INSTALLATION, USE AND MAINTENANCE MANUAL

DEHUMIDIFIER FOR RADIANT PANELS

INDEX

1 GENERALITY

1.1.1 INTRODUCTION

This manual has been conceived with the aim of making the installation and management of your system as simple as possible.

By reading and applying the suggestions in this manual, you will be able to get the best performance from the product you have purchased.

We would like to thank you for the choice you made with the purchase of our product.

Read this booklet carefully before carrying out any operation on the unit.

You must not install the unit or carry out any work on it if you have not carefully read and understood this manual in all its parts. In particular, all the precautions listed in the manual must be taken.

The documentation accompanying the unit must be delivered to the plant manager so that he can keep it carefully (at least 10 years) for any future assistance, maintenance and repairs.

The installation of the unit must take into account both the purely technical requirements for proper operation and any local legislation

in force and specific prescriptions.

Make sure that upon delivery of the unit, there are no obvious signs of damage caused by transportation. In this case indicate it on the delivery note.

This manual reflects the state of the art at the time the machine was marketed and cannot be considered inadequate as it is subsequently updated on the basis of new experiences. The Manufacturer reserves the right to update the production and the manuals, without the obligation to update the previous ones, except in exceptional cases.

Contact the Manufacturer's Sales Department to receive further information or updates to the technical documentation and for any improvement proposals to this manual. All reports received will be rigorously examined.

1.1.2 BASIC SAFETY RULES

We remind you that the use of products that use electricity and water implies the observance of some fundamental safety rules:

- The use of the appliance by disabled and unassisted persons is prohibited
- It is forbidden to touch the appliance with bare feet and with wet or humid peers of the body
- Any cleaning operation is prohibited before disconnecting the appliance from the power supply by setting the main system switch to off
- It is forbidden to modify the safety or adjustment devices without the authorization and indications of the manufacturer of the appliance
- It is forbidden to pull, disconnect or twist the electric cables coming out of the appliance, even if it is disconnected from the mains electricity supply.
- It is forbidden to introduce objects and substances through the air intake and delivery grilles.
- It is forbidden to open the access doors to the internal parts of the appliance without first setting the system main switch to off.
- It is forbidden to disperse and leave the packaging material within the reach of children as it can be a potential source of danger.
- Respect the safety distances between the machine and other equipment or structures to ensure sufficient access space to the unit for maintenance and assistance operations as indicated in this booklet.
- The unit must be powered with electrical cables with a section suitable for the power of the unit. The voltage and frequency values must correspond to those indicated for the respective machines; all the machines must be earthed as per the regulations in force in the various countries.
- Do not release R134A into the atmosphere: R134A is a fluorinated greenhouse gas, referred to in the Kyoto protocol, with a global warming potential (GWP) = 1975.

1.1.3 SYMBOLOGY

The symbols shown in the following booklet allow you to quickly provide information necessary for the correct use of the unit.

Safety symbols

	**ATTENTION** Only authorized personnel	Warns that the operations indicated are important for the safe operation of the machines
	**DANGER** Risk of electric shock	Warns you that failure to comply with the prescriptions creates a risk of electric shock.
	**DANGER**	Warns that failure to comply with the prescriptions entails a risk of harm to exposed persons.
	**WARNING**	Warns that failure to comply with the prescriptions entails a risk of damage to the unit or to the system.
	**DANGER**	It warns that there is the presence of moving parts and involves a risk of damage to exposed people

1.1.4 WARNINGS

	The unit must be installed by qualified and authorized personnel according to the regulations in force in the various countries. If the installation is not carried out it could become a dangerous situation
	Avoid installing the unit in very humid rooms or with large heat sources.
	On the electrical side, to prevent any risk of electrocution, it is essential to disconnect the main switch before carrying out electrical connections and all maintenance operations.
	In the event of water leaks inside the unit, set the main system switch to "Off", close the taps of the water and contact the technical service
	It is recommended to use a dedicated power supply circuit; Never use a shared power supply with other appliances.
	It is recommended to install an earth leakage breaker; Failure to install this device may cause shock electric.

	For connection, use a cable that is long enough to cover the entire distance, without any connection; do not use extension cords and do not apply other loads to the power supply but use a dedicated power circuit.
	After connecting the electrical cables, make sure that the cables are routed so as not to exert excessive force on the covers or covers electrical panels; any incomplete connection of the covers can cause overheating of the terminals.
	Make sure that the earth connection is made; do not ground the appliance on distribution pipes. Momentary surges of high intensity could damage the unit
	Installations performed outside the warnings in this manual or use outside the operating limits will void the guarantee instantly.
	Make sure that the first start-up is carried out by personnel authorized by the company (see first start-up request form)

1.1.5 COMPLIANCE

The CE marking (present on each machine) certifies compliance with the following Community standards:

- Low Voltage Directive 2014/35 / EC
- Electromagnetic Compatibility Directive 2014/30 / EC
- RoHS2 2011/65 / EU
- WEEE 2012/19 / EC

1.1.6 RANGE

	-1-	-2-	-3-	-3-
DEH V	30	V	I	D

1) Defines the power size

Size 20/30/50

2) Type of installation

V: aesthetic version with visible installation

W: version with recessed installation

3) Type of electronics

I: Advanced electronics

4) Construction version

D: dehumidifier

DC: Dehumidifier and air conditioner (size 30/50 only)

1.1.7 IDENTIFICATION

- The unit is identifiable through the plate placed on the lower front panel of the same.
- On the packaging there will be an additional identification plate with the model of the unit and the shipping references.
- The plate on the packaging has no validity for the traceability of the product in the years following the sale.

The removal, deterioration and illegibility of the plate placed on the unit involves major problems in identifying the machine, in the availability of spare parts and therefore in any future maintenance.

1.1.8 CONSTRUCTION FEATURES

EFFICIENCY:

Thanks to its construction features and its components, DEH + is able to dehumidify and air-condition using less energy than a conventional appliance.

The new low energy consumption EC fans will ensure the correct air flow without major electrical absorption.

DEHUMIDIFICATION AND COOLING:

The unit can operate in both dehumidification and air conditioning mode (summer and winter)

This allows you to have a flexible unit ready to meet the demands of the environment to be air-conditioned.

CHECK:

The advanced electronics guarantee the possibility of interacting with the operation of the unit.

The BLDC fan, the water and refrigerant temperatures in the two coils are checked;

There are three operating modes:

1 Slave - System managed by external commands deriving from the electronics of the radiant system

2 - Master - Using the optional touch panel and making the unit become autonomous both for measuring the temperature and relative humidity of the environment;

3 - Modbus RS485 communication;

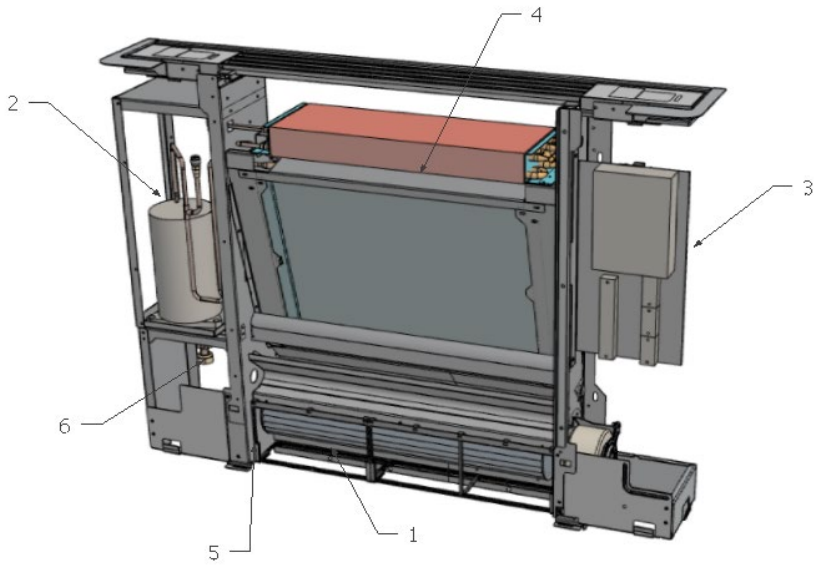
PACKAGED:

The unit is supplied ready for operation.

With only the hydraulic and electrical connection the unit will guarantee the desired function.

SILENCE: Silent operation is a priority choice in the design and construction of the DEH unit

1.1.9 MAIN COMPONENTS OF THE UNIT



1. Recirculation fan 2. Compressor and refrigeration circuit compartment (D - DC versions) 3. Electronic card and control panel	4. Finned coils 5. Air filter 6. Hydraulic connections

1.1.10 PACKAGING AND TRANSPORT

The units are supplied for transport fixed on a wooden pallet and placed in cardboard boxes. To facilitate movement, the units are equipped with a wooden bench and hooks on the base that allow them to be lifted and positioned on the installation site. The unit can be stored in a room protected from atmospheric agents with temperatures not below 0 ° C, up to a maximum of 40 ° C.

1.1.11 RECEIPT, CONTROL AND HANDLING

The unit is shipped fully pre-charged with refrigerant gas in the circuits and with brine in the compressors. Under no circumstances can water be present in the hydraulic circuits, since after testing the unit is carefully emptied.

Upon arrival, the customer is required to inspect the unit also in internal areas to verify that it has not been damaged during transport; the unit left the factory in perfect condition. Otherwise, it is necessary to immediately retaliate against the carrier by reporting the extent of the damage in detail on the bill, producing photographic evidence of the apparent damage and notifying any apparent damage to the shipper by means of a registered letter. if he has done the shipment himself.

It is necessary to be very careful in handling the units during unloading and positioning, in order to avoid damage to the casing and to the more delicate internal components such as compressors, exchangers, etc. In any case, keep the unit in a horizontal position without tilting it. All the information about the necessary precautions to prevent damage to the unit and the indication of the weight of the same, are shown on the packaging. The materials that make up the packaging can be of various kinds such as wood, cardboard or polyethylene (plastic). It is good practice to send them for disposal or recycling through specialized companies to reduce their environmental impact.

1.1.12 DISASSEMBLY AND DISPOSAL

Do not disassemble or dispose of the product yourself. Disassembly, demolition, disposal of the product must be carried out by authorized personnel in compliance with local regulations.

2 INSTALLATION

2.1.1 INSTALLATION CONDITIONS

The unit must be installed according to national and local standards that regulate the use of electrical devices and according to the following indications:

- install the unit inside residential buildings with an ambient temperature between 0 ° C and 45 ° C;

- avoid areas near sources of heat, steam, flammable and / or explosive gases and particularly dusty areas;

- install the unit in a place not subject to frost (the condensation water must be discharged not frozen, at a certain inclination, using a siphon);

- choose an installation site where there is sufficient space around the unit for the connections of the air ducts and to be able to carry out maintenance operations;

- the consistency of the ceiling / wall / floor where the unit will be installed must be adequate for the weight of the unit and not cause vibrations.

The environment chosen for the installation must contain:

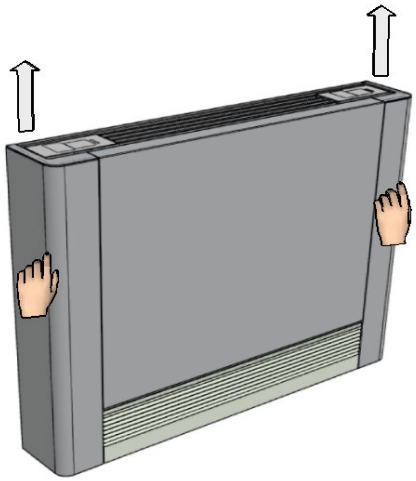
- 230V single-phase electrical connection

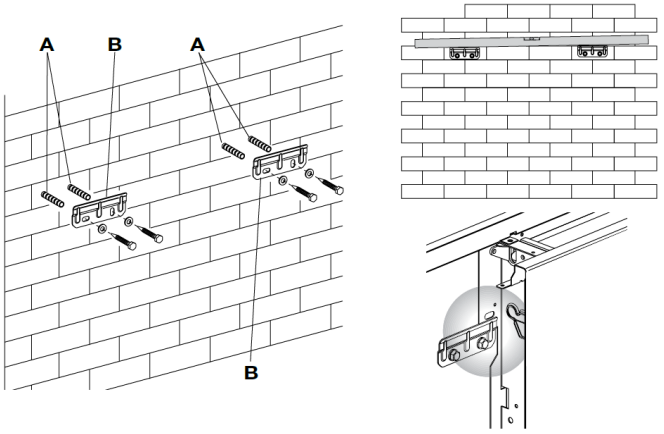
- connection for condensate drain

- hydraulic connection

2.1.2 POSITIONING OF THE UNIT EXPOSED VERSIONS

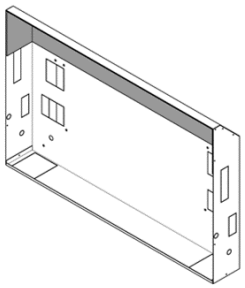
Wall mounting

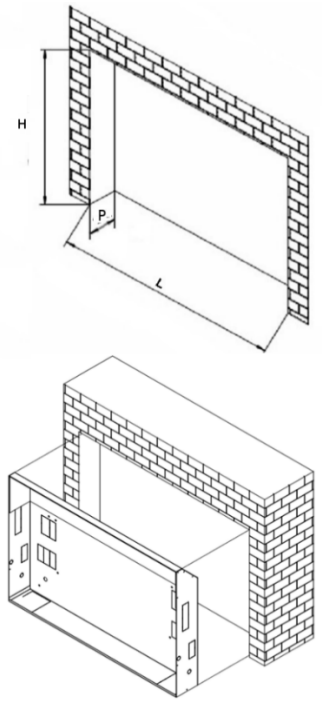
In case of floor mounting with plinths, to assemble these, refer to the individual instruction sheets supplied and the relative manual. Use the paper template, and trace the position of the two fixing brackets on the wall. Drill with a suitable bit and insert the plugs (2 for each bracket); fasten the two brackets. Do not overtighten the screws, so that you can make an adjustment of the brackets with a level bubble. Finally lock the two brackets by fully tightening the four screws. Check its stability by manually moving the brackets to the right and left, up and down. Mount the unit, checking that it is correctly attached to the brackets and is stable:	

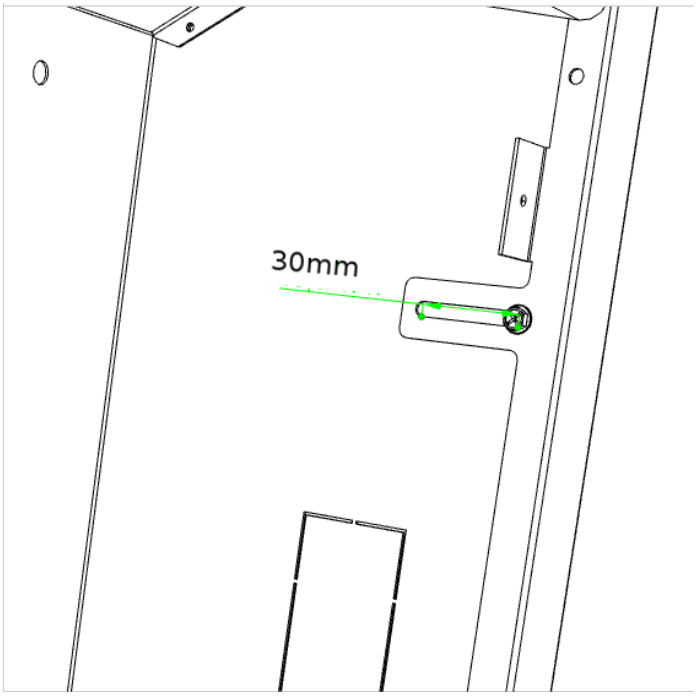
A-Anchors B-Brackets	
	Wall mount unit with cabinet

2.1.3 POSITIONING RECESSED VERTICAL INSTALLATION

Prepare a hole on the wall a few millimeters larger than the size of the formwork







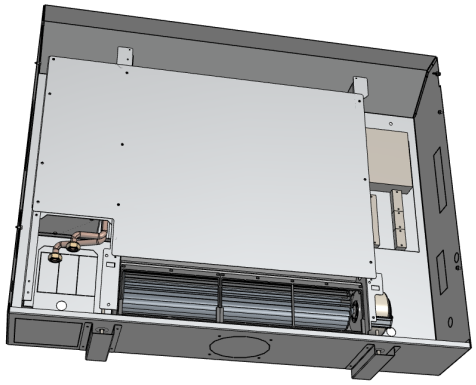
Adequately fix the metal structure to the wall. Embed the formwork flush with the wall in the part;	The aesthetic grille has a tolerance of about 30 mm towards the inside; Then keep the formwork flush with the wall or a maximum of 30 mm towards the inside of the wall;

Place the unit inside the pre-installed formwork;

The formwork has 4 points where to install the anti-vibration mounts supplied to support the unit;

Then mount the anti-vibration mounts on the base of the formwork;

Then rest the unit on the 4 anti-vibration mounts in correspondence with the holes on the lower side of the unit;



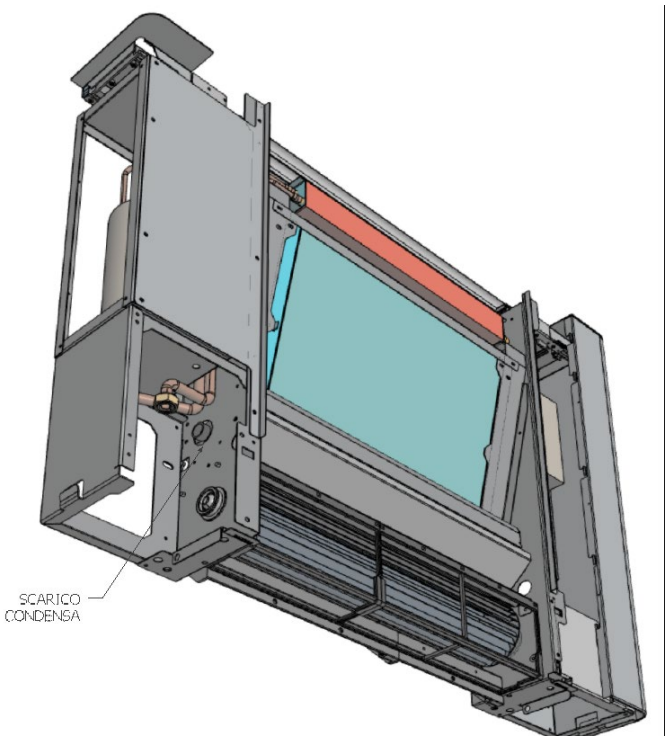
Wall mounting recessed version

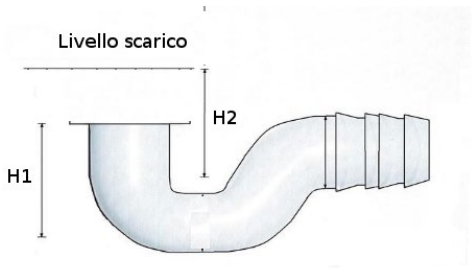
2.1.4 CONDENSATE DRAIN CONNECTION

For correct operation, a condensate drain must be connected to the hydraulic system (drain). Furthermore, in order to allow the correct flow of condensate water and to avoid sucking in air and unpleasant odors, the condensate drain must always be equipped with a siphon to be positioned on the drain line;

To install the condensate drain, comply with the following standards:

- give a slope of at least 2% to the exhaust pipe;
- provide for the possibility of disconnecting the drain hose for any maintenance (in particular in the case of ceiling installation);
- make sure that the discharge end of the pipe is at least below the water level of the siphon;
- make sure that the siphon is always full of water.
- Make sure that dimension H1 is at least> 35-40 mm and dimension H2 at least> 35-40 mm





Side condensate drain

3 HYDRAULIC CONNECTIONS

3.1.1 GENERALITY

-The units are equipped with hydronic coils with water-air exchange;

-The connections on the units, even in the different applications and versions, are always common to all the units.

-Make sure to respect the flows indicated on the labels: inlet (water entering the unit), outlet (water leaving the unit)

- Make sure that the weight of the pipes does not weigh on the predisposed connections

-Provide shut-off valves on the delivery and return pipes to the system

-All the chilled water pipes must be insulated to minimize unwanted heat exchanges and condensation.

- Before filling the pipes, make sure that they do not contain foreign materials: such as sand, stones, rust flakes, welding drops, slag, etc. Otherwise, wash the hydraulic circuit by bypassing the unit.

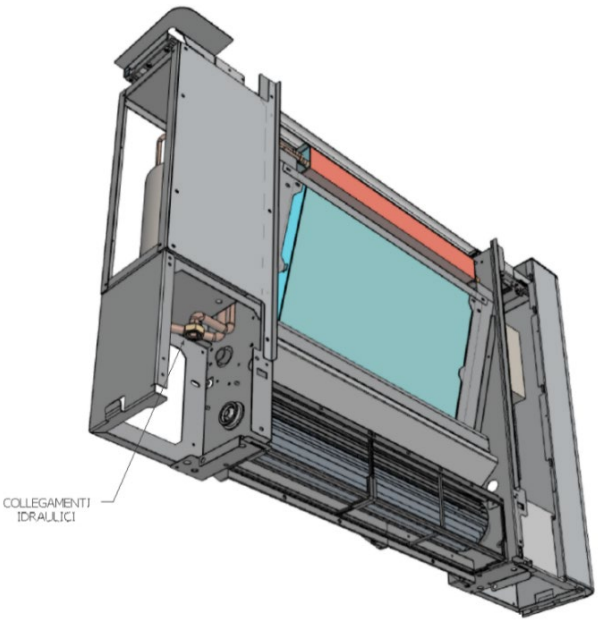
- Absolutely avoid pump cavitation and the consequent presence of air in the hydraulic circuit.

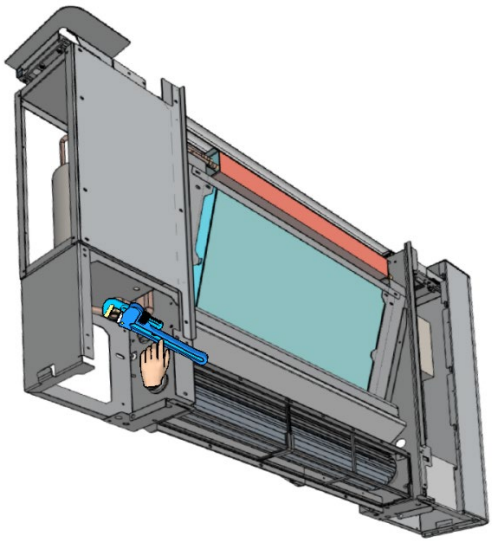
Physico-chemical characteristics of water

Incompatible chemical-physical characteristics could compromise the integrity of the hydraulic parts of the unit. Check the characteristics:

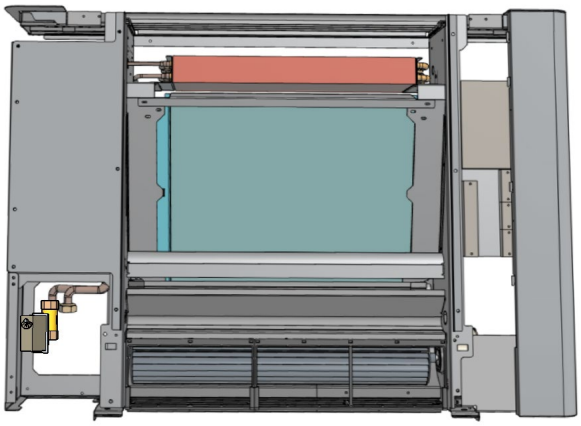
DESCRIPTION	**Limit value**	**DESCRIPTION**	**Limit value**
Hardness	<10 ° F	Nitrate	<70 mg / l
PH value	7.5 / 9	Sulphate	<70 mg / l
Oxygen	<2 mg / l	Chlorine compounds	<300 mg / l
Conductivity	<500 uS / cm	Free radical carbon dioxide	<10 mg / l
Iron	<2 mg / l	Ammonium	<20 mg / l
Manganese	<1 mg / l		

3.1.2 POSITIONING AND CONNECTION PROCEDURES

The hydraulic connections are positioned on the front of the unit; The connections are with female thread; Respect IN as the water inlet to the unit and OUT as the water outlet from the unit	

Connect the pipes with a female threaded fitting, and tighten it with dedicated tools; Be careful not to rotate or twist the pipes coming from inside the unit; Rotating the pipes during connection could damage the connections inside the unit and cause water leaks during operation;	

3.1.3 2-3 WAY VALVE CONNECTION

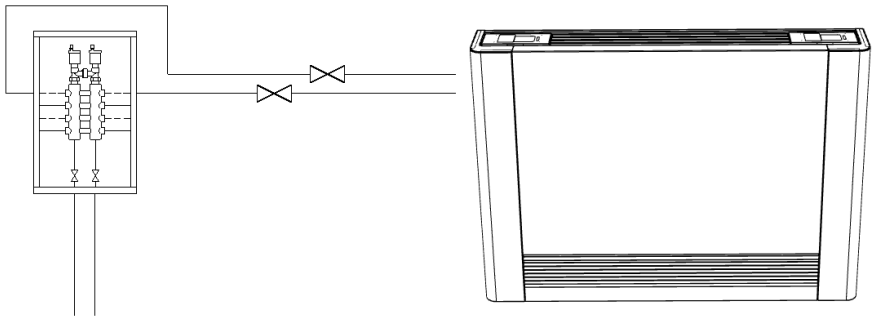
The connections of the optional 2/3-way valves are to be made as indicated; Be careful to respect the indications on the valve!	

3.1.4 RECOMMENDED DIAGRAMS FOR CONNECTION

- CONNECTION TO THE MANIFOLD OF THE RADIANT SYSTEM:

The unit is powered by a collector circuit of the radiant system. Make sure there is the necessary flow rate on the circuit.

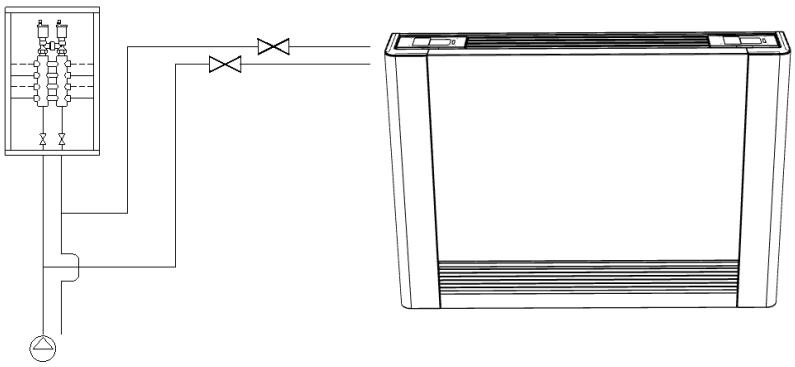
NB: With this type of installation, it is necessary to guarantee the machine the nominal flow rate described in the technical data sheet;



- CONNECTION BEFORE THE HEATER OF THE RADIANT SYSTEM:

The unit is powered in parallel with the manifold of the radiant system, thus ensuring the flow of water necessary for correct operation.

NB: In both cases the lack of nominal water flow rate of the unit results in the blocking of the unit.



3.1.5 REFRIGERATOR DIAGRAMS

VERSION D

CO	Compressor
PH	High pressure switch
PS	Service socket
CN1	Air condenser
EV	Evaporator
BA	Water coil
FI	Filter drier
LM	Laminating organ

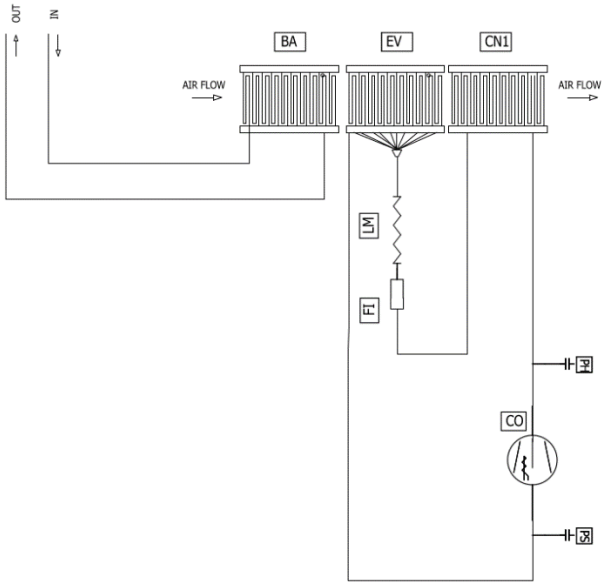
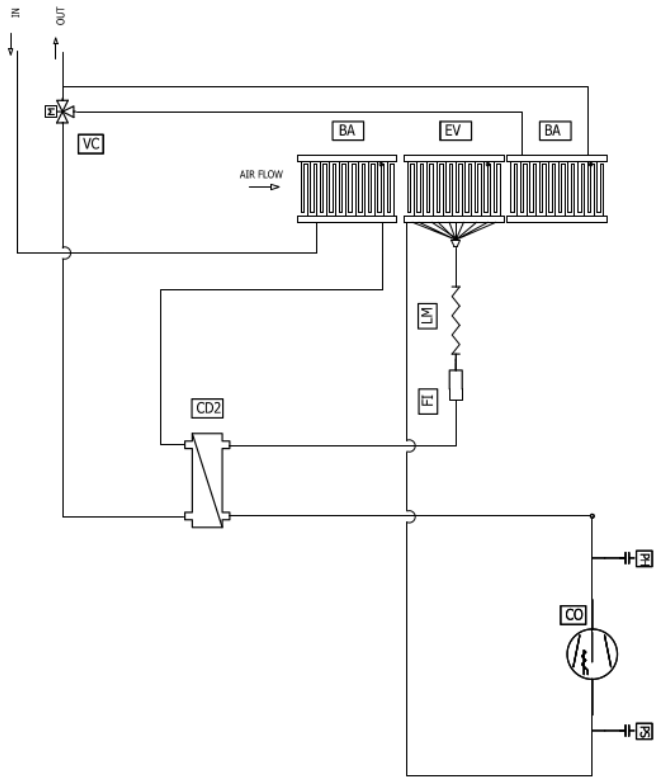


Diagram Version D

DC VERSION

CO	Compressor
PH	High pressure switch
PS	Service socket
EV	Evaporator
BA	Water coil
FI	Filter drier
LM	Laminating organ
CD	Water condenser
LM	Laminating organ
VC	Post Heating Valve



DC version diagram

4 ELECTRICAL CONNECTIONS

4.1.1 GENERALITY

- Before starting any operation to make the electrical connection make sure that the unit is not electrically powered
- Make the necessary electrical connections by consulting only the wiring diagram attached to this manual.
- Install a suitable breaking and differential protection device for the exclusive service of the unit.
- It is essential that the unit is connected to an earth socket.
- Check that the electrical components chosen for the installation (main switch, circuit breakers, cable section and terminals) are suitable for the electrical power of the installed unit and that they take into account the starting currents of the compressor as well as the maximum load that can be reached. The relative data are indicated on the attached wiring diagram and on the unit identification plate
- It is forbidden to enter the unit with electric cables unless specified in this booklet.
- Use cables and electrical conductors with adequate sections and compliant with the regulations in force in the various countries.
- Absolutely avoid running electrical cables in direct contact with pipes or components inside the unit
- After the first few moments of operation, check the tightening of the screws of the power supply terminals

Power line sizing table

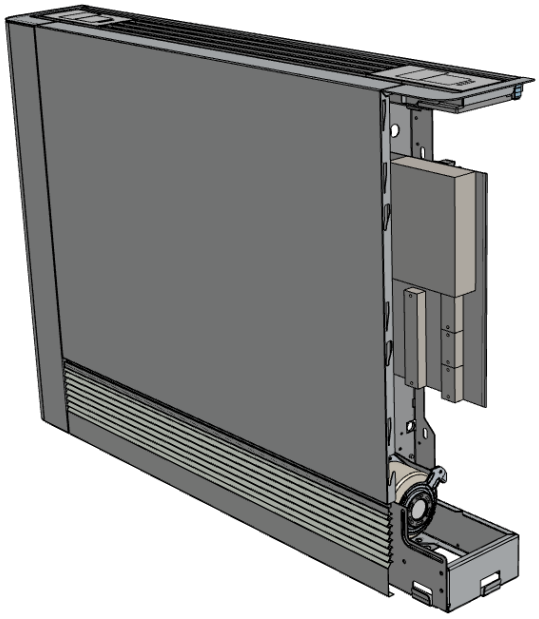
Electrical Data

Size		**20**	**30**	**50**
Voltage power supply		230/1/50 Hz.		
Absorbed current max	TO	1.76	3.35	4.51
Absorbed power	kW	0.36	0.57	0.85

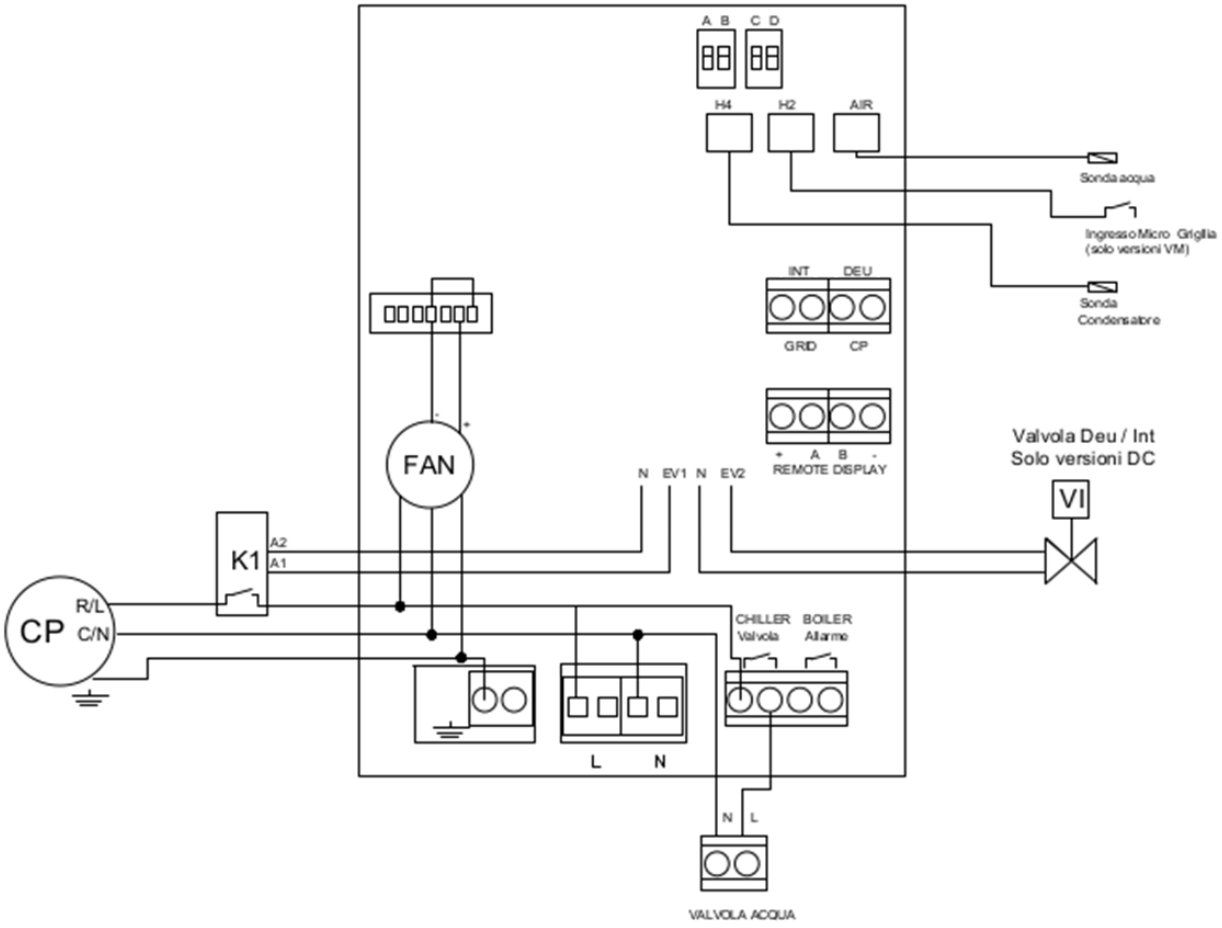
4.1.2 POSITIONING AND CONNECTION PROCEDURES

The electrical cable entry is located on the side of the unit;

From the bottom or rear it is possible to reach the terminal board located on the left side of the unit;



4.1.3 UNIT WIRING DIAGRAMS



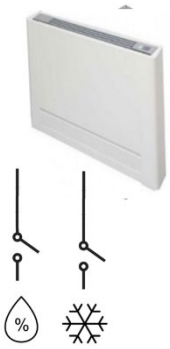
CONNECTIONS BY THE CUSTOMER		
L - PE - N	Drive power supply	230/1/50
NL Water valve	Control 2-point valve	NL - voltage 230v
Alarm	Alarm signaling	Clean contact Max230v (2a)
DEU (Cp)	Dehumidification entrance	Contact closed / function active
INT (Grid)	Integration entrance	Contact closed / function active
REMOTE DISPLAY	Remote display connection (optional)	+ - 12v dc power supply A + B- Communication
MODBUS CONNECTION TO THE UNIT	Modbus RS485 serial network connection (if the optional display is not connected)	A + B-

5 OPERATING MODES AND CONFIGURATIONS SELECTABLE FOR THE UNIT

The unit was designed to be managed with three operating modes;

1 OPERATION WITH STAND ALONE REMOTE PANEL

The unit operates through the temperature / humidity control panel (OPTIONAL) where it is possible to select set point, fan speed, all unit parameters



2 OPERATION WITH COMMANDS

Like a classic dehumidifier, the unit foresees to be managed through digital controls; The DEHUMIDIFICATION, INTEGRATION functions can be activated, an ALARM signal can be received; The inputs can also be activated from the classic wall-mounted thermostats / humidistats;

3 OPERATION WITH MODBUS RS485 RTU

The unit can also be controlled via modbus

RS485 always present on the unit;

Through serial communication from an external Master device it will be possible to activate and modify all the unit functions;

The modbus can be managed in two configurations;

The first provides for the modbus command directly to the unit;

The second foresees that the unit has the T / H panel connected for stand-alone operation and the modbus communicates directly with the remote T / H panel;

In both cases the communication is modbus RTU 9600 N 8 1;

5.1.1 ELECTRICAL CONNECTIONS VERSION

Remote panel connection ECA033II / ECB033II

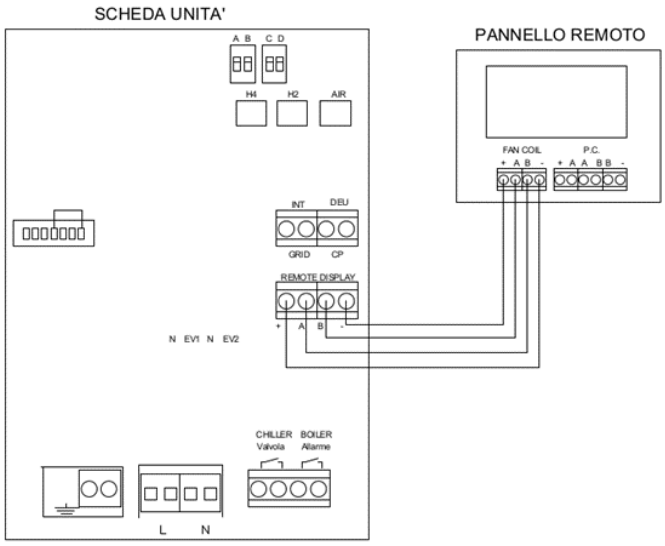
The card features a capacitive Touch remote control for managing all unit functions and is designed for wall or external installation of 502 box;

For the connection, use a shielded / braided cable from 0.75 to 4 conductors with a maximum length of 50 m;

Display - Unit connection

The connection is made from the unit to the remote panel where indicated FANCOIL;

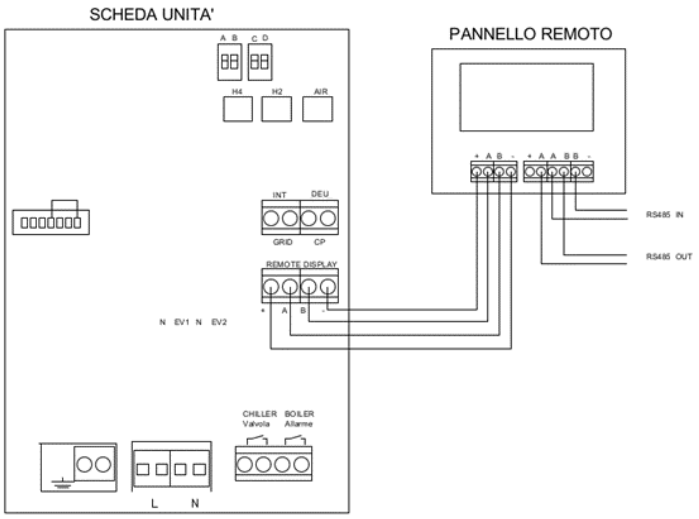
Respect the polarity of the 4 conductors;



RS485 Modbus connection to the display

The RS485 serial can also be connected to the display on the terminals indicated as PC port;

The terminals are double to be able to comfortably make the connection in and out of the board;



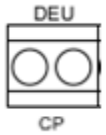
Remote panel ECA033II / ECB033II

Auxiliary Links

The card allows the operation of the EC Brushless fan through a remote control described above;

Some auxiliary functions have been implemented in the board such as the connection of the regulators and the management of a battery / post valve;

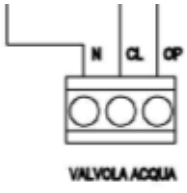
DEHUMIDIFICATION REQUEST CONNECTION

A humidistat or dehumidification control can be connected to the unit which forces the unit into dehumidification mode; Contact is provided through a standard thermostat with clean output contact; Contact Closed: unit in dehumidification Through the remote control, it will be possible to enable or disable this function;		
	Screw terminals	Recommended cable = 2x0.5mm / 2 x 0.75mm
	Contact request dehumidification	

TEMPERATURE REQUEST CONNECTION

A thermostat can be connected to the unit which forces the unit into integration mode; Contact is provided through a standard thermostat with clean output contact; Closed contact: unit in integration Through the remote control, it will be possible to enable or disable this function;		
	Screw terminals	Recommended cable = 2x0.5mm / 2 x 0.75mm
	Contact request temperature	

REAR VALVE / BATTERY CONNECTION

The unit provides for the control of a 2/3 point or modulating 3 point On-off valve / coil, by means of the controls provided on the terminal board; • (N) - Neutral • (CL) - Fixed power supply • (CP) - Opening command 		
	Water valve / rear coil connection	

GENERIC ALARM SIGNAL CONNECTION

The unit can signal a machine alarm through the generic alarm contact; the contact is a clean contact;

Contact Closed: alarm signal active;

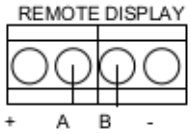
Screw terminals	Recommended cable = 2x0.5mm / 2 x 0.75mm
Alarm contact to the outside	

MODBUS RTU CONNECTION TO THE UNIT

Without connecting the display, the machine can be connected to a Modbus RS485 RTU supervision system;

The communication protocol is:

RTU 9600 N 8 1;



Screw terminals	Recommended cable = 2x0.5 mm shielded
Modbus RTU unit connection	

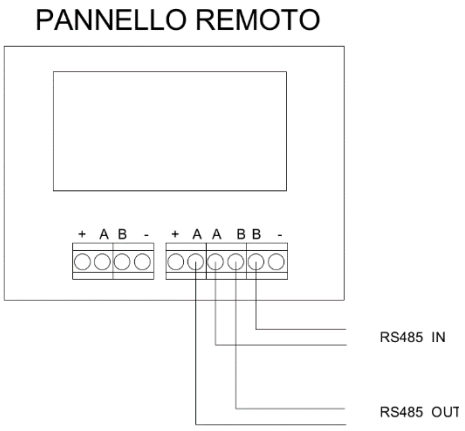
MODBUS RTU CONNECTION TO REMOTE PANEL T / H

With the connection of the remote panel, the machine can be connected to a supervision system directly on the control panel which becomes a slave of a supervision system;

There are two terminals A and B in order to comfortably carry out the in and out connection;

The communication protocol is:

RTU 9600 N 8 1;



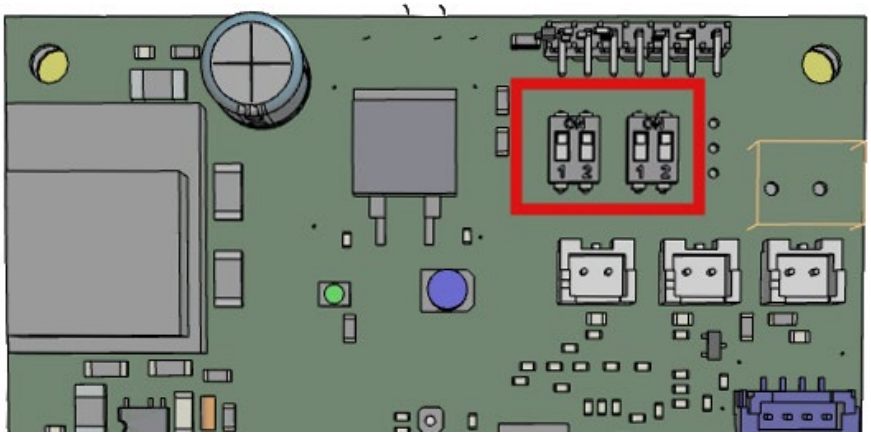
Screw terminals	Recommended cable = 2x0.5 mm shielded
Modbus RTU control panel connection	

6 COMMISSIONING AND METHOD OF USE

6.1.1 DIPSWITCH SETTINGS

In the upper part of the board there are 4 dipswitches for the various operating configurations of the unit;

It is essential to set the dip-switches correctly; the indications for the various methods of use are then repeated;



DIPSWITCH FUNCTIONS		
DIP SWITCH A	ON	OFF
	Operation only in summer The unit will always be in summer mode	Summer and winter operation Without PanelECA033II / ECB033II the water probe will make the summer / winter change With panelECA033II / ECB033II it will be possible to change the season
DIP SWITCH B	ON	OFF
	- Unit in Dehumidification version and DC model integration	Unit in Dehumidification version Model D
	NB The unit model is preset in the factory; do not change the setting to avoid unit malfunctions;	
DIP SWITCH CD	The combination of these Dip Switches decides the speed of the EC fan	
	OFF OFF	ON OFF
	Night Speed	Average speed
	OR NOT	OFF ON
	Full speed	Speeds managed by ECA033II / ECB033II Panel

6.1.2 OPERATION WITHOUT PANEL ECA033II / ECB033II

OPERATION WITH COMMANDS

Like a classic dehumidifier, the unit foresees to be managed through digital controls;

You can activate the, DRY, INTEGRATION functions and receive an ALARM signal,

The inputs can also be activated by the classic wall-mounted thermostats / humidistats;

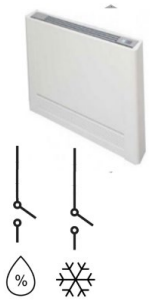
The operation of the unit without panel foresees, as in the indicative examples on the side, the command of the unit:

Through external commands: A series of digital commands will enable the machine for its various operating logics; In the start-up phase, carry out all the tests on the various inputs and check the required phases on the unit;

In this case it is necessary to set the dipswitches (see opposite);

If in this mode, the combination (DIP CD) OFF ON for speeds managed by the ECA033II / ECB033II panel is set, the unit will present the communication alarm;

After setting, with the inputs connected, it is possible to start the unit and check correct operation;



SEASONAL CHANGE SELECTION:

	ON	OFF
DIP SWITCH A	Operation only in summer The unit will always be in summer mode	Summer and winter operation the water probe will make the summer-winter change

OPERATING SPEED SELECTION:

	The combination of these Dip Switches decides the speed of the EC fan	
DIP SWITCH CD	OFF OFF	ON OFF
	Night Speed	Average speed
	OR NOT	OFF ON
	Full speed	Speeds managed by CMD Panel

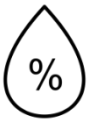
After receiving the dehumidification or integration command, the unit will behave in this way;

-Check the water temperature to decide the season if it is not forced in summer by dipswitch

- After deciding the seasonality, check that the water temperature is suitable for activating the fan in winter or the compressor and fan in summer;

The standard values for season change of water temperature are:

- 23 ° for Summer - Maximum water temperature
- 30 ° for winter - Minimum water temperature



Operation without ECA033II / ECB033II panel

6.1.3 OPERATION WITH ECA033II / ECB033II PANEL

The unit provides for autonomous operation through the ECA033II / ECB033II control panel which includes the temperature / humidity probe inside;

The functions can be activated by setting the temperature / humidity and fan speed set points;

In this case it is necessary to set the dipswitches (see opposite);

By selecting the summer only seasonal change, the ECA033II / ECB033II control panel will no longer be able to perform the seasonal change from a button;

If in this mode, the combination (DIP CD) OFF ON must be set for speeds managed by the ECA033II / ECB033II panel;

After setting it is possible with the inputs connected, to start the unit.

1 OPERATION WITH STAND ALONE REMOTE PANEL

The unit operates through the temperature / humidity control panel (OPTIONAL) where it is possible to select set point, fan speed, all unit parameters

SEASONAL CHANGE SELECTION:

DIP SWITCH A	ON	OFF
	Operation only in summer The unit will always be in summer mode	Summer and winter operation Without PanelECA033II / ECB033II the water probe will make the summer / winter change With panelECA033II / ECB033II it will be possible to change the season

OPERATING SPEED SELECTION:

DIP SWITCH CD	The combination of these Dip Switches decides the speed of the EC fan
	OFF- ON
	Speeds managed by ECA033II / ECB033II Panel

6.1.4 OPERATION WITH REMOTE PANEL T / H ECA033II / ECB033II

6.1.5 GENERALITY

The commissioning of the unit and any modification of the factory settings must only be carried out by qualified personnel (authorized installer).

6.1.6 PANEL OPERATION

The unit is completely manually controlled by the user, through the ECA033II / ECB033II touch wall control; The remote panel has an internal temperature / humidity sensor with which it detects the environmental conditions and activates the unit and its functions through the set points;	 3V switch

The keys present in the main screen are shown below:	Meaning of the keys in the main display:		
	Allows the unit to be turned on / off from the keyboard		Button for changing the temperature set
	Keys for selecting the fan speed: Quiet / nominal / maximum		Button for summer / winter selection
	Key for relative humidity display		Key for modifying the humidity set after having pressed the humidity display key
	Button for automatic speed operation		ALARM signal
	Main screen keys display		

6.1.6.1 TURNING THE UNIT ON AND OFF

The unit can be enabled and disabled using the On / Off button on the display.	 Fan speed management

6.1.6.2 TEMPERATURE SET POINT SETTING

-The temperature set point occurs by pressing the + and - keys; The CND panel always shows the detected temperature, by pressing one of the two keys on the side, the set temperature set point is shown immediately and it will be possible to change the set temperature value;	 Unit ON / OFF

6.1.6.3 HUMIDITY SET POINT SETTING

The humidity set point occurs by pressing and holding the central fan key (5sec); The CND panel immediately shows the humidity detected, by pressing one of the two keys + and -, the set humidity set point is shown immediately and it will be possible to modify the set humidity value;		 Unit ON / OFF

6.1.6.4 CHANGE FANS SPEED

-On the display there are keys for selecting the desired speed of the unit; Each time the speed is selected, the actual fan speed variation occurs after 1 second. -There are three selectable speeds: Night (minimum speed) - nominal (medium speed) - maximum (maximum speed) The unit is supplied with the nominal flow rates and pressures indicated here; Having the EC Brushless fan, it will be possible to change the available head if necessary; STANDARD SETTINGS: 1 Speed (moon symbol) - Flow rate 240mc / h Useful pressure 25PA 2 Speed (fan symbol) - Flow rate 300mc / h Useful pressure 25PA 3 Speed (two fans symbol) - Flow rate 320mc / h Useful pressure 25PA	 Fan speed management

6.1.6.5 AUTO SPEED FUNCTION

- By pressing the auto key, the unit will operate at a fixed speed in summer with the compressor ON; - It will work instead by automatically adjusting the fan speed in winter operation and heating mode; The automatic functioning foresees the variation of the functioning speed in an automatic way through the detection of the temperature and relative set point; The farther the temperature is from the room set point, the higher the fan revolutions will be;	 AUTO function

6.1.6.6 CHANGE OF SEASON

- The season change on version I must be done from the keyboard; Press and hold the season change button for at least 3 seconds to change the status of the season; The operation must be carried out to activate the correct logics: In winter the antifreeze function and in summer the bypass function; Logic symbols: SUN - WINTER SNOWFLAKE - SUMMER	 Season Change

6.1.6.7 KEY LOCK

Pressing the + and - keys simultaneously for 3 seconds activates the local lock of all the keys, confirmation is given by the display of the message bL. All adjustments are disabled for the user and bL appears when any key is pressed. By repeating the sequence, the keys are unlocked.	bL Key lock

6.1.6.8 SERVICE MENU AND PARAMETERS SETTING

In the service menu it will be possible to set some unit functions and advanced parameters such as:

SERVICE MENU 1	SERVICE MENU 2
Ad: Modbus address	S1: Minimum heating water temperature
UU: enabling WIFI card	S2: Maximum cooling water temperature

Service

Ub: Buzzer volume	D1: EV1 ignition differential for heating		NB To set the parameters and have the procedures for entering the menus, contact the service or contact qualified personnel.
br: brightness	D2: EV1 ignition differential for cooling		
of: digital input	Mt: Fan type		
Rb: modbus reset	R1: Minimum speed (moon)		
Fr: Factory reset	R2: Average speed (fan)		
Ot: Temperature probe offset	R3: Auto speed (auto)		
oH: Humidity probe offset	R4: Maximum speed (two fans)		
Sc: Scale			

7 MAINTENANCE

To always ensure correct and optimal operation of the unit, all maintenance interventions must be carried out periodically.

7.1.1 CLEANING OR REPLACING FILTERS

To replace the filters or to clean them, proceed as follows:

- open the filter covers as shown in the figure;
- remove the dirty filters;
- insert new or clean filters carefully;
- close the lid;

If the conditions of the filters allow it, they can be cleaned using a vacuum cleaner or a low pressure compressor.

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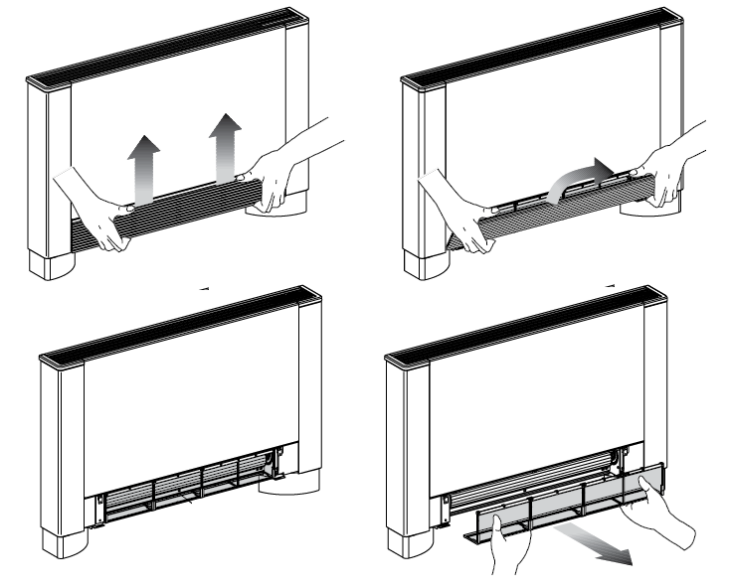


View for filter extraction

7.1.2 GENERAL CLEANING OF THE UNIT

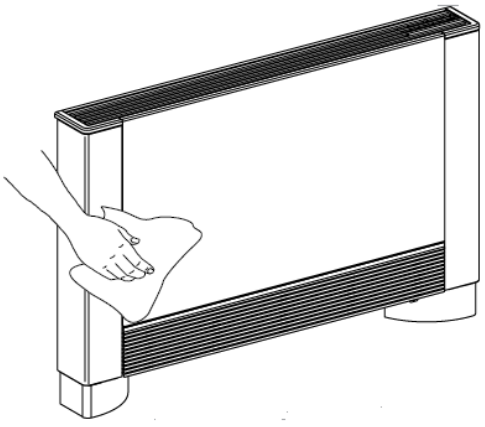
It is advisable to occasionally check and, if necessary, clean the fans, the condensate drain and the internal walls of the unit. These operations must only be carried out by qualified personnel (installer).

To carry out the above operations, proceed as follows:

- disconnect the unit from power supply
- open the unit cover;
- check and if necessary clean the fans, the condensate drain and the walls;
- close the lid

For cleaning, you can use a vacuum cleaner, a rag dampened slightly with water, a soft bristle brush or a low pressure compressor.

Attention! There are small metal clips on the blades for balancing the blades, DO NOT remove them.



Unit views for general cleaning

8 ALARMS

8.1.1 GENERALITY

In case of problems or breakdowns, take note of the model and serial number of the unit you own (found on the identification plate attached to the side of the unit) and contact the installer.

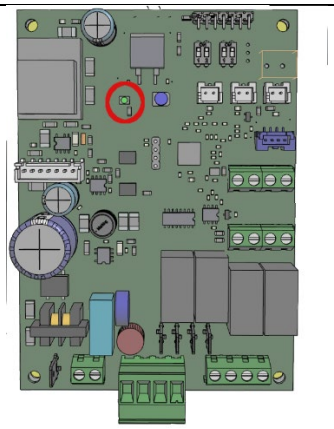
8.1.2 PROBLEMS WITHOUT ERROR INDICATION ON THE DISPLAY

PROBLEM	**CAUSES**	**REMEDIES**
Display off	No power (light switch off)	Check the connection to the mains.
Little or no air flow	Clogged filters	Replace the filters
	Dirty fan	Clean the fan
	Clogged fan ducts	Clean the ventilation ducts
High noise	Noise coming from the unit	Check for cracks and / or air leaks from the unit panels Check the siphon connection Check if the motors turn correctly (bearings)
	Noise coming from the ducts	Check for cracks in the intake / inlet / exhaust pipes
Vibrations Elevate	Panels that vibrate	Check the integrity of the unit panels and profiles Check that the unit cover and the panel covering the electronic board are properly closed Check that there are no walls that can transmit vibrations to the wall / floor / false ceilings
	Unbalanced fan blades	Check the integrity of the blades Clean the fans Check that the small metal clips for balancing the blades are still present on the fans
Loss of condensation	Condensate drain blocked	Clean the condensate drain
	Condensate does not flow from the drain duct into the drip tray	Make sure the unit is perfectly level Check that the condensate drain connections are not clogged

8.1.3 ALARM SIGNAL

Below is a list of all the alarms managed by the application. The presence of an alarm has two display modes:

1 - In the absence of the ECA033II / ECB033II panel, a LED on the electronic board shows the type of alarm present through the flashing sequence;
2 - If the ECA033II / ECB033II panel is present, in addition to the flashing of the LEDs on the board, an alarm code will also be shown on the display;

	
1 LED FOR SIGNALING THE UNIT CARD ALARMS	2 PANEL ALARM SIGNALECA033II / ECB033II

8.1.4 ALARM SIGNAL TABLE

Attention! In the case of several active alarms, only the one with the highest priority is displayed

CODE ECA033II / ECB033II	**PRIORITY**	**ALARM DESCRIPTION**	**RESET**	**CONTACT BO**	**ACTION**	**LED**
E3	0	TEMPERATURE / HUMIDITY SENSOR ALARM	Automatic	Locked down	Extinguish all charges	
	1	COMMUNICATION ERROR	Automatic	Locked down	Same as for fan coil and M5	Led off
	2	AIR PROBE ALARM M5	Automatic	Locked down	Extinguish all charges	7 flashes - off 10 seconds
	3	HUMIDITY PROBE ALARM M5	Automatic	Locked down	Extinguish all charges	8 flashes - off 10 seconds
	4	WATER PROBE ALARM	Automatic	Locked down	Extinguish all charges	5 flashes - off 10 seconds
	5	REFRIGERANT PROBE ALARM	Automatic	Locked down	Extinguish all charges	6 flashes - off 10 seconds
	6	MOTOR ALARM	Automatic	Locked down	Turn off all loads	1 flash - off 10 seconds
	7	HIGH CONDENSATION ALARM (permanent)	Manual (it is necessary to remove and restore voltage or reset through M5)	Locked down	Turn off all loads	2 flashes - off 10 seconds
	8	HIGH CONDENSATION ALARM (temporary)	Automatic	Open	Turn off the compressor for the CSA time	9 flashes - off 10 seconds
	9	WATER TEMPERATURE NOT SUITABLE	Automatic	Open	Does not activate the fan, leaves the other loads unchanged	3 flashes - off 10 seconds

8.1.5 RESET ALARMS

The alarms with automatic reset are canceled and reset when the unit operation returns to normal conditions.

In the case of manual reset, to reset the alarm it will be necessary to remove and reconnect the power supply to the unit.

9 NOTES AND INFORMATION MAINTENANCE

NOTE

02-2022

The data contained in this manual can be changed by the manufacturer without prior notice.