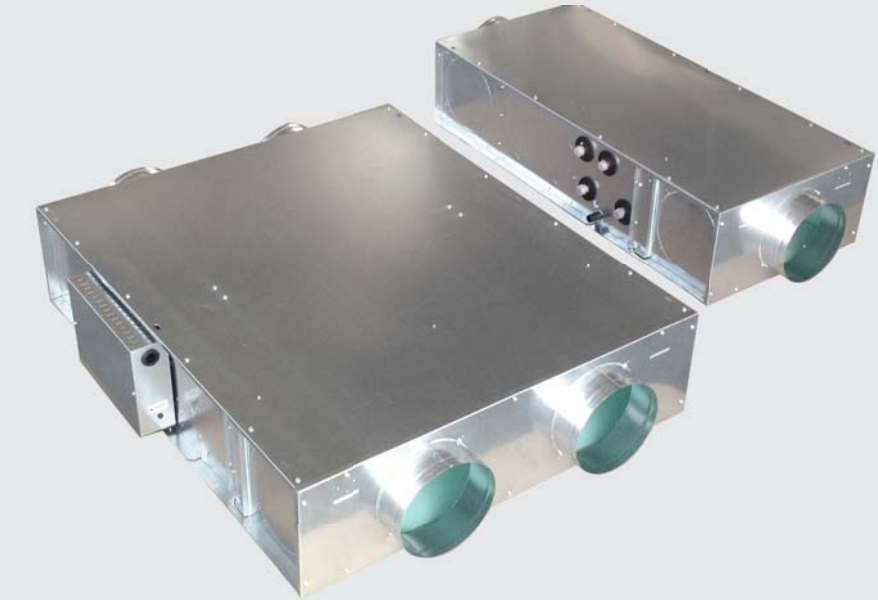
INSTALLATION, OPERATING AND MAINTENANCE



DUCTABLE FANCOIL

ARIA 2

1,3 - 6,6 kW

ARIA2-IOM-1910-E

www.lennoxemea.com

ARIA 2

INSTALLATION, OPERATION AND MAINTENANCE

Ref : ARIA2-IOM-1910-E

PREMISE

This installation and maintenance manual must always accompany the air handling units, so that it can be consulted by the installer or by the user when needed. Installation should be carried out in compliance with local regulations in each country, according to the instructions of the manufacturer or qualified personnel specialized in his profession. Incorrect installation of the unit may cause damage to people, animals or things for which the manufacturer cannot be held responsible. The unit's installation and connection to the electricity network must be performed by qualified personnel. Before any intervention is necessary to verify that the device is disconnected from the power grid. Consult this instruction manual before installation.

WARNINGS

The use of this device is easy, however it is important to read this manual thoroughly before using it for the first time. This way you can:

- Use the equipment safely;
- Obtain best performance;
- Ensure correct behavior;
- Respect the enviroment.
- Do not allow children and unassisted disabled persons to operate the appliance.
- Do not touch the appliance when barefoot or with wet or damp parts of the body.
- Do not pull, detach or twist any electrical cables, even when disconnected from the power network.
- Do not open doors or panels providing access to the interior of the unit without having first put the system switch to "off."
- Do not introduce pointed objects through the air intake grills and air delivery.
- Do not dispose of, abandon or leave within reach of children packaging materials (maps, staples, plastic bags, etc.) as it can be dangerous.
- Do not spray or pour water directly on the unit.
- Do not use the appliance in places with suspended dust, or in potentially explosive atmospheres, in environments with presence of oil in suspension, high humidity or in the presence of particularly aggressive atmospheres.
- Do not cover the appliance with objects or drapes that even partially obstruct the air flow.

The device operates with electric power to the mains voltage (230 V AC, 50Hz). Please keep in mind that mains voltage is potentially dangerous and that any device connected to it must be used carefully. Before working on the appliance, unplug it from the mains (pull the power plug or isolating the supply line by switching off the main switch). If the unit is not used for long periods make sure that the controls are in the O (off). Should the unit off during winter with temperatures close to zero, empty the system and make sure that the heat exchanger unit is completely free of water to avoid the risk of ice formation and subsequent collapse. If the appliance must be put permanently out of service, disconnect it permanently from the mains. Any tampering or modification will result in immediate exclusion of warranty. In case of failure, never try to repair the unit by yourself; seek advice from a qualified technician. Repairs carried out by inexperienced persons may cause damage or accidents. Always keep the appliance clean, especially clean the air filter periodically (at least once a month).

THE MANUFACTURER DECLINES ALL RESPONSIBILITY IF THE INSTALLATION INSTRUCTIONS PROVIDED IN THIS MANUAL ARE NOT OBSERVED. INCORRECT INSTALLATION COULD LEAD TO POOR PERFORMANCE AND / OR FAILURE OF THIS PRODUCT. IT COULD ALSO BE A SOURCE OF RISK TO THE USER.

IDENTIFICATION DEVICE

The air handling units are equipped with an identification plate that reports:

- Address of the Manufacturer;
- Marking "CE";
- Model;
- Batch number;
- Date of production;
- Current consumption in "A";
- Power consumption in "W";
- Power supply voltage in "V";
- Power supply frequency in "Hz";
- Number of phases indicated with "Ph";
- Cooling capacity in "W";
- Sensible cooling capacity in "W";
- Thermal power.

TRANSPORT, RECEIPT, HANDLING

The packaging must remain intact until the time of installation. For handling, depending on the weight, use appropriate means as required by Directive 89/391 / EEC, as amended. Upon receipt of the unit Please make an all-party control, in order to verify that the transport did not cause damage. Any breakages present must be communicated to the carrier, adding the saving clause on the transport document, specifying the type of damage. For prolonged storage keep the machines protected from dust and away from sources of heat and vibration.

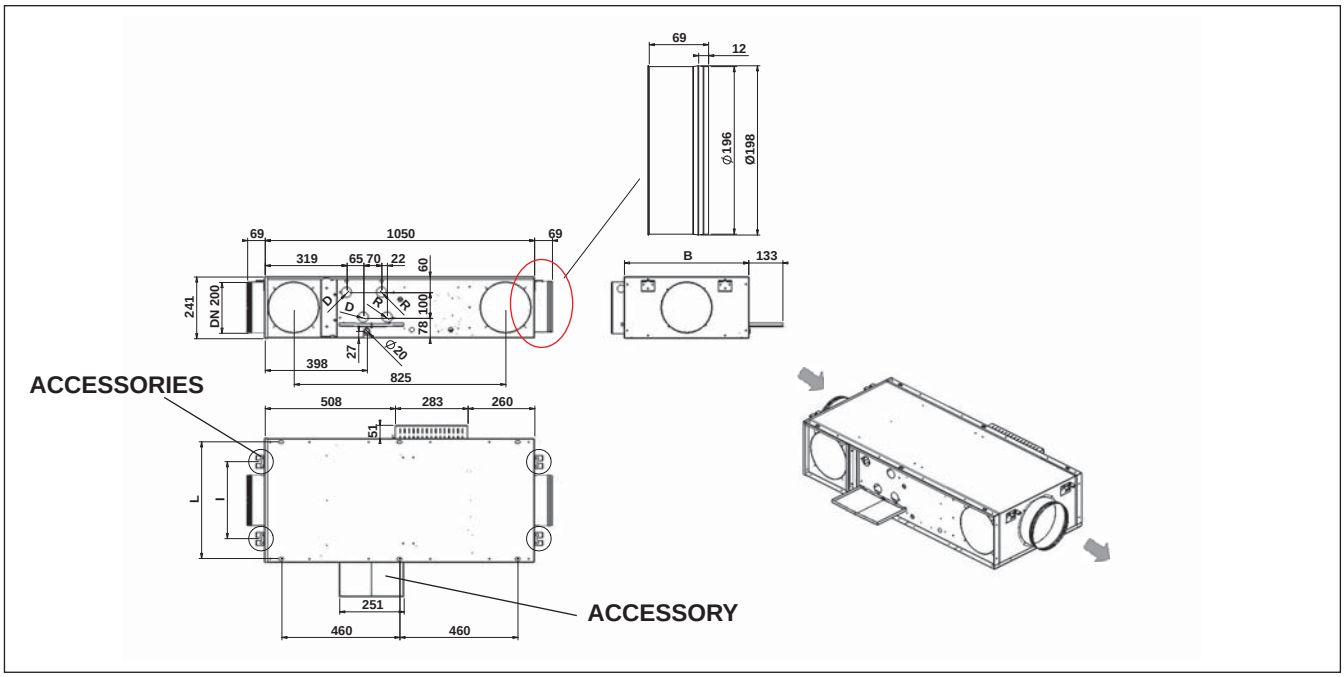
THE MANUFACTURER ACCEPTS NO RESPONSIBILITY FOR DAMAGE DUE TO MISHANDLING, OR LACK OF PROTECTION FROM WEATHER CONDITIONS.

SAFETY REQUIREMENTS

Do not leave packages loose during transport.
Do not expose to weather conditions.
Do not step on.

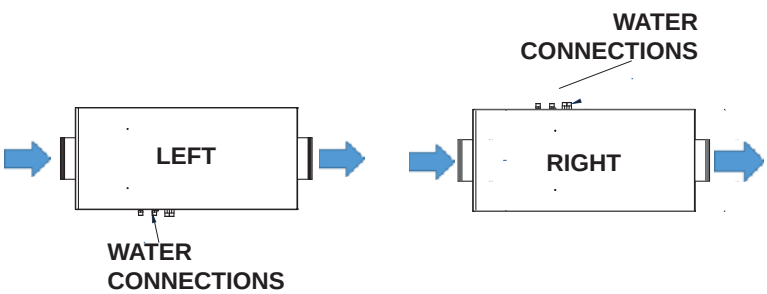
If the device must be dismantled, protect your hands with work gloves.
DO NOT move the machine alone if its weight exceeds 25 kg.

GENERAL SIZE UNIT



	2 PIPES				4 PIPES			
	213	**216**	**223**	**226**	**413**	**416**	**423**	**426**
B	482	482	882	882	482	482	882	882
D	1/2”	1/2”	1/2”	3/4”	1/2”	1/2”	1/2”	3/4”
R	/	/	/	/	1/2”	1/2”	1/2”	1/2”

GENERAL SIZE UNIT

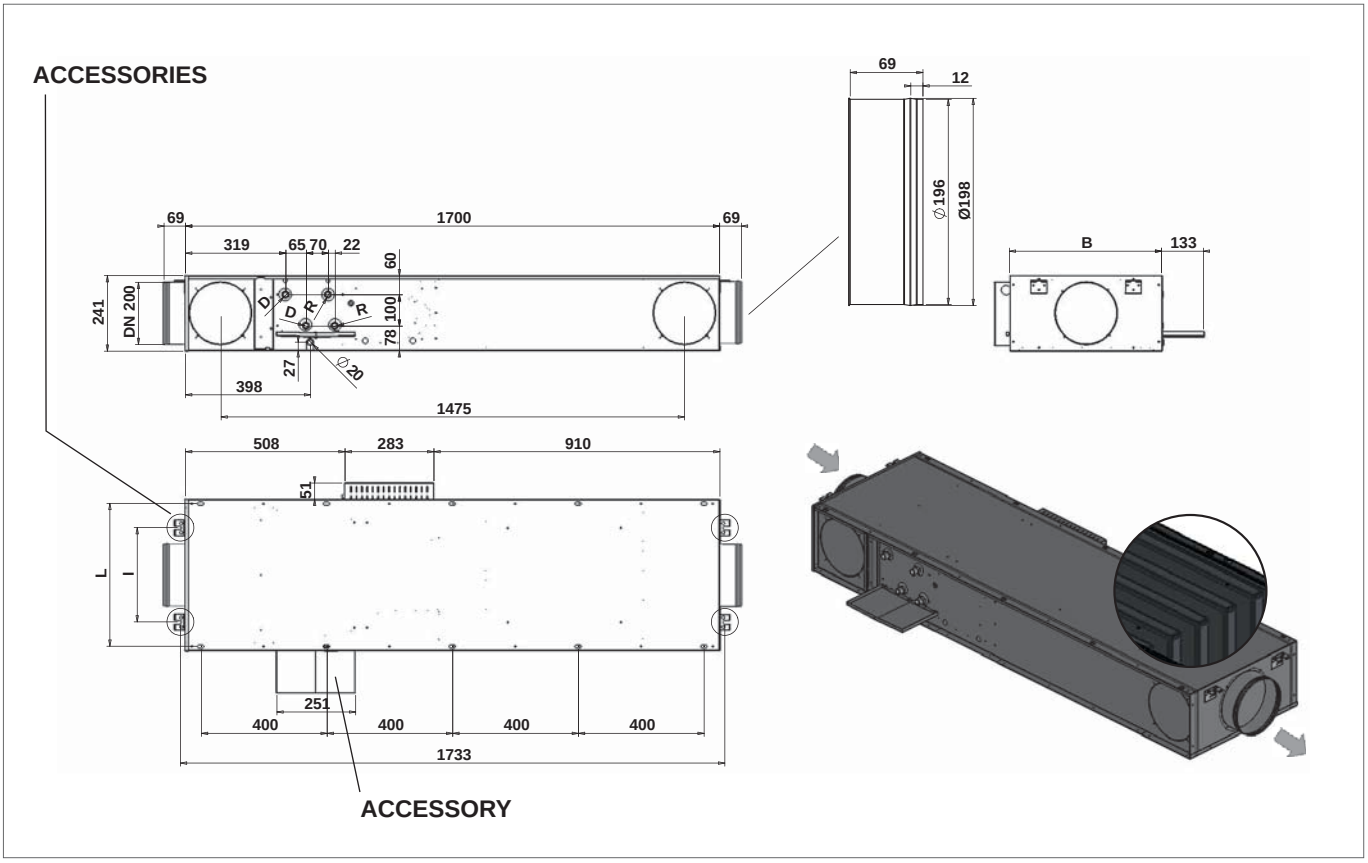


NOMENCLATURE

S213-11-L

S . . . .LOW NOISE UNIT
213. . .SIZE
11. . . .AIR DIRECTION
L. . . . .WATER CONNECTIONS

GENERAL UNIT SIZE WITH SILENCERS



	2 PIPES				4 PIPES			
	213	**216**	**223**	**226**	**413**	**416**	**423**	**426**
B	482	482	882	882	482	482	882	882
D	1/2”	1/2”	1/2”	3/4”	1/2”	1/2”	1/2”	3/4”
I	300	300	300	300	700	700	700	700
L	455	455	455	455	855	855	855	855
R	/	/	/	/	1/2”	1/2”	1/2”	1/2”

ACOUSTIC ATTENUATION

P mm	OCTAVE BAND [Hz]							
	63	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**
213-216 / 413-416	2	5	8	16	20	20	10	5
223-226 / 423-426	3	6	11	20	25	25	15	8

OPERATING LIMITS

SUMMER (COOLING)
Minimum temp. Water inlet: + 4°C
Maximum operating pressure: 8 bar
Maximum temp. Ambient air: + 35°C
Maximum air humidity: 80%

WINTER (HEATING)
Maximum temp. water inlet: 70°C
Maximum operating pressure: 8 bar
Minimum temp. ambient air: + 4°C
Maximum air humidity: 80%
Maximum temp. ambient air: + 35°C

USAGE LIMITS

The units have the following operational limitations:

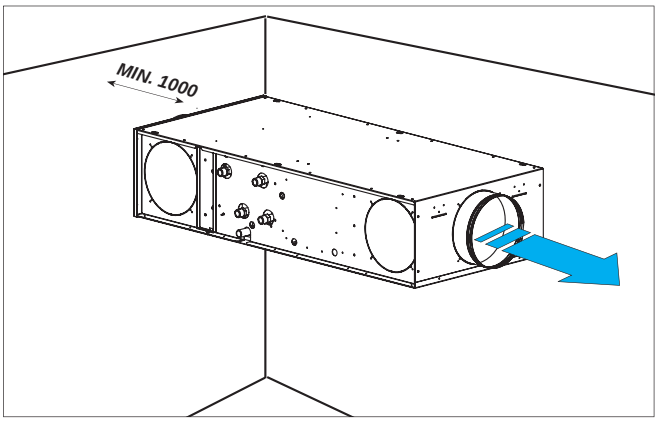
- They can not be installed in environments with abnormal temperature and humidity conditions;
- They can not be installed outdoors;
- They can not be installed in an explosive or potentially explosive atmosphere;
- They can not be installed in a corrosive or potentially corrosive atmosphere.

INSTALLATION WARNINGS

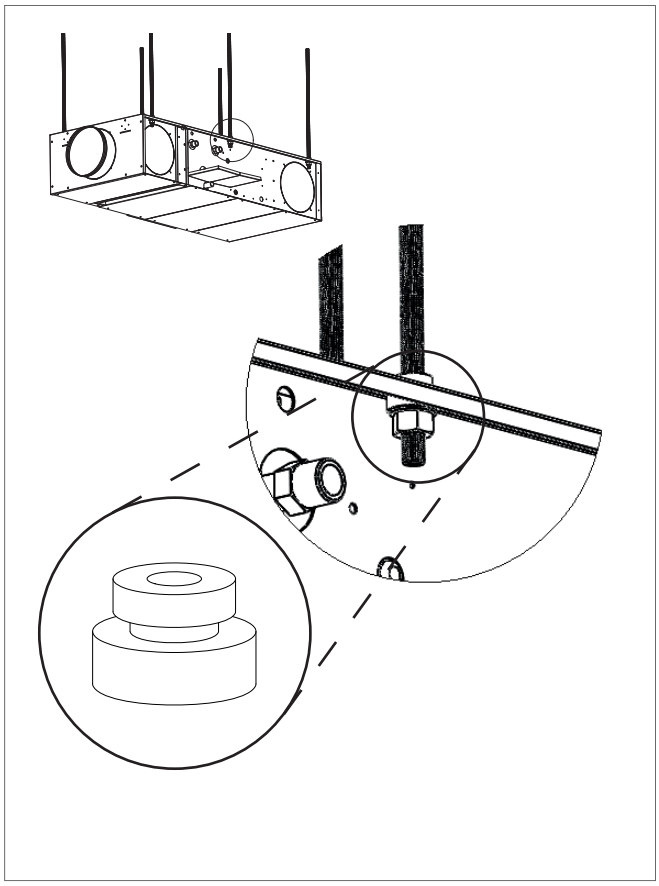
Before installing the device make sure that:

1) The installation site has enough space to contain it and around it there is enough space for the ordinary and extraordinary installation and maintenance.

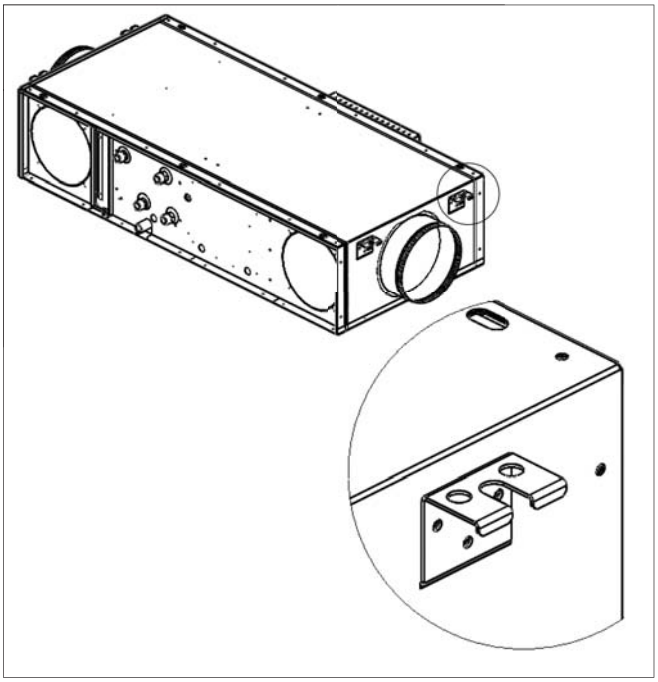
   In the case where the unit is installed in the ceiling, it will be necessary to provide an opening to allow access.
2) There are no obstructions to the air passage on the suction and discharge.
3) The water connections have position, size and spacing as required by the device.
4) The system pressure does not exceed 8 bar for the water versions.
5) The power supply line has characteristics that conform to the machine and that there is a safety switch, easily accessible to the user, which can cut power for any necessary intervention.
6) The safety switch is in the OFF position so that there is no voltage on the line device supply.



GROMMETS

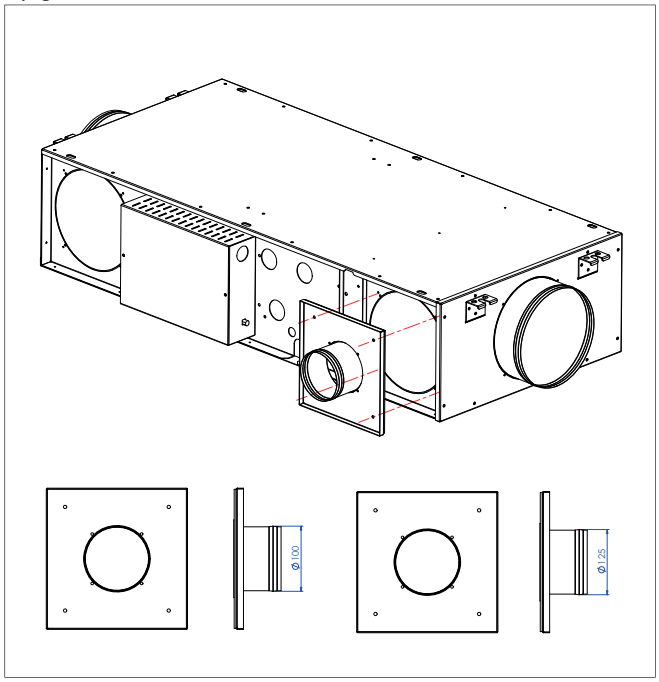


END BRACKETS FOR ANCHORING TO THE CEILING

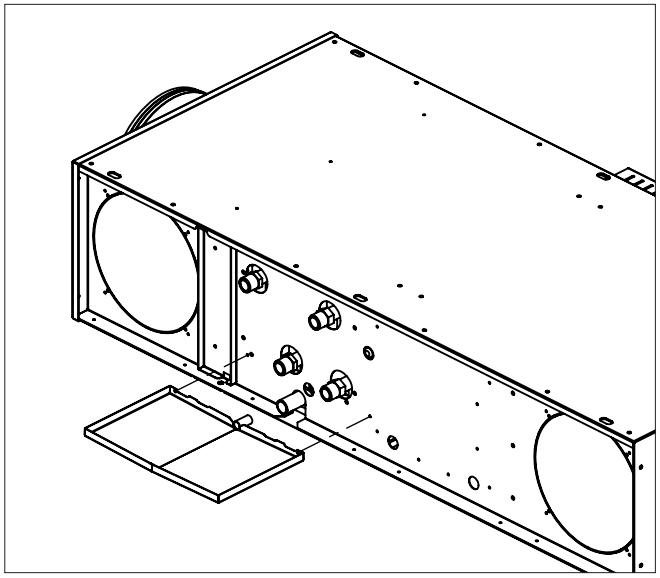


SPIGOT OUTSIDE AIR INTAKE

Spigot outside air intake of 100 mm or 125 mm.

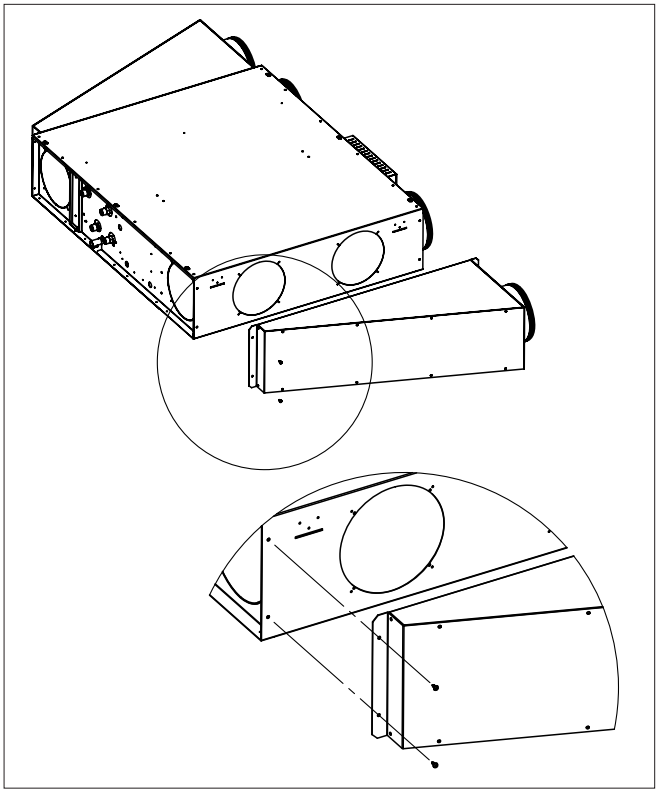


ADDITIONAL CONDENSATE DRAIN PAN

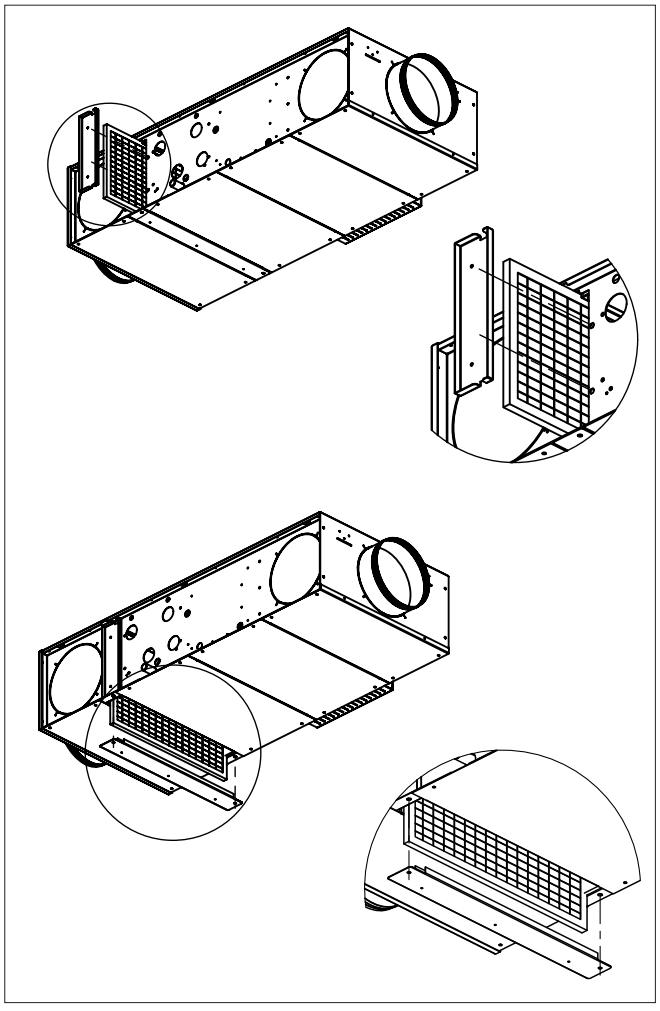


PLENUM AND SUCTION TO CHANGE THE AIR FLOW

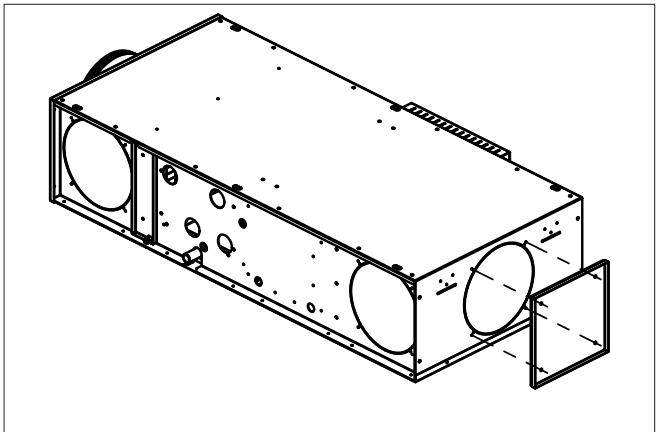
Discharge plenum and suction to change directionality of the air flow.



CHANGING FILTERS



AIR CURTAIN KIT SPIGOT REMOVAL



213	**216**	**413**	**416**
n° 1 kit			
223	**226**	**423**	**426**
n° 2 kit			

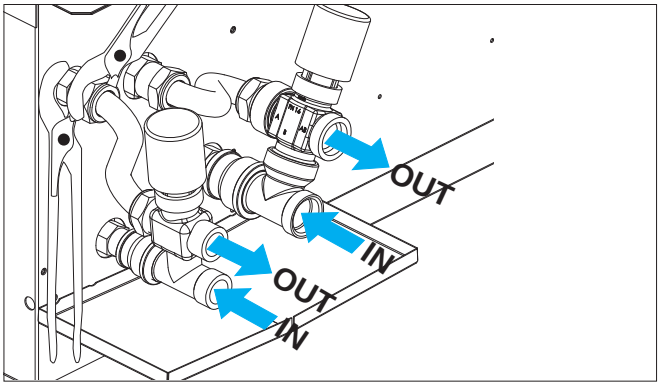
WATER CONNECTIONS

CONNECTION TO THE MAIN LINE

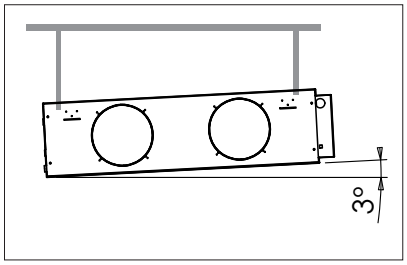
WARNING! Always use a key and second key for connecting the coil to the pipes. If the valve is present, adequately isolate the valve body with insulating material.

Connect the inlet and outlet water pipes respecting what is indicated on the side of the unit. Properly insulate the water supply pipes to prevent dripping during cooling operation. On the outlet tube must be inserted a shut-off valve and in the outlet pipe a keeper. Also the valve body and holder must be properly insulated to prevent dripping. Proper insulation should be installed by the installer. The manufacturer assumes no liability for the proper performance of the insulation.

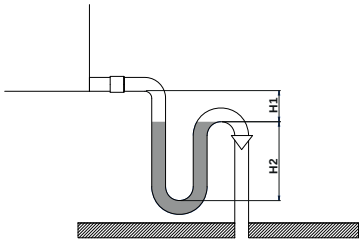
NOTE: It is always advisable to install the valve. In the heating mode, the valve reduces consumption because once it reaches the temperature, the water circulation is blocked, avoiding thus waste heat energy. In the cooling function of the valve, blocking the water circulation when the temperature is reached, it prevents the indoor heat exchanger continuing to condense water, with the possibility of undesired dripping on the floor. It also reduces chiller operation contributing to energy savings.



The manufacturer is not liable for any damage caused by dripping in the absence of valve and periodic maintenance of the drainage.



Siphon
H1=Δp/10
H2=((Δp/10)/2) + 30 Δp= in Pa
H1; H2 = mm



ELECTRICAL CONNECTIONS

WARNING

Before making the electrical connections, make sure that the supply line is de-energized, making sure that the main switch is in the OFF position:

- The electrical connections must be performed by qualified personnel.
- Ensure that the network is single-phase 230 Vac/1/50 Hz (± 10%).
- The unit exposed to voltages outside the above limits could cause malfunction and will invalidate the warranty.
- The supply line must be equipped with disconnect switch in compliance with European standard EN60947-3.
- Make sure the electrical system is capable of providing not only the working current required but also the current needed to power other equipment already in use. Any electrical and mechanical alterations or tampering will invalidate the warranty.

The cables must be long enough, avoiding traction, which can create bottlenecks or compressions of metal parts.
The power cables must have a length such that in case of accidental traction of the conductors tend before the grounding conductor. Connect the ground wire to the relative terminal marked with the symbol ⏚. Check the connection of the grounding.
Observe the safety regulations in force in the installation country.

CONDENSATE WATER DRAINAGE

The condensate drain pipe must have a downward slope of at least 3° and must not show upward strokes or bottlenecks to allow smooth flow of water. It is appropriate that the condensate drain is siphoned. The condensate drain should be connected to a rainwater drainage system. Do not use the discharge of white water or black to avoid possible aspirations of odors in the case of the evaporation of water contained in the siphon. At the end of work, check the smooth flow of condensate by pouring water into the tray. The condensate water drainage system must be installed in a workmanlike manner and should be subjected to regular monitoring.

CONNECTIONS TO THE TERMINAL BLOCK

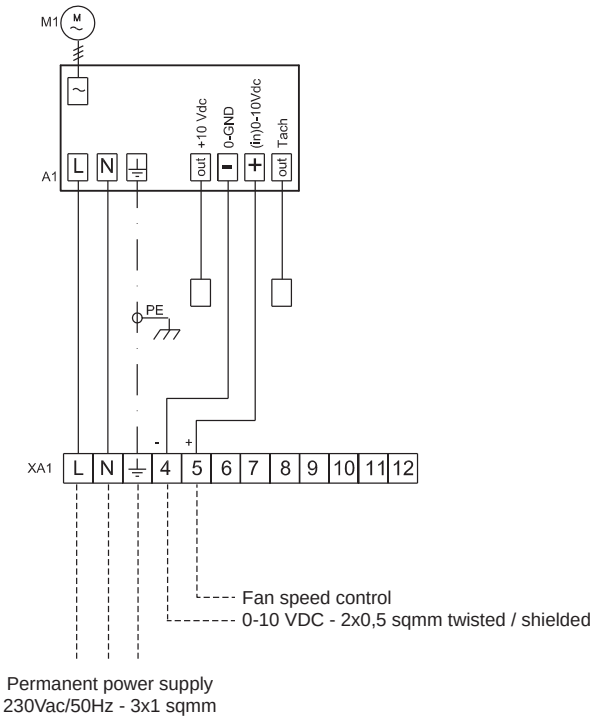
Electrical connections must be made on the terminal strip on the side of the machine. The meaning of each terminal is indicated on the label present on the terminal block.

WARNING: STRICTLY OBSERVE THE SPECIFIED CONNECTIONS, FAILURE TO DO SO WILL CAUSE A BLOWN ENGINE!

WIRING DIAGRAM

LEGEND

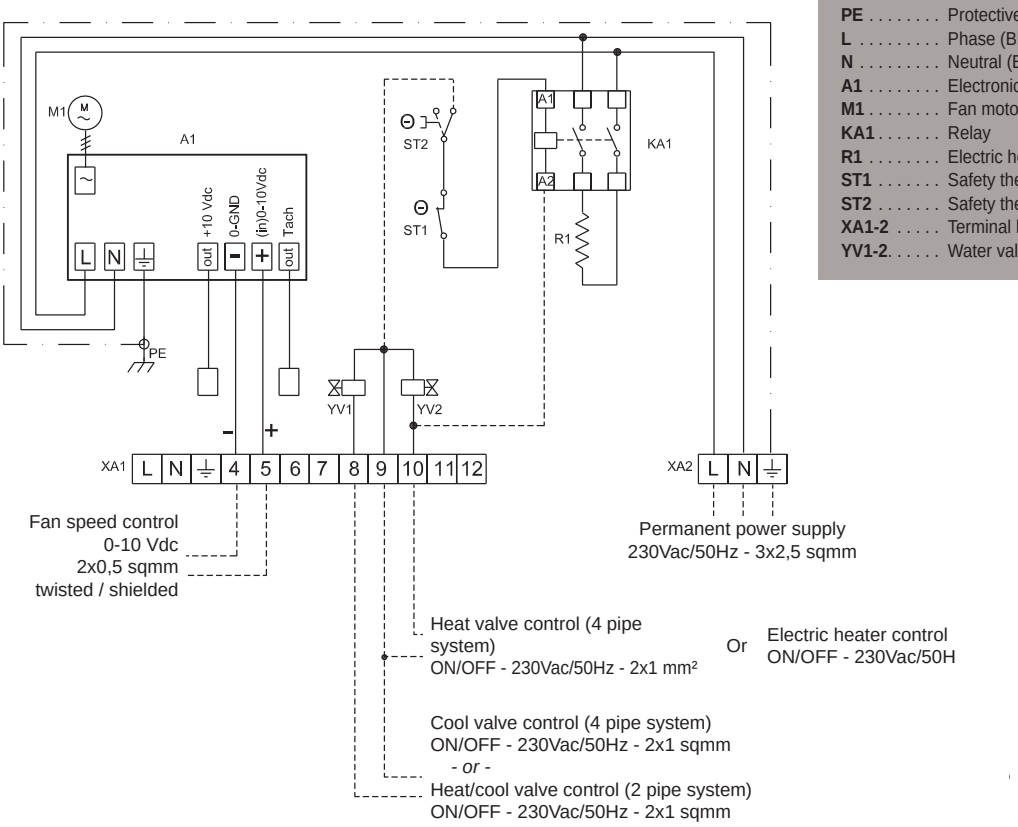
PE . . . . . Protective conductor (Yellow/Green)
L . . . . . Phase (Black)
N . . . . . Neutral (Blue)
A1 . . . . . Electronic control
M1 . . . . . Fan motor
XA1 . . . . . Terminal board



WIRING DIAGRAM WITH ELECTRICAL HEATER

LEGEND

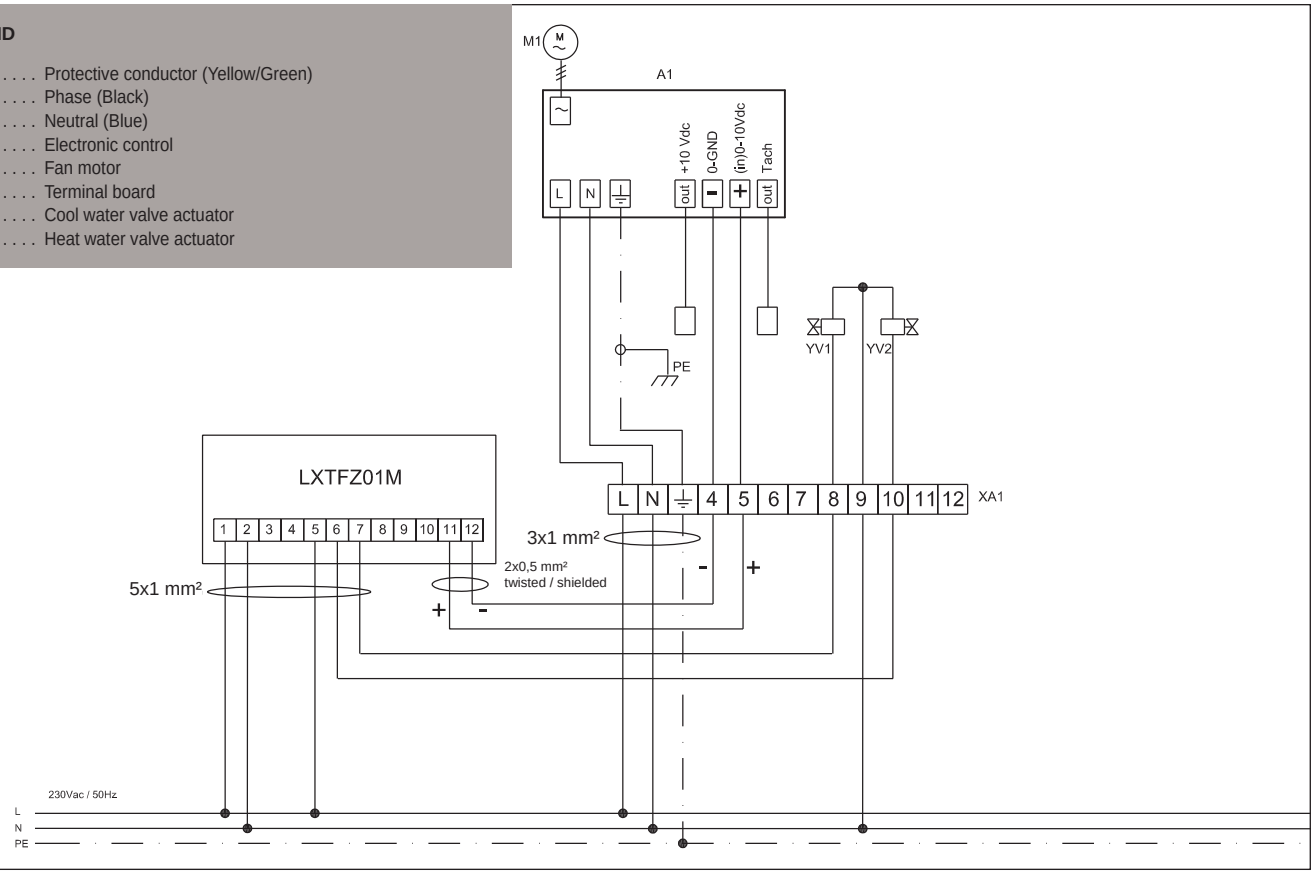
PE . . . . . Protective conductor (Yellow/Green)
L . . . . . Phase (Black)
N . . . . . Neutral (Blue)
A1 . . . . . Electronic control
M1 . . . . . Fan motor
KA1 . . . . . Relay
R1 . . . . . Electric heater
ST1 . . . . . Safety thermostat - automatic switch
ST2 . . . . . Safety thermostat - manual switch
XA1-2 . . . . . Terminal board
YV1-2. . . . . Water valve actuator



WIRING DIAGRAM 4 PIPE (2 VALVES) AND THERMOSTAT LXTFZ01M

LEGEND

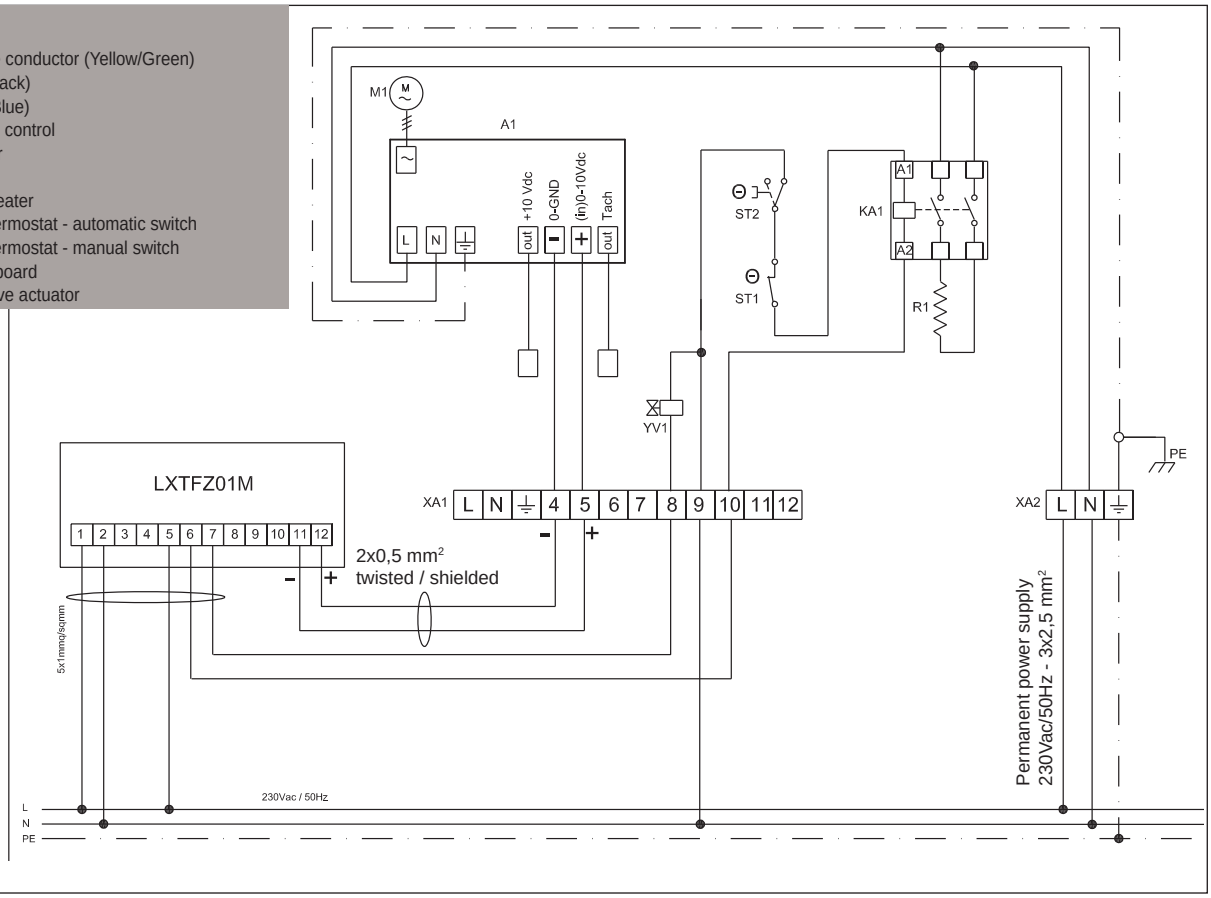
PE . . . . . Protective conductor (Yellow/Green)
L . . . . . Phase (Black)
N . . . . . Neutral (Blue)
A1 . . . . . Electronic control
M1 . . . . . Fan motor
XA1 . . . . . Terminal board
YV1 . . . . . Cool water valve actuator
YV2 . . . . . Heat water valve actuator



WIRING DIAGRAM 2 PIPE + ELECTRICAL HEATER AND THERMOSTAT LXTFZ01M

LEGEND

PE . . . . . Protective conductor (Yellow/Green)
L . . . . . Phase (Black)
N . . . . . Neutral (Blue)
A1 . . . . . Electronic control
M1 . . . . . Fan motor
KA1 . . . . . Relay
R1 . . . . . Electric heater
ST1 . . . . . Safety thermostat - automatic switch
ST2 . . . . . Safety thermostat - manual switch
XA1-2 . . . . . Terminal board
YV1 . . . . . Water valve actuator



WATER COIL ROTATION

WARNING
Fans can reach a speed of 1000 r/min. Do not insert any object nor hands. During operation, the engine warms up. Allow the engine to cool before touching it. During the heating operation the heat exchanger and the connecting pipes can reach high temperatures (80°C). Wait until the cooling of the exchanger before touching it or protect hands with suitable gloves. The water heat exchange coils are suitable to operate in operation up to the maximum pressure of 8 Bar.
For battery rotation, proceed as follows:

1. Unplug the power to the machine, if connected;
2. Make sure that the heat exchange parts have cooled down completely, if the unit is installed and powered;
3. Drain any water present inside the heat exchanger, if the unit is powered;
4. Remove the condensate trap bowl;
3. Remove the battery fixing screws;
4. Remove the battery taking care not to cut the fins and not to damage them;
5. Remove the knockouts from the opposite side of the unit (using a screwdriver) to allow the passage of battery fittings;
6. Place the battery, turn it upside down without turning it so that the joints protrude in correspondence of the knockouts previously removed;
7. Secure the battery with the screws previously removed;
8. It is also recommended to reposition the terminal block on the opposite side to that of the attacks. If during this operation, it's necessary to disconnect the terminal cables, mark the cable locations to avoid making mistakes in the process of reconnecting;
9. Replace the condensate drain pan.

CLEANING AND MAINTENANCE

WARNING
Before performing any cleaning or maintenance, disconnect the device from the power grid!

ORDINARY MAINTENANCE
It is duty of the user to carry out all maintenance operations on the unit. Only personnel previously trained and qualified may perform maintenance operations. If the unit must be dismantled, protect your hands with work gloves.
Monthly checks:

- Make sure the vents are clean. Otherwise, clean them by suction so as not to damage them.
- Verify all electrical equipment and in particular the tightness of the electrical connections

Annual checks:

- Check of all electrical equipment and in particular the tightening of electrical connections.
- Check the tightness of all the bolts, nuts and whatever else can be loosened by the constant vibration of the unit.
- Check that the motor has no traces of dust, dirt and other impurities. Periodically verify that it works without abnormal vibrations or sounds, that the entrance to the fan is not obstructed, resulting in a possible overheating of the windings.

CLEANING THE AIR FILTER
The device is equipped with air filter in the fan inlet.
During normal operation the filter withholds impurities present in the air.
It is necessary to periodically clean the filter to maintain the filtration characteristics of the fan air.
You should clean the filter at least once a month as follows:

1. Remove the filter.
2. Place the filter on a flat, dry surface, remove accumulated dust with a vacuum cleaner.
3. Wash the filter with water and detergent (not solvents).
4. Leave the filter to dry in a ventilated place.
5. Replace the filter only after ensuring they are perfectly dry.

NOTE: Clean the filter at the beginning and end of each season, or consistent with the work done.

TROUBLESHOOTING

There is little or no output air

Possible cause:	**Possible remedy:**
incorrect setting of speed on the control panel	choose the right speed
filter clogged	clean filter
Ostruction of airflow on discharge or suction	remove the obstruction

The motor does not run? Check that ...

- the power is on
- switches or thermostats are in the operating position
- there are no foreign objects blocking the rotation of the fan

There are no foreign objects blocking the rotation of the fan

- the filter and battery are clean
- it is not incoming air in the hydraulic circuit from the special venting valve
- the system is correctly balanced
- the boiler / chiller functions

DISMANTLING DEVICE

This appliance is designed to last for many years. In case of dismantling, obtain the services of qualified personnel so that the work is carried out in complete safety.
Always remember that the first operation to be carried out before dismantling the unit is to unplug it permanently from the mains. This machine is manufactured using recyclable materials (copper, aluminum, brass, plastic) assembled by screws and joints in order to facilitate the unit's separation.
Contact a firm specializing in differentiated waste disposal; just so you can be sure of proper recycling and contribute to the environment.

SALES OFFICES :

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