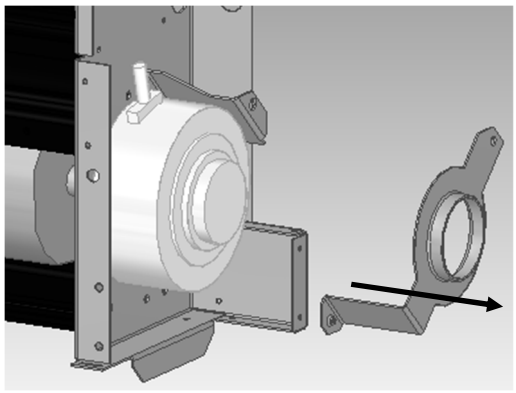
10.1-Motor and fan

To replace the motor, it is first necessary to remove the cabinet and the filters as described in the previous sections.

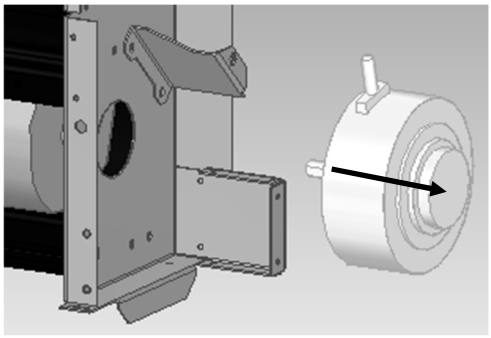
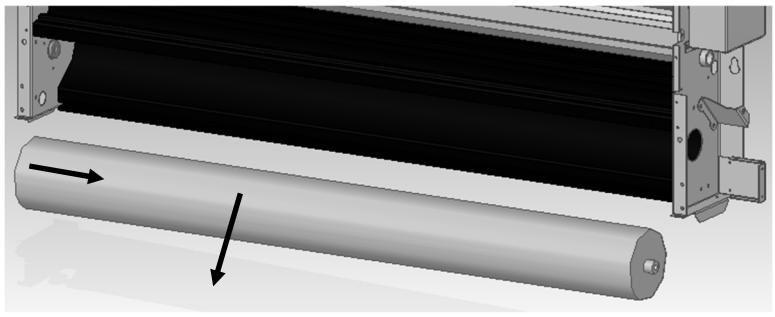
Using an Allen wrench, loosen the threaded nut that secures the fan to the motor pin. During the subsequent assembly, make sure that the threaded nut is aligned with the motor pin plane.



Remove the two M4 screws that secure the motor bracket to the side; one screw unscrews from the inside, the other one from the outside.

Remove the motor and then the fan; to remove the fan, first move it to the right to release the pin that fixes it to the support on the left.

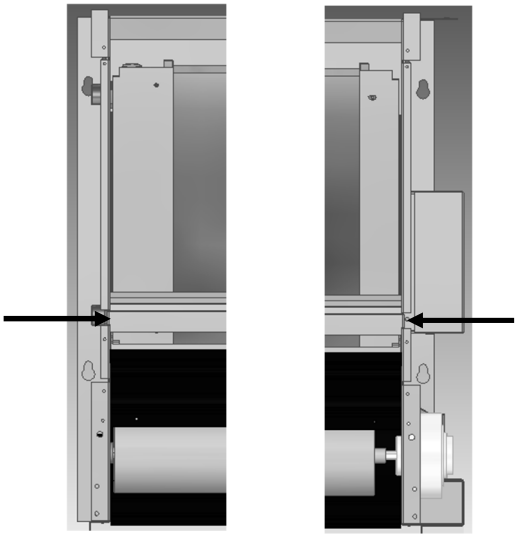
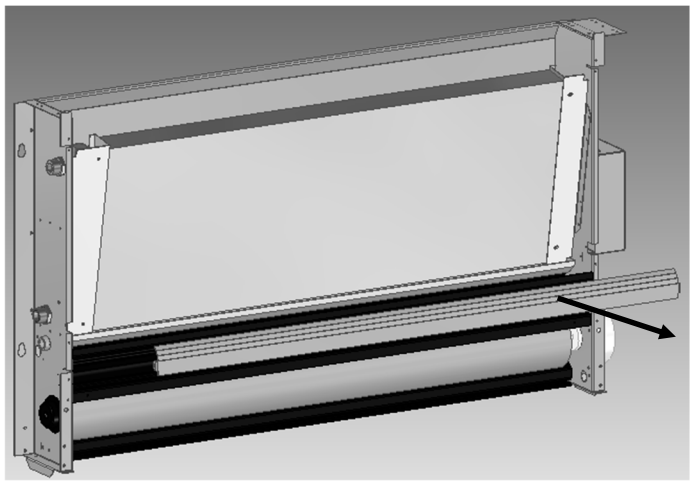



To replace the motor, the connector provided at the end of the cable must be disconnected.

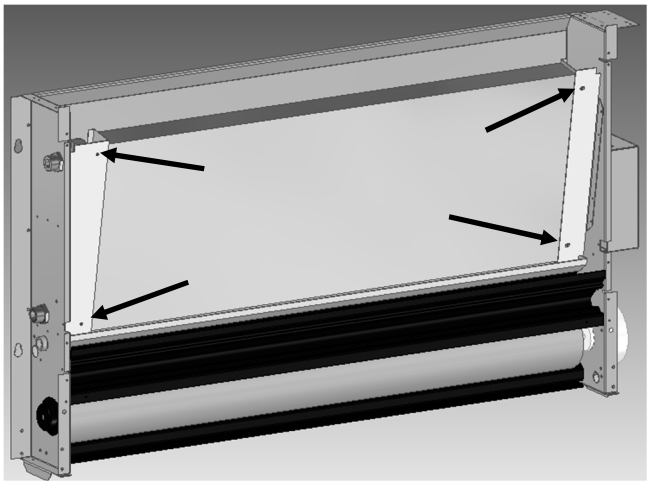
Re-assemble all the new components in reverse order.

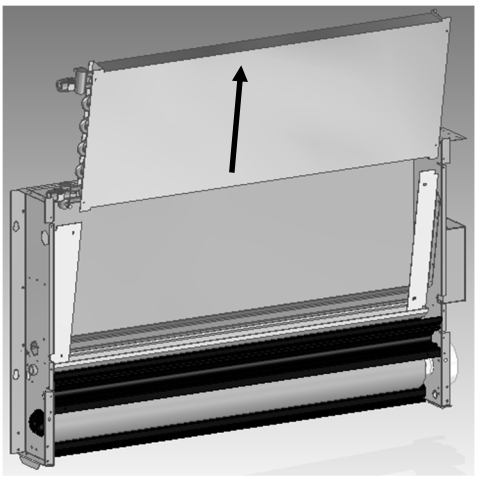
10.2-Coil

To replace the battery, it is first necessary to remove the cabinet as described in the previous paragraphs. Disconnect the pipes from the battery, drain all the water from inside and remove any temperature probes from inside the battery. Unscrew the two screws that fix the baffle to the sides of the unit and remove it.

Remove the four screws that secure the battery to the sheet metal sides. Remove the battery by first sliding it to the left, in order to release the hydraulic connections from the holes on the side.





Reassemble all the new components in reverse order, taking care, if necessary, to gently adapt the position of the manifolds to the hexagonal holes in the side (if necessary) without damaging them. The battery must be positioned a few millimeters (2-3mm) into the main tank.

11-TROUBLESHOOTING

In case of faulty operation (for example water leaks, excessive noise, fan that will not start even in the presence of hot or cold water, error messages on the display) disconnect the power supply to the unit and contact an authorized service center.

Error	Possible faults	Remedy
Ventilation does not respond promptly to new settings	The valve will take a few minutes to open	Wait 2-3 minutes for water to circulate in the battery
Ventilation will not start	There is no hot or cold water delivery to the battery	Ensure that the central heating unit is active
		Ensure that the motorised valve is open and that flow is in the correct direction
		Ensure that there are no closed manual valves
		Vent to remove any air bubbles
	Fan blocked	Remove any foreign bodies blocking the fan
	Blown motor	Replace the motor and/or electronic board
	Water temperature outside the set range	Check that the water temperature values set for the control parameters are compatible with those made available by the central heating unit and if necessary adjust them
		Water temperature sensor not set (to be replaced)
The motorized valve does not open	Blown actuator	Replace the actuator
	Incorrect dip-switch settings	Check the settings of the dip-switches defining the 2- or 4-pipe system.
Heating and cooling water leaks	Water leaking from the valve group	Check if all the fittings are tight and the gaskets' state of repair
	Water leaking from the system pipes	
Cooling water leaks	Condensate drain clogged	Check the drain pipe outflow

	Reverse slope tank	Check that the tank is level or slightly inclined towards the drain
	Uninsulated water pipes	Insulate all the chilled water pipes
	Dirty tank	Clean the tank to allow for normal condensate draining
Water beads on the outlet grille	Condensation is possible in high humidity (> 60%) conditions	Condensate disappears when humidity decreases and/or fan speed increases. Condensation in critical conditions does not constitute a malfunction.
The equipment is too noisy	The fan is damaged or off balance	Replace the fan
	The fan hits some other component	Check the damaged or mispositioned component and restore correct operation
	The fan is not well secured to the motor	Check the tightness of the threaded nut that fixes the fan to the motor shaft
	Vibrating metal plates	Check the correct fixing of the plates, in particular of the motor support
The air flow rate is very low	Dirty filters	Clean the filters
	The minimum speed or "night-time" mode has been set	Increase the motor speed or set the "automatic" mode
Alarm readings on the display	Check the control manual	Contact a service centre

12-DISPOSAL

At the end of its working life, the unit must be disposed of in compliance with local regulations on waste disposal. The main materials contained are: copper, aluminium, steel, polystyrene, plastic.

NOTE:

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MIU.AES.GB.005.08/2019