



Filomuro
incasso
SLWI

First of all, we would like to thank you for having chosen a device of our production.

We are sure you will be happy with it because it represents the state of the art in the technology of home air conditioning.

By following the suggestions contained in this manual, the product that you have purchased will operate without problems giving you optimum room temperatures with minimum energy costs.

INNOVA S.r.l.

Conformity

This unit complies with the European directives:

- Low voltage 2014/35 / EU;
- Electromagnetic compatibility 2014/30 / EU;

Symbols

The pictograms in the next chapter provide the necessary information for correct, safe use of the machine in a rapid, unmistakable way.

Editorial pictograms

User

- Refers to pages containing instructions or information for the user.

Installer

- Refers to pages containing instructions or information for the installer.

Service

- Refers to pages containing instructions or information for the installer TECHNICAL CUSTOMER SERVICE.

Safety pictograms

Warning

- Signals to the personnel that the operation described could cause physical injury if not performed according to the safety rules.

Dangerous electrical voltage

- Signals to the personnel that the operation described could cause electrocution if not performed according to the safety rules.

High heating danger

- Signals to the personnel that the operation described could cause burns if not performed according to the safety rules.

Prohibition

- Refers to prohibited actions.

GENERAL

1.1 General warnings

- ⚠ After unpacking, make sure that all the components are present. If not, contact your vendor who sold the device to you.
- ⚠ Only qualified installer companies are authorised to install the device. After having completed installation, the installer will issue a declaration of conformity to the plant manager, as required by the applicable standards and the guidelines provided by contractor's instruction manual supplied with the device.
- ⚠ These device have been designed for room heating and/or air conditioning and must be used as intended and compatibility with their performance levels. Any contractual and extra-contractual liability of constructor for harm caused to person, animals or property by installation errors, improper adjustments, maintenance or use is excluded.
- ⚠ If water leaks out of the device, set the main switch to "Off" and close the water taps. Contact our Technical Customer Service as soon as possible or professionally qualified staff and do not personally attempt fix the problem.
- ⚠ If the device is to remain out of service for a prolonged period, make sure you carry out the following operation:
 - set the main system switch to "Off"
 - close the water taps
 - if there is a danger of frost, make sure that you have added anti-freeze liquid into the circuits, or drain out the system otherwise
- ⚠ A temperature that is too low or too high is harmful to health and is an unnecessary waste of energy. Avoid direct contact with the air flow over an extended period.
- ⚠ Avoid keeping the installation premises closed for a long time except in the presence of a heat recovery ventilation system.
- ⚠ This instruction manual forms an integral part of the device and therefore must be carefully preserved and must ALWAYS travel with it, even if you transfer the device to another owner or relocate it to other premises. If the manual gets damaged or lost, download a copy from the website.
- ⚠ All repair or maintenance interventions must be performed by the technical service department or by professionally qualified personnel as foreseen in this booklet. Do not modify or intervene on the appliance as this could create dangerous situations and the manufacturer will not be responsible for any damage caused.
- ⚠ Avoid contact: danger of burns.

1.2 Basic rules of security

Please keep in mind that the use of products powered by electricity and water call for operators to comply with certain essential safety rules:

- ⊖ It is forbidden to children and unassisted disabled persons to use the device. The unit can be used by children over the age of 8, and by people with reduced physical, sensory or mental capabilities, or with no experience or necessary knowledge, as long as they are monitored or after they have received instructions on the safe use of the unit and have understood the dangers involved. Children must not play with the appliance. The cleaning and maintenance that must be performed by the user should not be carried out by children without supervision.
- ⊖ It is forbidden to touch the device with wet or damp body parts.
- ⊖ It is forbidden to clean the device before having disconnected it from the mains by setting the main switch of the system to "off".
- ⊖ It is forbidden to modify the safety or adjustment devices or adjust without authorization and indications of the manufacturer.
- ⊖ It is forbidden to pull, unplug or twist the device's electric cables, even if it is disconnected from the mains.
- ⊖ It is forbidden to introduce objects and substances through the air inlet and outlet grilles.
- ⊖ It is forbidden to open the access doors of the device's internal parts without first having set main switch of the system to "off".
- ⊖ It is forbidden to dispose of, or leave in the reach of children, the packaging materials which could become a source of danger.

1.3 Product line

Filomuro incasso fancoils range are designed for wall installation. The device are made in three different performance levels and size, all for two-pipe configuration.

Filomuro incasso fancoils range are available into three configurations based on control mode:

- for connection with remote control at modulating speed
- for connection with remote control at fixed speed
- for 0-10 V connection at modulating speed

1.4 Rated technical specifications

2 pipes only

Technical data

Models	m.u.	400	600	800
Coil water content	L	0,50	0,61	0,77
Maximum working pressure	bar	10	10	10
Maximum water inlet temperature	°C	80	80	80
Minimum water inlet temperature	°C	4	4	4
Hydraulic connections	" EK	3/4	3/4	3/4
Supply voltage	V/ph/Hz	230/1/50	230/1/50	230/1/50
Power consumption at the maximum speed	W	19,0	20,0	29,0
Power consumption at the minimum speed	W	4,0	4,0	4,0
Total length	mm	908	1108	1308
Total height	mm	337	337	337
Total depth	mm	128	128	128
Net weight	kg	14,0	16,0	19,0

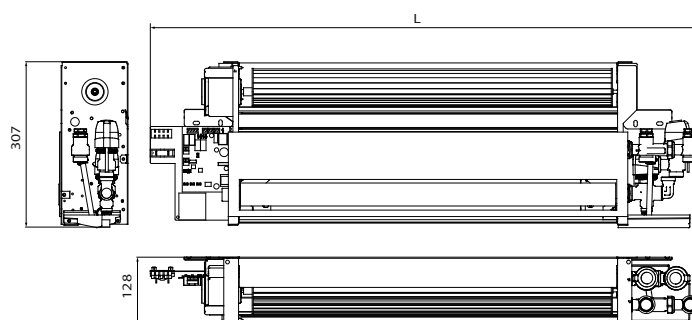
The dimensions refer to the whole unit including metal case and aesthetic panel.

1.5 Overall dimensions

2 pipes only

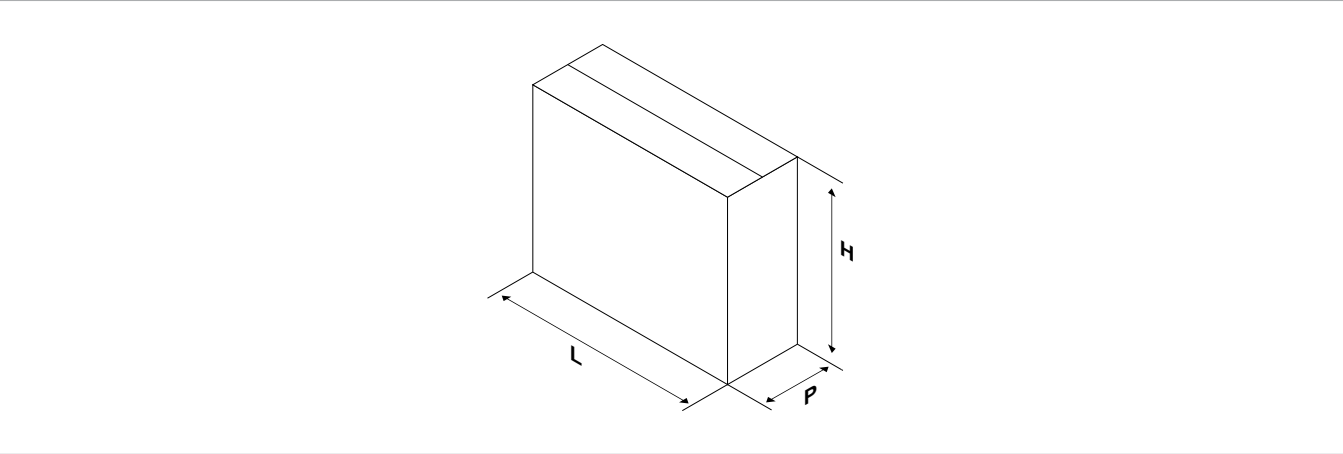
Dimensions

Models	m.u.	400	600	800
Total length	mm	820	1020	1220



1.6 Dimensions and weight for shopping

		Filomuro	Filomuro	Filomuro
Models	m.u.	400	600	800
Dimensions and weight for shopping				
Total length	mm	1020	1220	1320
Total height	mm	490	490	490
Total depth	mm	213	213	213
Weight	kg	15	17	20



INSTALLATION

2.1 Unit placement

Position of device must be established by the system designer or other qualified professional and must take into account both technical requirements and any local laws in force.

The Filomuro incasso fancoil has to be installed only in high position on the wall, with a maximum height of 2,2 m (except for use in cooling only).

⚠ Avoid installing the unit near:

- areas exposed to direct sunlight
- heat sources, except for solar radiations filtered by glass
- wet rooms and areas with probable contact with water
- rooms with oil vapors
- rooms subject to high frequencies

⚠ Make sure that:

- the wall on which you intend to install the unit has an appropriate structure and capacity
- the wall surface is not crossed by pipelines or power lines
- the surface is perfectly levelled
- there are no obstructions nearby that could compromise the inlet and outlet airflow
- the installation position is suitable to allow condensate drain outside the
- the installation position is optimal to avoid that the airflow is directed towards people

2.2 Installation mode

The assembly steps described below and their drawings refer to a version of the machine with connections on the right side.

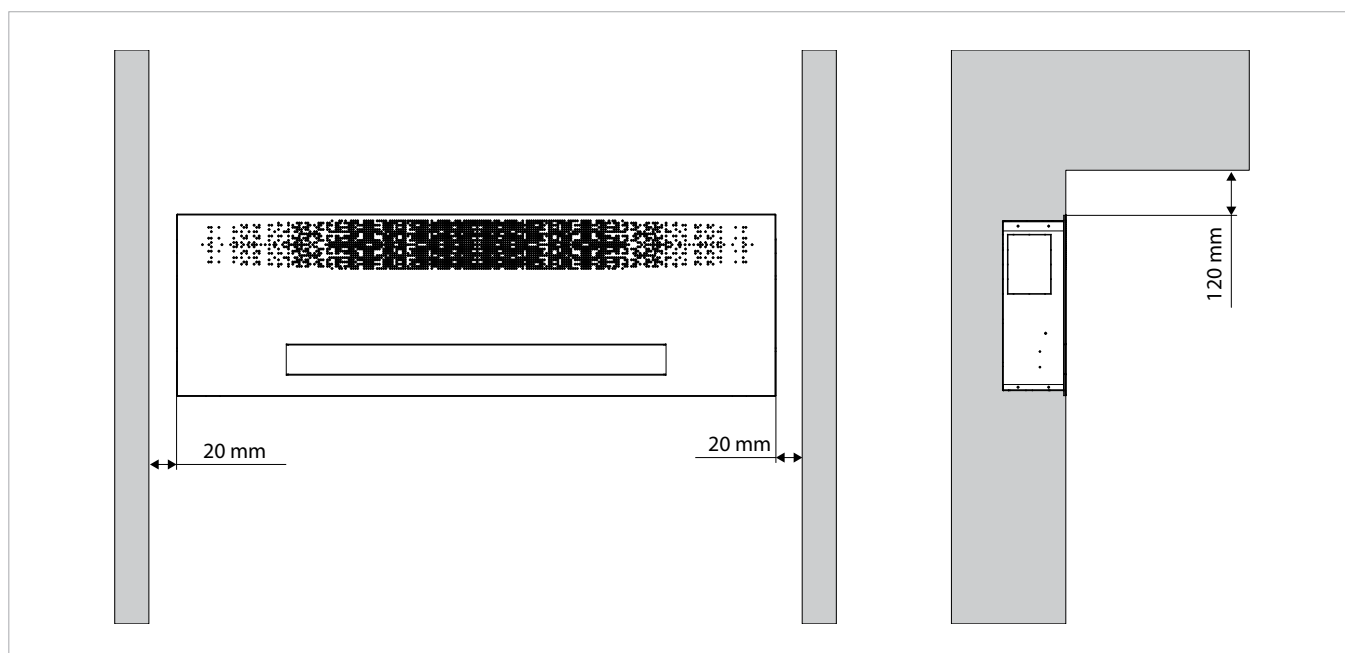
⚠ For ideal installation and performance levels, carefully follow the instructions in the manual.

⚠ Failure to do so may cause system malfunctions and automatically voids the warranty, and relieves the constructor of any harm caused to person, animals or property.

2.3 Installation minimum distances

The figure shows the minimum installation distances of the unit.

⚠ It is important to ensure that the air flow is not occluded by walls or obstacles.



2.4 Device preparation

The unit is supplied without accessories. The formwork for installing the unit is supplied separately for installation on site.

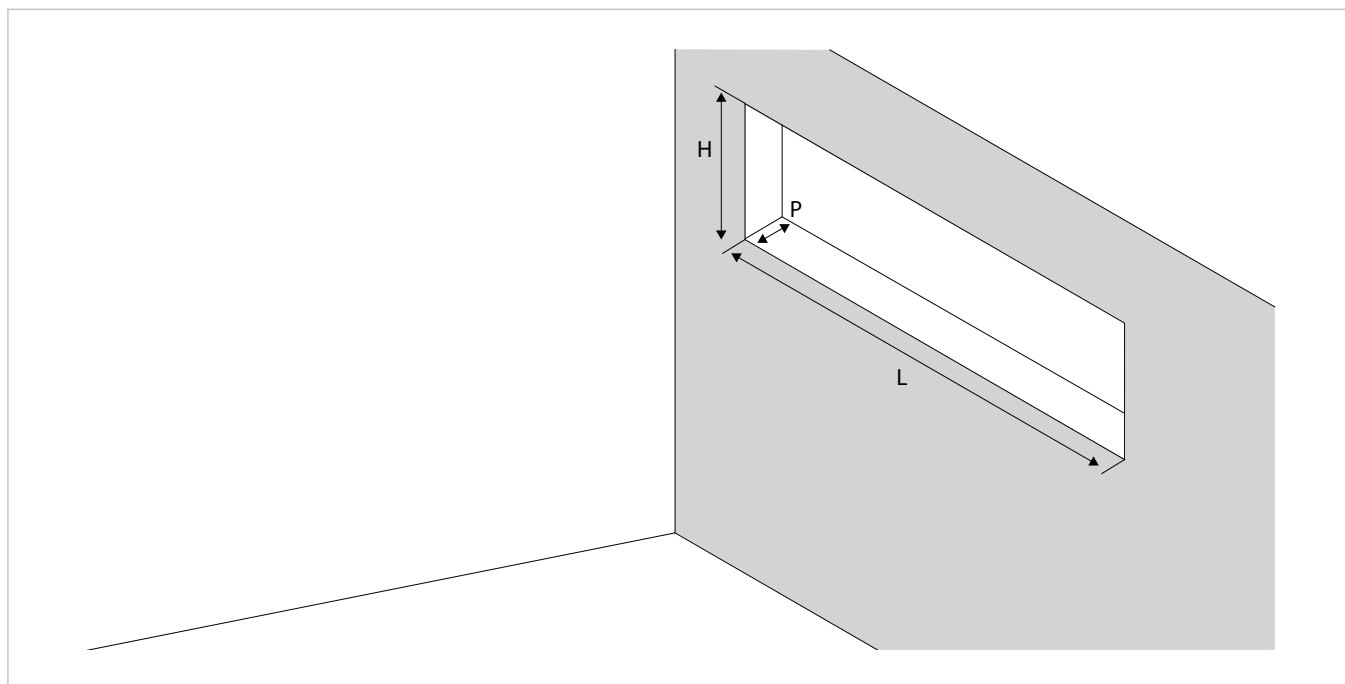
⚠ The metal case for housing the unit must already be prepared on the wall before installing the appliance.

Installation arrangement

To install the unit, prepare the wall for housing the metal casing.

⚠ Make sure that the support wall is able to support the weight of the appliance.

⚠ Make sure that the wall is not crossed by pipelines, load-bearing construction elements or power lines.



2.5 Installation

⚠ Make sure that the support wall is suitable for weight of the appliance.

⚠ Make sure that the wall is not crossed by pipelines, load-bearing construction elements or power lines.

⚠ Make sure that the side connections and the condensate drain are correctly positioned.

⚠ It is necessary, for right functioning of the device, that during the whole installation phase the working space remains clean.

⚠ Regularly clear away waste offcuts, debris or dirt in the metal casing.

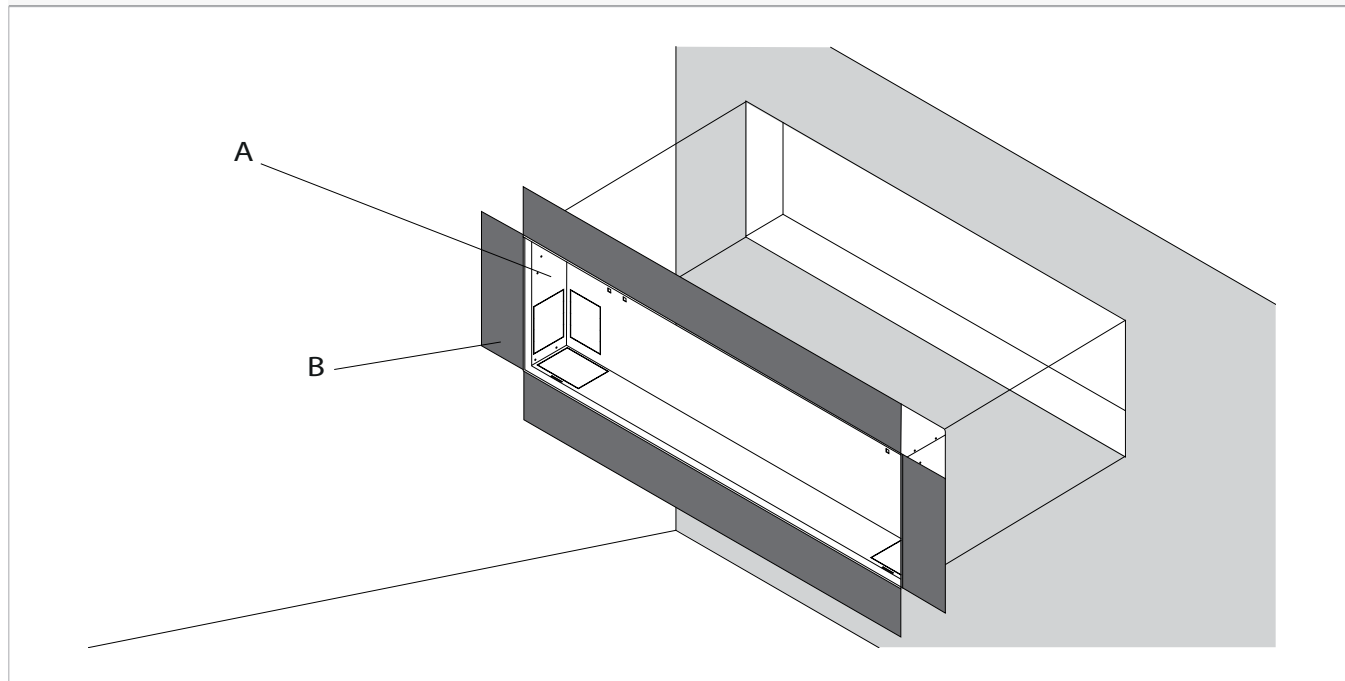
Box installation

⚠ The metal casing is equipped with pre-cuts in correspondence with the hydraulic and electrical connections of the appliance. Break the pre-cut necessary for through of pipes and electric cables.

– insert the metal casing into the wall hole

–

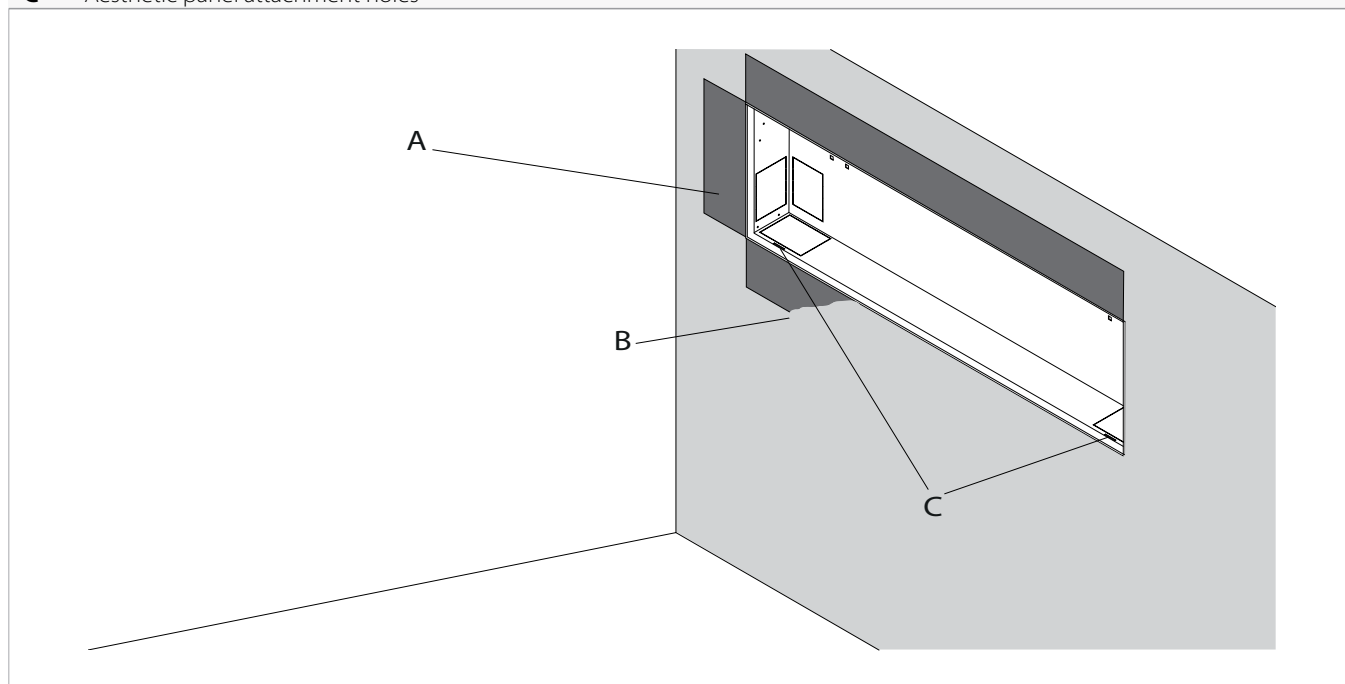
- A** Metal casing
- B** Plaster holder mesh



– fix to the wall

⚠ During the installation of the formwork, keep the edge of the plaster-holder mesh levelled with the finished wall.

- A** Plaster holder mesh
- B** Skimming
- C** Aesthetic panel attachment holes



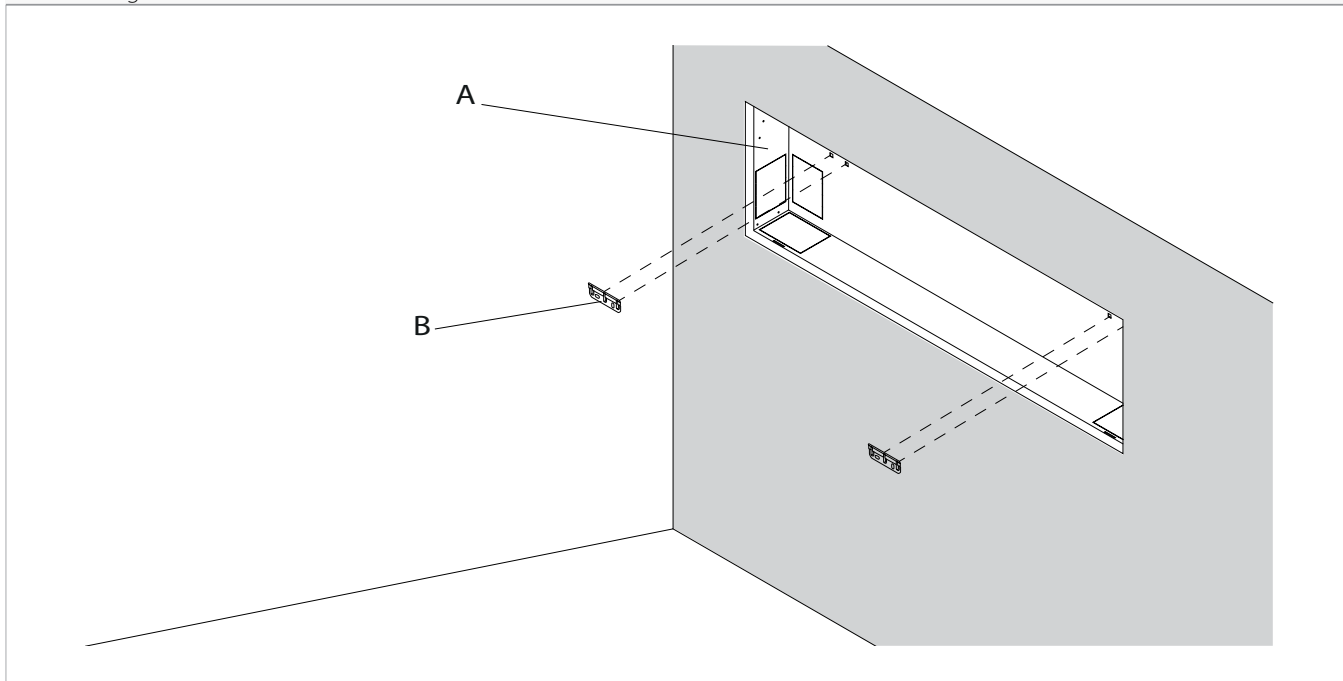
⚠ Make sure that the metal casing does not deform during installation.

⚠ make sure that the rectangular holes for hooking the aesthetic panel, arranged in the lower part of the wormwork, remain free.

Fancoil unit installation

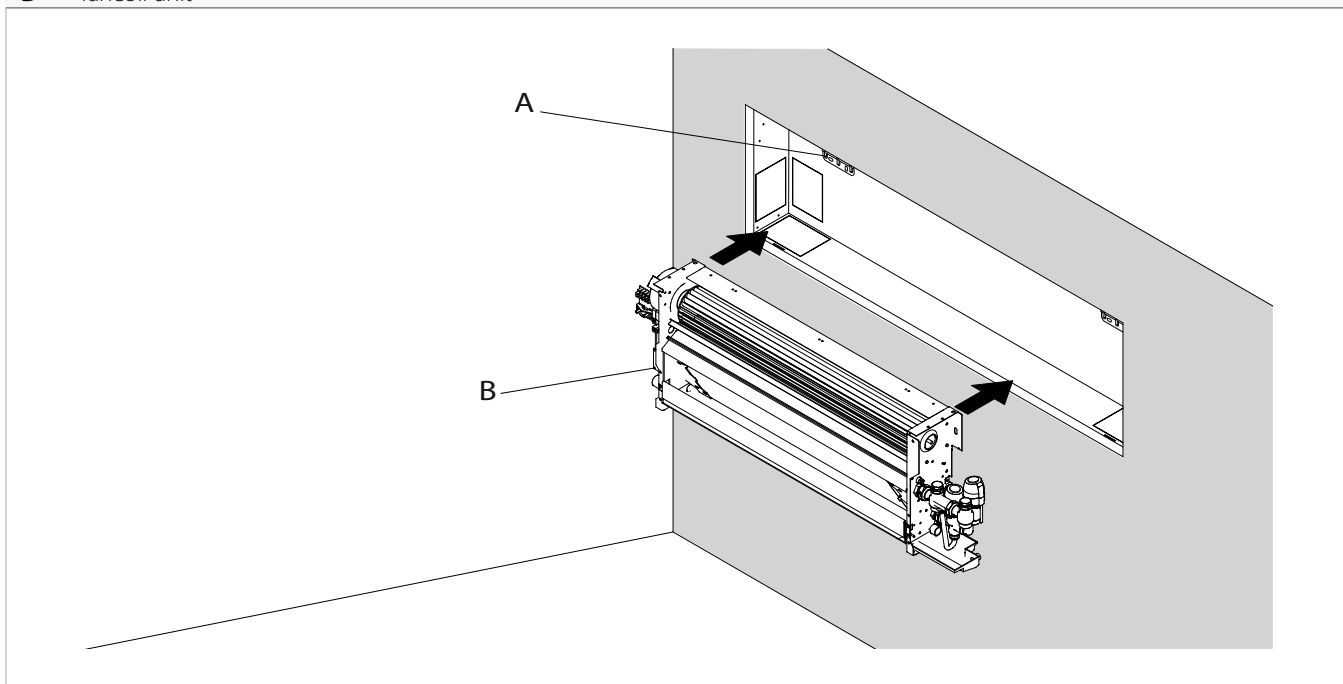
- place the cage nuts supplied in the square holes provided in the formwork
 - insert the 2 brackets supplied with the appliance
 - fix the brackets used M6 screws (not supplied)
 - check the right fixing
 - check right alignment
- ⚠ It is necessary, for right functioning of the device, that during the whole installation phase the working space remains clean.
- ⚠ Regularly clear away waste offcuts, debris or dirt in the metal casing.

A Metal casing
B Fixing brackets



- assemble the unit
- check right attachment to the brackets

A Fixing brackets
B fancoil unit

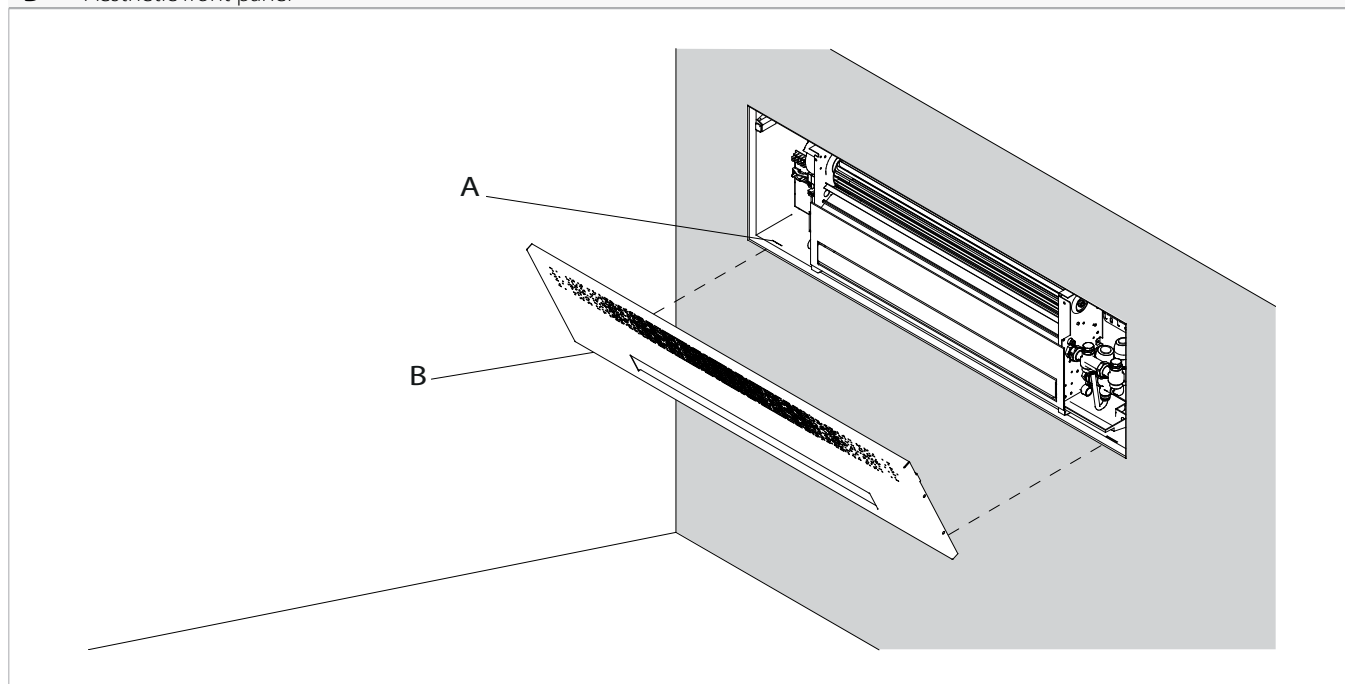


Aesthetic front panel installation

- bring the aesthetic panel closer to the formwork
- hook the lower part of the panel using the hooks provided in the formwork

A Aesthetic panel attachment holes

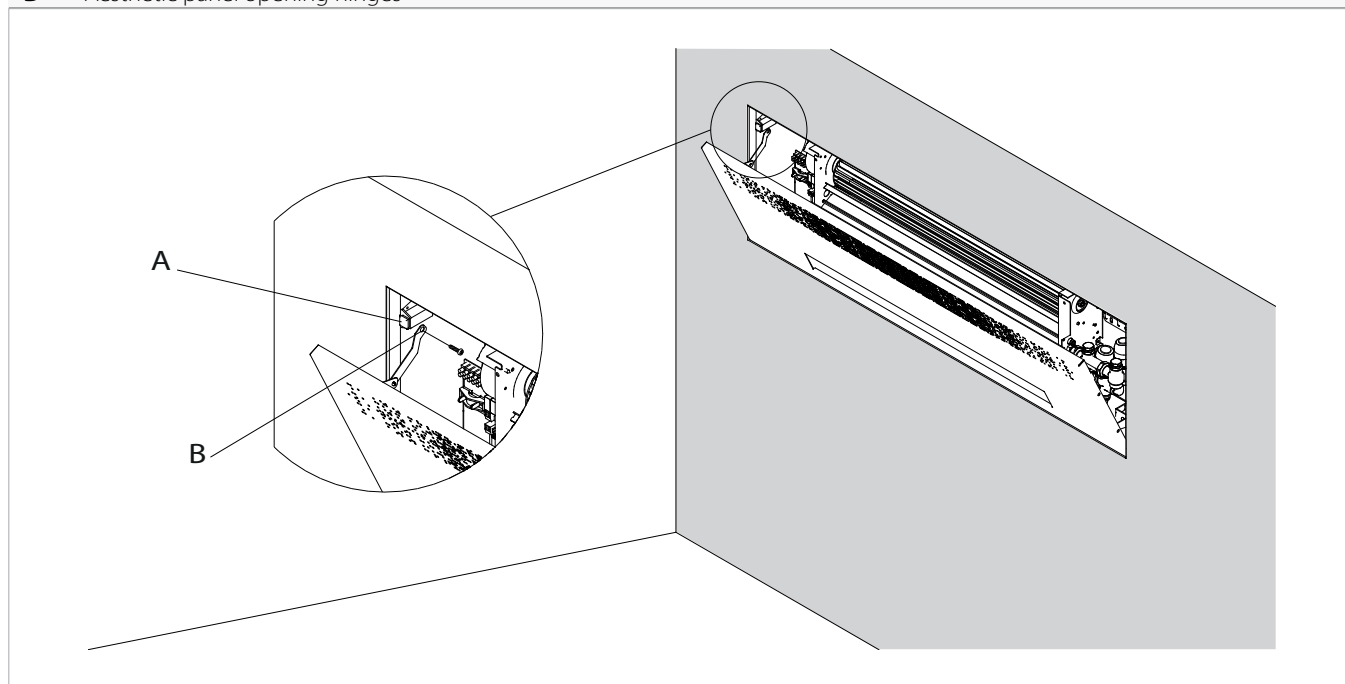
B Aesthetic front panel



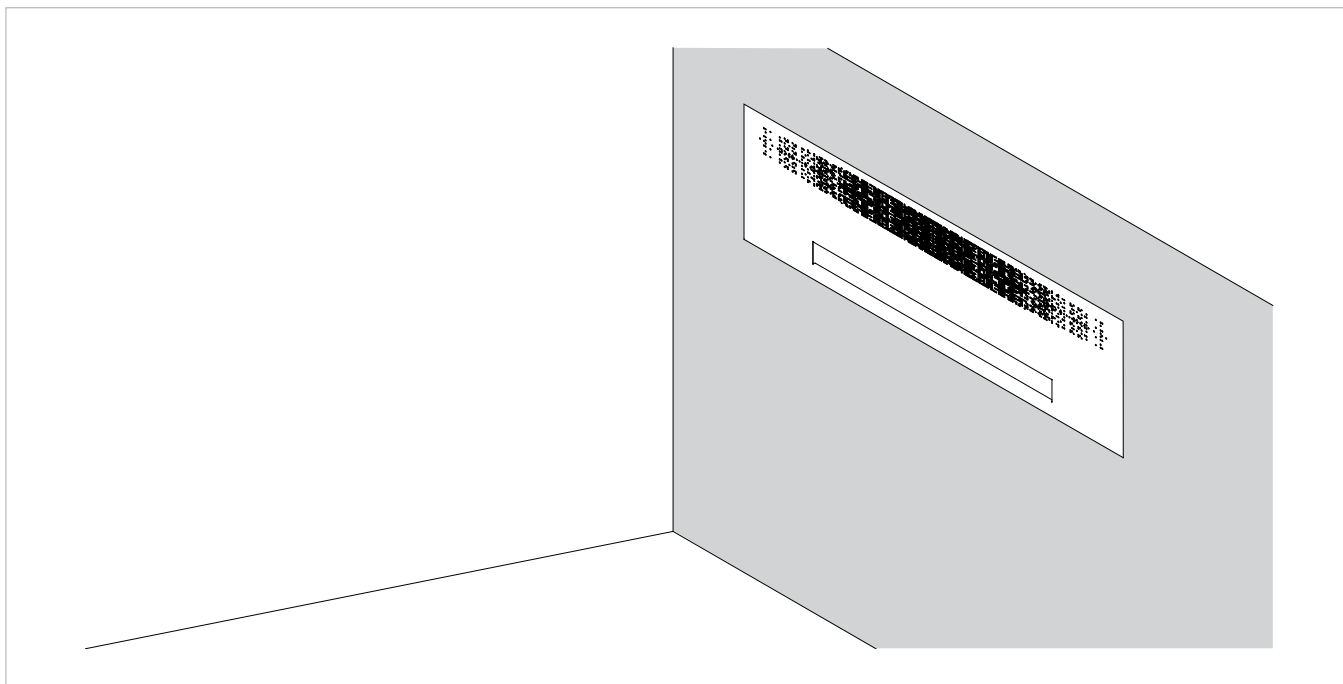
- bring the top of the aesthetic panel closer to the formwork
 - check the right alignment of the front panel with the flap on the unit, if necessary move the appliance on the brackets for correct alignment
 - secure the hinges using the screws provided
- ⚠ Make sure that the flap on the unit is aligned with the opening on the aesthetic panel. Failure to align can cause problems in the operation of the appliance.

A Push-pull pressure mechanism

B Aesthetic panel opening hinges



- close the panel

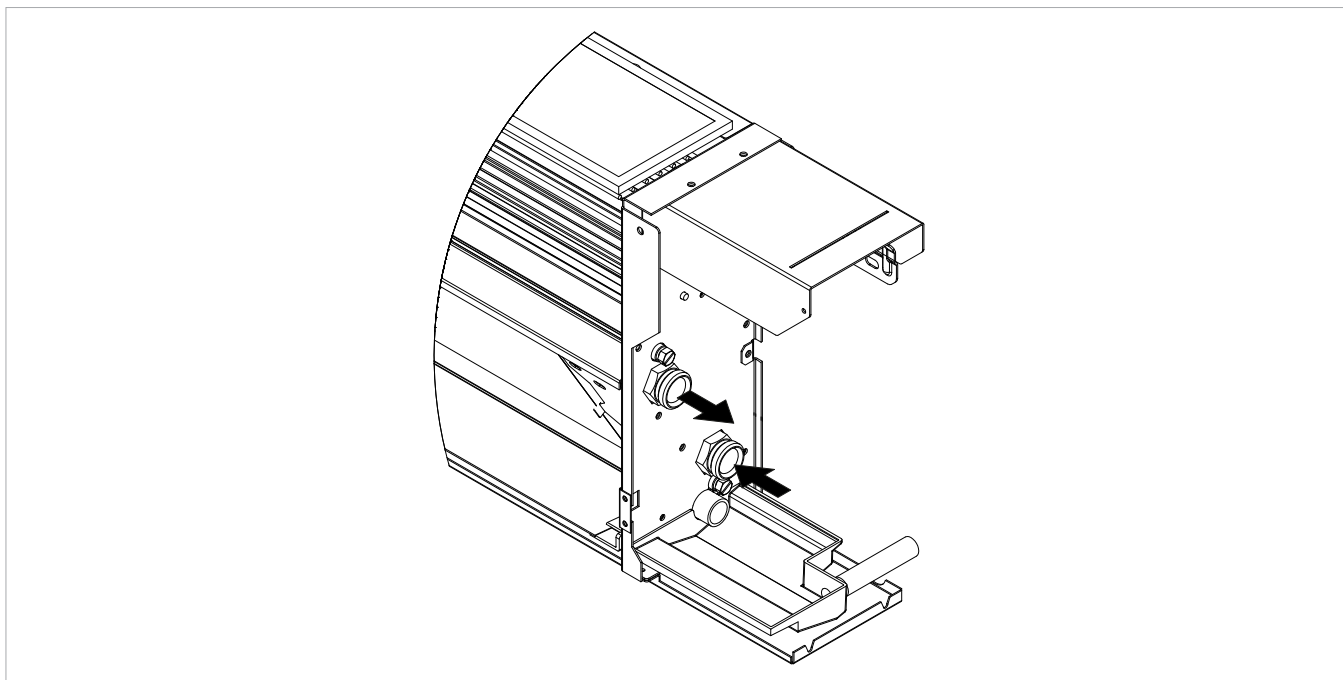


2.6 Hydraulic connections

The engineer is responsible for choosing the right water lines and their size, in accordance with good installation practices and the applicable law.

⚠ Keep in mind that undersized pipelines lead to poor system operation and/or a loss of thermal and cooling performance.

Position and dimensions



Models	m.u.	400	600	800
Hydraulic connections	" EK	3/4	3/4	3/4
Pipelines minimum diameter	mm	14	16	18

Connection to the system

To make the connections:

- hydraulic lines positioning
- use the "wrench against wrench" method
- tighten the connections
- check for leaks
- coat the connections with insulating material

⚠ The hydraulic lines and fittings must be thermally insulated.

⚠ Avoid partial insulation of the pipes.

⚠ Avoid over-tightening the pipes to avoid damage to the insulation.

⚠ Carefully check that the insulation is tight, in order to prevent the making and dripping of condensate.

Hydraulic accessories

Normally, unit comes without any shut-off valve.

In other case, depending of the request, the unit can be supplied with valves already assembled or supplied separately to be mounted during installation.

⚠ The 2-way and 3-way motorized valves are mandatory for the correct operation of the unit.

⚠ The motorized valve can be omitted, inside the unit, if there is a motorized valve in the distribution manifold of the system and connected to the regulation card of the unit.

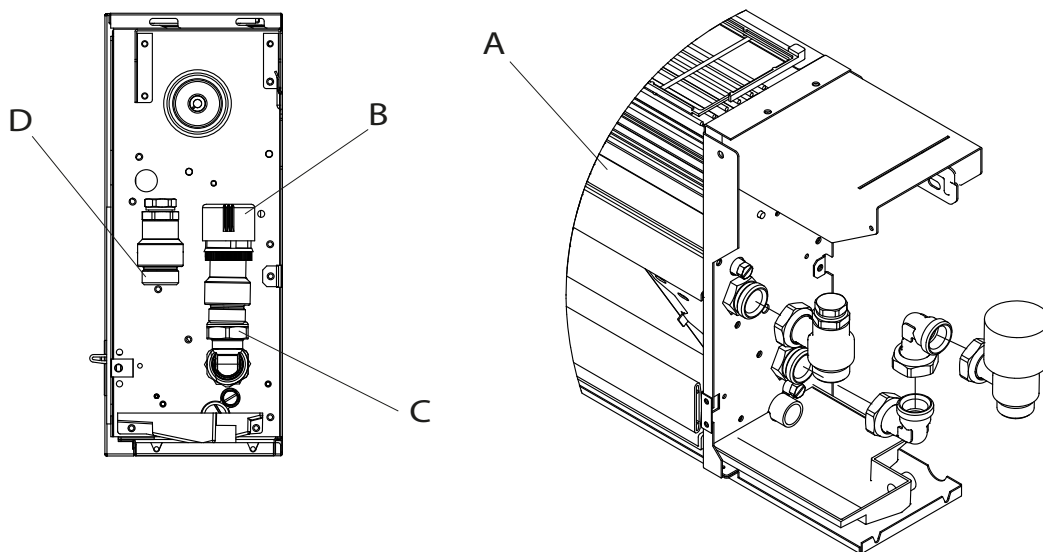
Connection with 2-way manual valve (I20686)

In case of choice for the 2-way manual valve:

- no electrical connection are necessary

- just connect to the flow at the bottom

- | | |
|----------|---------------------------|
| A | unit body |
| B | manual closing valve |
| C | water inlet pipe fitting |
| D | water outlet pipe fitting |

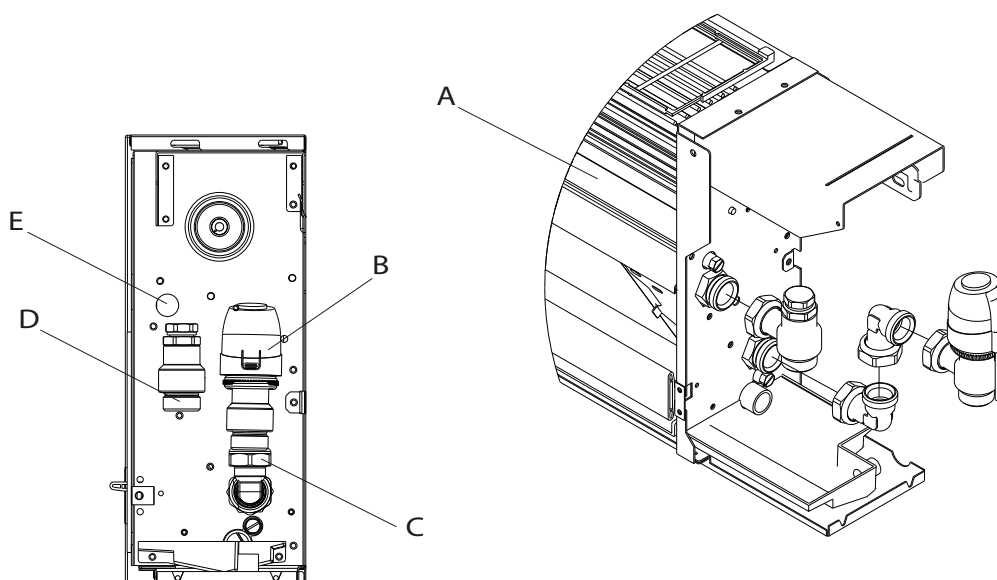


Connection with 2-way valve and thermoelectric actuator (V20687)

In case of choice for the 2-way valve and thermoelectric actuator:

- connect the pipe with the water sending at the top

- | | |
|----------|------------------------------|
| A | unit body |
| B | thermoelectric actuator |
| C | fitting for water inlet pipe |
| D | water outlet pipe fitting |
| E | electrical cable entry hole |

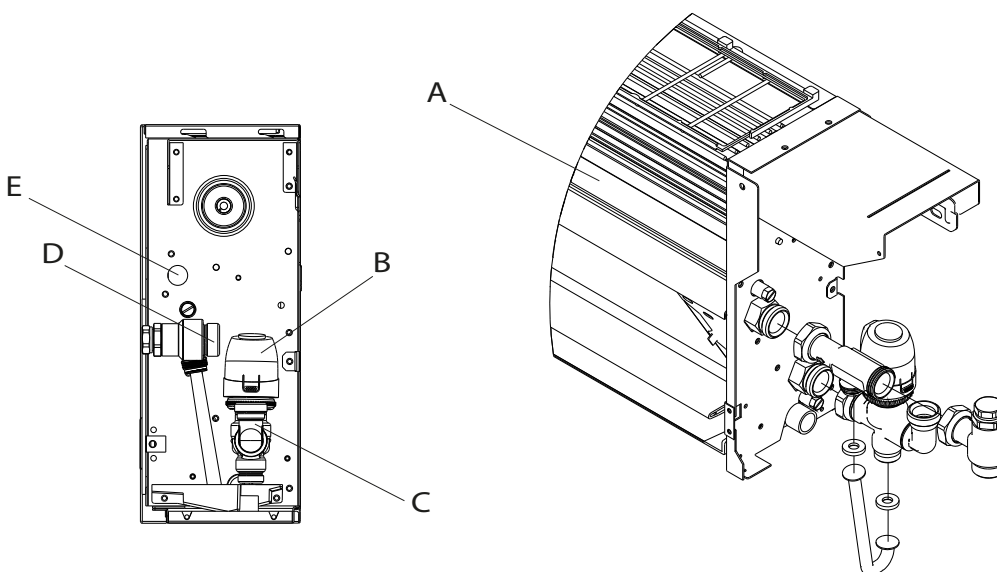


Connection with 3-way diverting valve unit with thermoelectric actuator (V30688)

In case of choice for the 3-way diverter valve unit with thermoelectric motor:

- connect the pipe with the water sending at the top

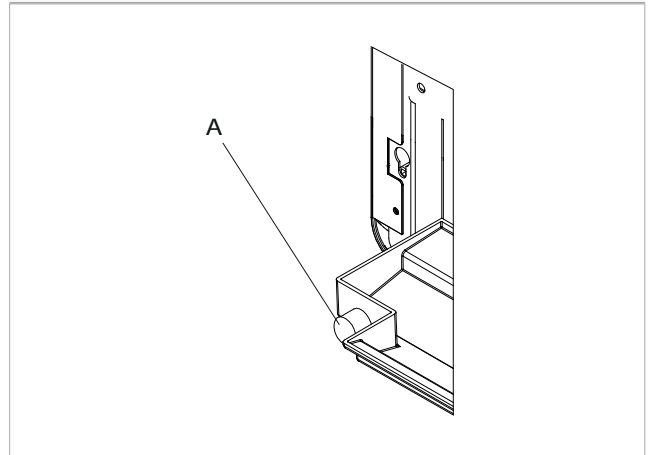
- | | |
|----------|------------------------------|
| A | unit body |
| B | thermoelectric actuator |
| C | fitting for water inlet pipe |
| D | water outlet pipe fitting |
| E | electrical cable entry hole |



2.7 Condensate drain

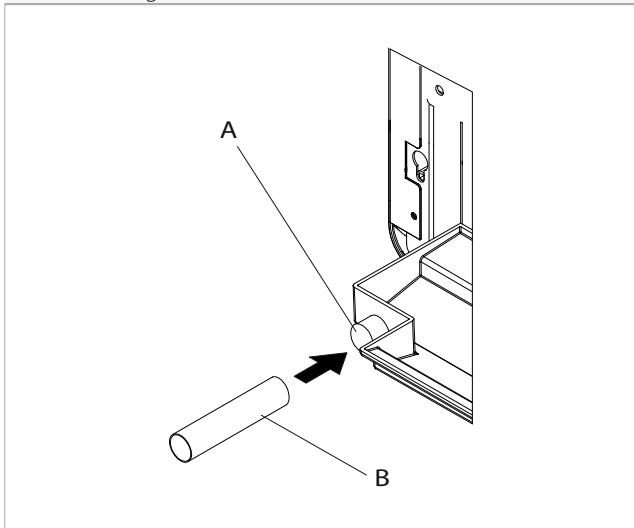
The unit is complete of a drain pan that collects the condensate fluid that is produced during cooling operation and must be conveyed to a suitable place for unloading.

1. drain connection, external Ø 14 mm



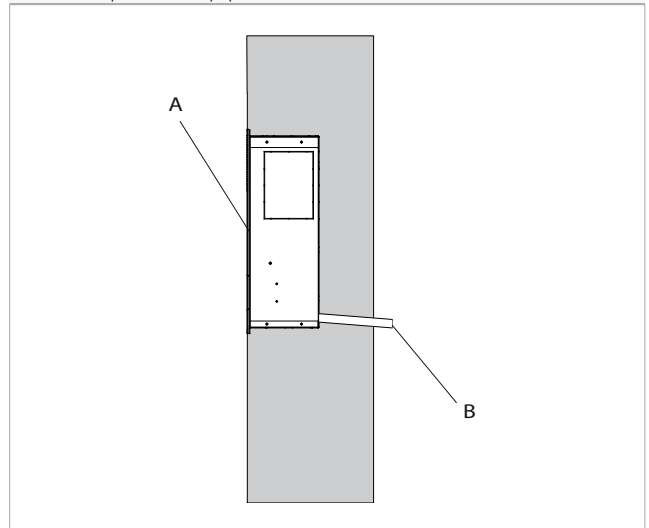
Connection to the condensate drain

- A** Drain connection
- B** Drainage tube



- connect a rubber drainage tube
- direct it to a suitable place for dropping

- A** Unit
- B** Liquid drain pipe



- provide a slope never less than 1%
- insulate fitting points
- ⚠ Pay attention to the tilt of the condensate drain pipe.
- ⚠ Make the condensate liquid flow directly onto a gutter or into a "white water" drain
- ⚠ Make a siphon to prevent bad smells returning up the pipe towards the room. The curve of the siphon must be lower than the condensation collection pan.
- ⚠ Install a pump if the drain pipe is higher than lower level of pan.
- ⚠ Choose carefully the destination of the drain considering the rise of odors in case of siphon drying.

Check

After the installation is completed:

- pour the water very slowly into the condensate drain pan
- check the right outflow

2.8 Filling the system

To fill the system:

- open the vent valves
- open all the system's shut-off devices
- slowly open the water tap

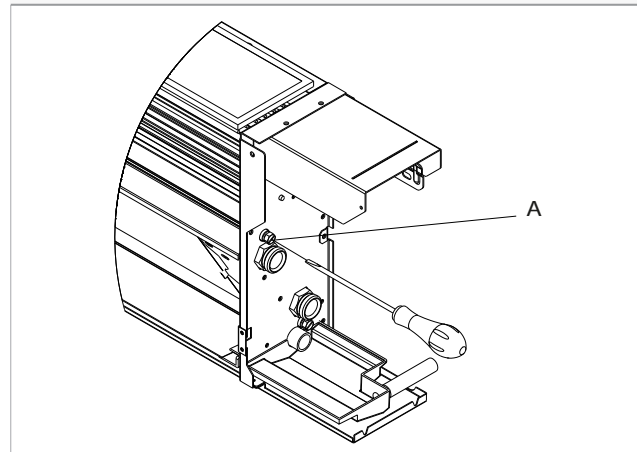
When water begins to leak out of the breather valves:

- close the breather valves
- complete system filling
- verify that you have reached the nominal pressure for the system
- close the water tap
- check the tightness of the gaskets

⚠ It is recommended to repeat this operation after the device has been running for a few hours.

⚠ Regularly check the system's pressure.

A Coil vent



2.9 Electric connections

The device leaves the factory fully wired up and needs only the connection to the power supply, to any controls and accessories.

For the size of the power supply cable and safety devices, use the following table.

Models	m.u.	400	600	800
Power conductor (phase+neutral)	mm ²	1,5	1,5	1,5
protective conductor section on ground	mm ²	1,5	1,5	1,5
Circuit breaker	A	2,0	2,0	2,0

N.B. The values indicated refer to a maximum line length of 15 m.

Make sure that:

- the characteristics of the electric network are adapted to the absorption of the apparatus, considering also any other devices in parallel operation
- the power supply voltage and system frequency match to the values indicated on the device's plate data
- the cables must be appropriate for the type of installation in accordance with the applicable IEC standards

It is required:

- connect the device an efficient ground connection
- refer to the wiring diagrams in this booklet for any electrical intervention

- the use of a dedicated main switch fitted with time-delay fuse or with an automatic circuit breaker switch, installed near the device

⚠ The device is equipped with suppression filter as laid down by the applicable laws and standards. Use selective circuit breakers to compensate for the micro-dispersion on the ground of this device.

⊖ It is forbidden the use of gas and water pipes for grounding the appliance.

⚠ If you need to replace the power cable, contact only qualified staff and in compliance with the applicable national laws.

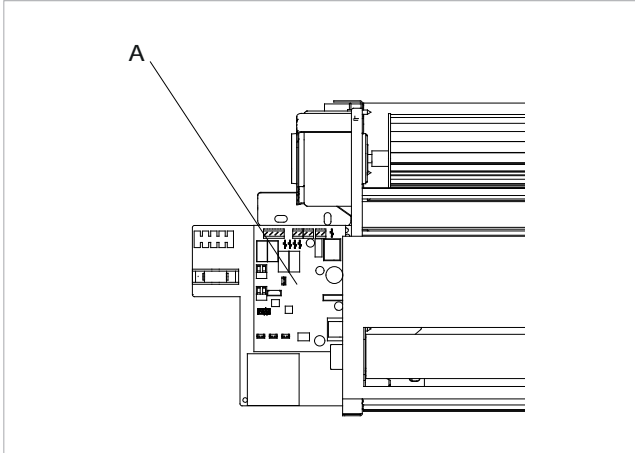
⚠ Disconnect the main circuit breaker before making any electrical connections and performing maintenance on the equipment.

Access to the terminal block

⚠ Before doing any work, make sure that the supply power is disconnect.

To connect the power supply:

A terminal block for wiring



- bring the power cord to the terminal block
- making the connections
- refer to the information in the wiring diagram of the unit you are installing

You can use a cable embedded in the wall in the position traced with the installation template to make the electrical connection (recommended connection for devices installed in the upper part of the wall). In any case, you must check that the power supply is protected against overload and/or short-circuits.

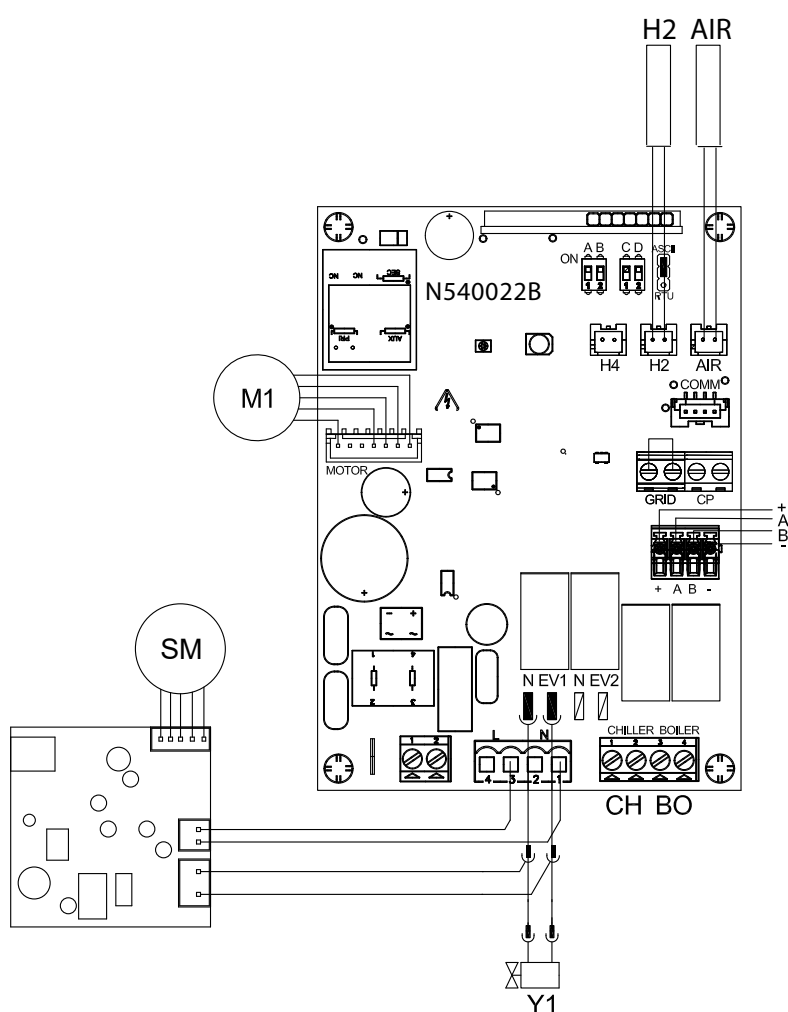
2.10 Diagrams and configurations electrical controls

Remote control EDA649 - EDB649 / EWG649 - EWW649 (code suffix-0P00)

Printed circuit board with continuous modulation for wall control connection

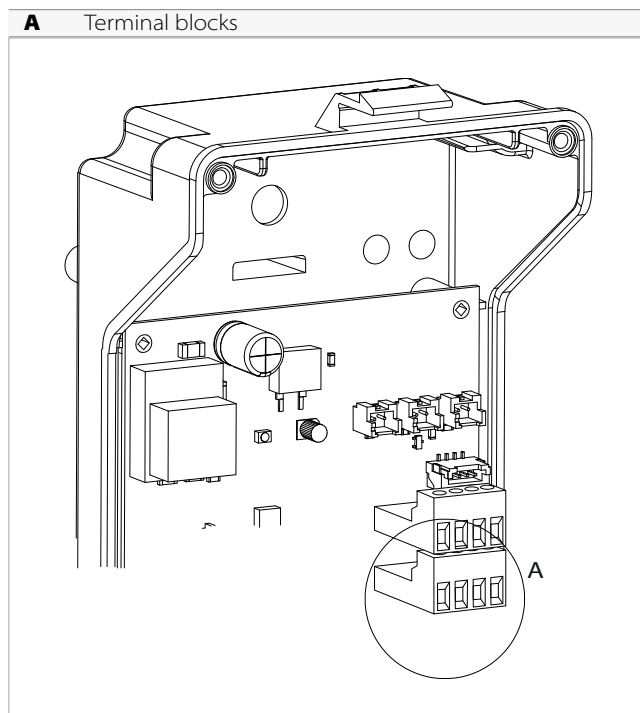
The PCB is included in the supply.

-AB+	Serial connection for wall-mounted remote control (respect the AB polarization)
H2	Hot water temperature probe 10 k Ω
M1	Fan motor DC Inverter
Y1	Water solenoid valve (230 V/50 Hz 1 A power output)
L-N	230 V/50 Hz electrical power supply connection
BO	Boiler consent output (free contact max 1 A)
CH	Chiller consent output (free contact max 1 A)
CP	Presence sensor input (if closed, the fancoil goes into stand-by)
AIR	Optional air probe



Wall mounted remote control EDA649 - EDB647 / EWG649 - EWW649

⚠ The control panel is to be ordered separately.



The terminal blocks for the connection of the wall-mounted controller accept:

- rigid or flexible wires with a 0.2 to 1 mm² cross-section
- rigid or flexible wires with 0.5 mm² cross-section if two wires are connected to the same terminal block
- rigid or flexible wires with 0.75 mm² cross-section if the wires have wire end ferrules with a plastic collar

To connect the cables:

- strip 8 mm of the wire

Error signals

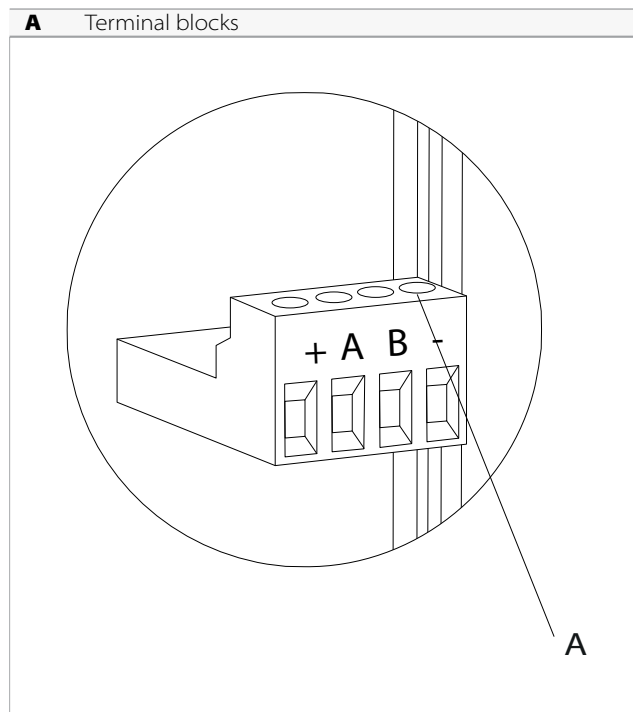
The PCB is fitted with a LED, thanks to which it is possible to intuit the operating status.

LED signals

- LED off
Device switched off or without power supply
- LED on
Normal operating of the device
- LED 1 flash / pause
*Water temperature probe H2 alarm not suitable, temporary stop of the ventilation until the temperature reaches an appropriate value **
- LED 2 flashes / pause
Motor alarm (for example jamming due to foreign bodies or fault in the rotation sensor)
- LED 3 flashes / pause
Water probe alarm disconnected or faulty
- LED 6 flashes / pause
Communication error with the wall remote control. In case of a non-communication for more than 5 minutes the device is deactivated.

* In case of a operation without water probe H2, the fan stop thresholds will be ignored.

- if the wire is rigid, you can insert it easily whereas
- if it is flexible, it is advisable to use long nose pliers
- push the wire completely in
- check the right fixing by pulling it gently



To disconnect the cables:

- unscrew the corresponding screw with a screwdriver
- remove the conductor

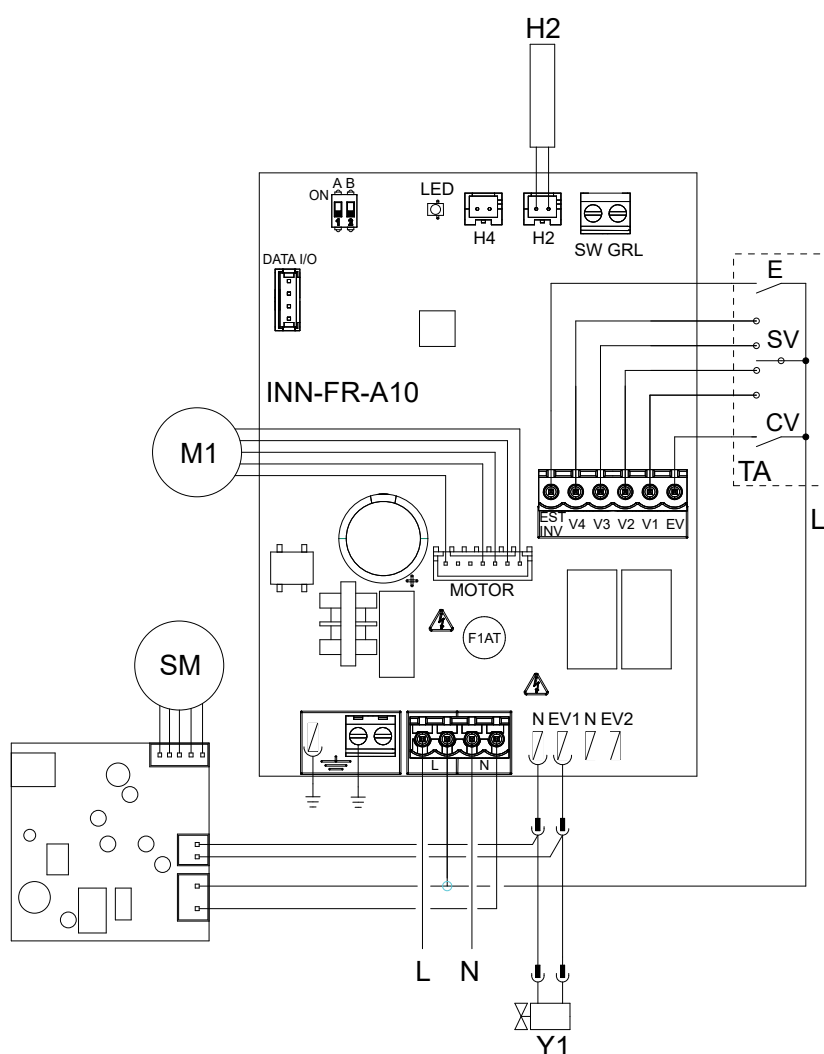
When the CP contact opens, connected to a clean contact not live, the unit is in stand-by. The display reads "CP".

Remote control with fixed speed (code suffix-0T00)

Printed circuit board for connection to standard 4-speed thermostats

The PCB is included in the supply.

N-L	230 V/50 Hz electrical power supply
EV	Solenoid valve permission input
V1	Maximum fan speed 1.400 rpm
V2	Medium fan speed 1.100 rpm
V3	Minimum fan speed 680 rpm
V4	Super-silent speed 400 rpm
E	Heating, cooling selection input
Y1	Water solenoid valve (230 V/50 Hz 1 A power output)
M1	Fan motor DC Inverter
TA	3 speed room thermostat (to buy, install and connect by the installer)
CV	Thermostat consent
SV	Speed selector
H2*	Water temperature probe 10 kΩ
*	Located in the battery on the unit.



Connection with 3 speed thermostats

The CV input is the ON/OFF of the board:

- in case of opened input the PCB is placed in stand-by
- in case of closed input the PCB is in operation

To active the electrovalve Y1 the CV input must be bridged to clamp L of the 230 V electric power supply.

To activate the fan, connect the V1, V2, V3, V4 inputs to clamp L of the 230 V electric power supply. The inputs control the ventilation speed:

- V1 - maximum fan speed (equal to 1400 rpm)
- V2 - medium fan speed (equal to 1100 rpm)
- V3 - minimum fan speed (equal to 680 rpm)

Water probe

In case of connection with electromechanical thermostats or commercial commands provided with water probe:

- the on-board H2 probe will not be connected
 - the device will be controlled from the remote command
- If this is not the case, connect the 10 k Ω probe located inside the battery to the H2 connector on the PCB.

The printed circuit board works in:

- minimum water temperature for heating function (<30 °C)
- maximum water temperature for cooling function (>20 °C)

In case of temperature not suitable for active operation:

- V4 - supersilent speed (equal to 400 rpm)

Connect the 3 speeds of the thermostat to three of the four available inputs based on the characteristics and use of the location. Examples:

- residential application where maximum silence is required, connect V2, V3 e V4
- commercial application where the heating capacity is the main aspect, connect V1, V2 and V3

In the event of simultaneous closure of several inputs, the motor will run at a number of revolutions equal to that set by the connection with the highest speed.

You can connect several boards in parallel to a single thermostat, even using different speed.

- the ventilation stops
 - error is indicated by the flashing of the LED on the PCB
- The Heating/Cooling discriminant is implemented through the EST/IN input of the board:

- with input open the boards goes into Heating mode
 - with input closed the board goes in Cooling mode
- It is possible to use the device without the water probe activated. In this case the error is signaled on led.

To confirm operation without the probe:

- disconnect and connect the board power

This condition is stored by the board for all subsequent start-ups. Connect the probe to restore the normal functions.

Error signals

LED signals

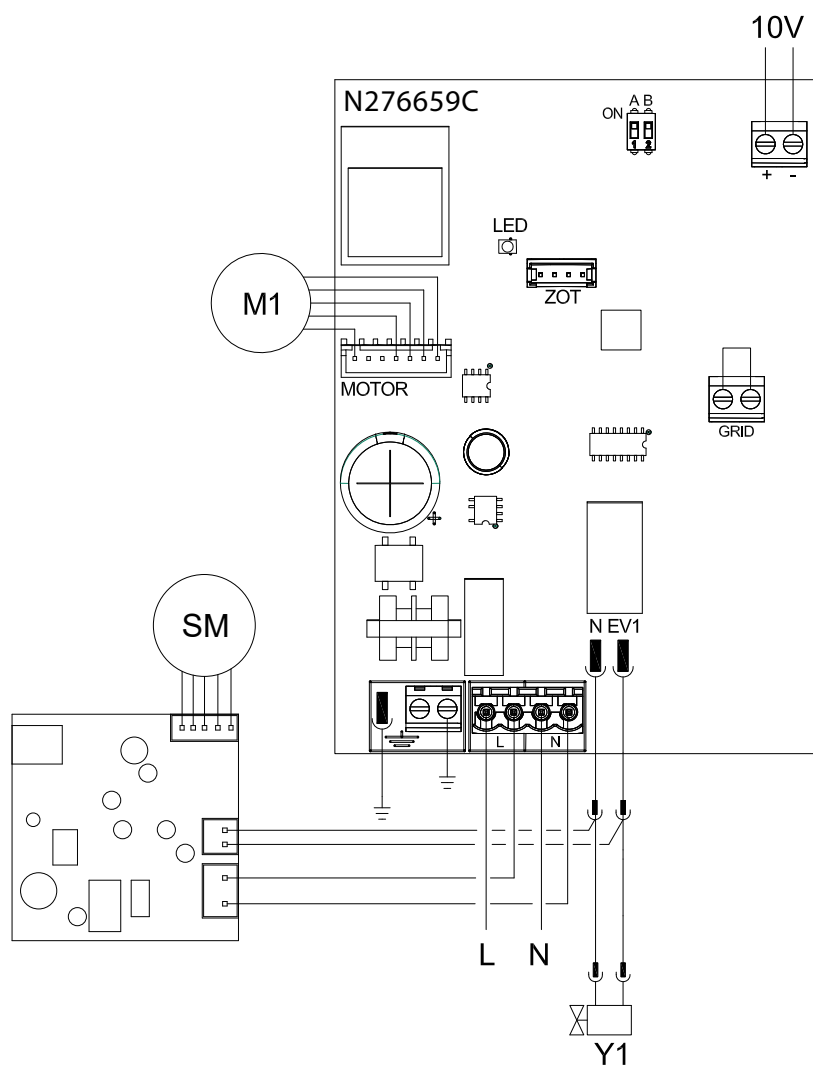
- LED off
The CV contact is open, stand-by condition
- LED on
The CV contact is closed, normal operation
- LED 1 flash / pause
Water temperature probe H2 alarm not suitable, temporary stop of the ventilation until the temperature reaches an appropriate value
- LED 2 flashes / pause
Motor alarm (for example jamming due to foreign bodies or fault in the rotation sensor)
- LED 3 flashes / pause
Water probe alarm disconnected or faulty

Remote control with modulating speed (code suffix-0V00)

Printed circuit board for 0-10 V interface

The PCB is included in the supply.

L-N	230 V/50 Hz electrical power supply
10V	Device pilot input 0÷10 V. Input impedance 25 k Ω
Y1	Water solenoid valve (230 V/50 Hz 1 A power output)
M1	Fan motor DC Inverter



Connection with 0-10 V thermostats

The 10 V input activates solenoid valve Y1 and adjusts the number of rotations of the fan. The speed range provides a linear adjustment from the minimum value (400 rpm) to the maximum value (1400 rpm) for voltage values $\geq 1,1 \text{ V} \div 10 \text{ V DC}$.

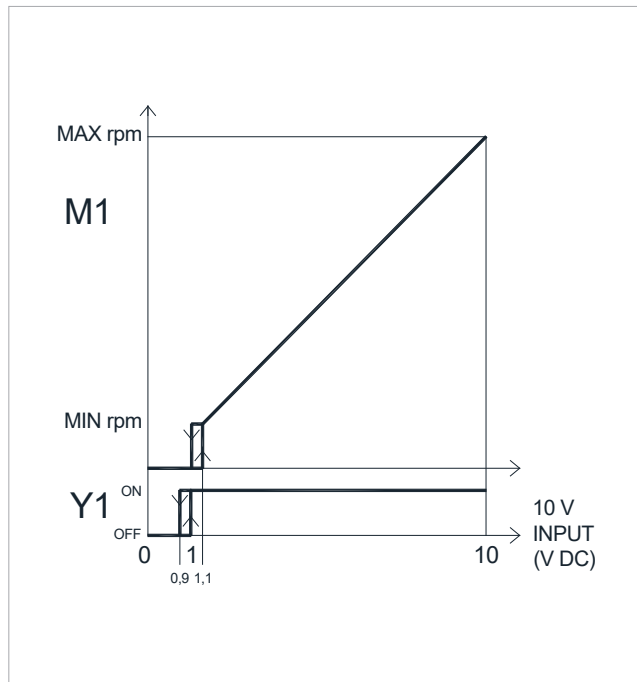
The solenoid valve Y1:

- is enabled by voltage values $> 1 \text{ V DC}$
- turns off with values $< 0,9 \text{ V DC}$

Error signals

LED signals

- LED off
The input signal is below 0,9 V
- LED on
Normal operation, the input signal is greater than 1 V
- LED 2 flashes / pause
Motor alarm (for example jamming due to foreign bodies or fault in the rotation sensor)



WALL MOUNTED REMOTE CONTROL EDA649 - EDB647 / EWG649 - EWW649

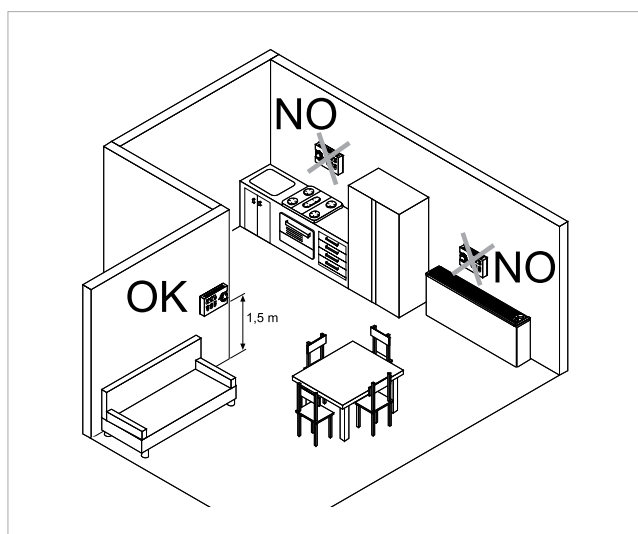
3.1 Installation

Description

The wall-mounted control panel is a thermostat with possibility of control on several device equipped with electronic control for remotization.

- ⚠ The control can control up to a maximum of 30 units.
- ⚠ The temperature probe can be remotized in one of the fan-coils connected to it.

Mounting

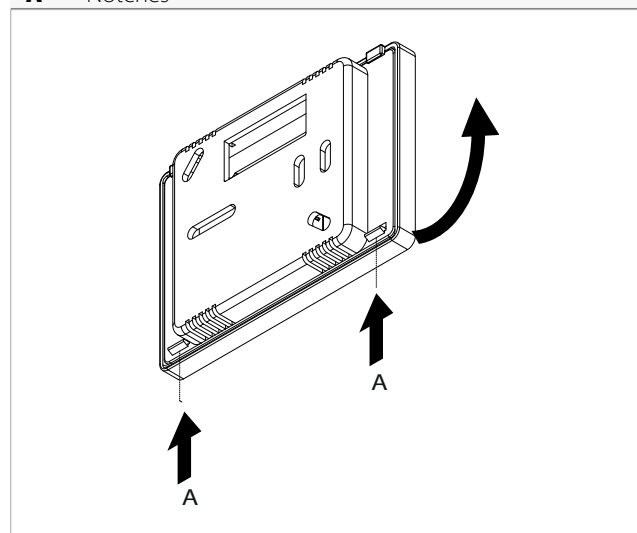


The wall-mounted remote control must be installed:

- on internal walls
- at a height of about 1,5 m from the floor
- away from doors or windows
- away from heat sources (heaters, convectors, stoves, direct sunlight)

⚠ The wall-mounted remote control is provided inside the package already assembled.

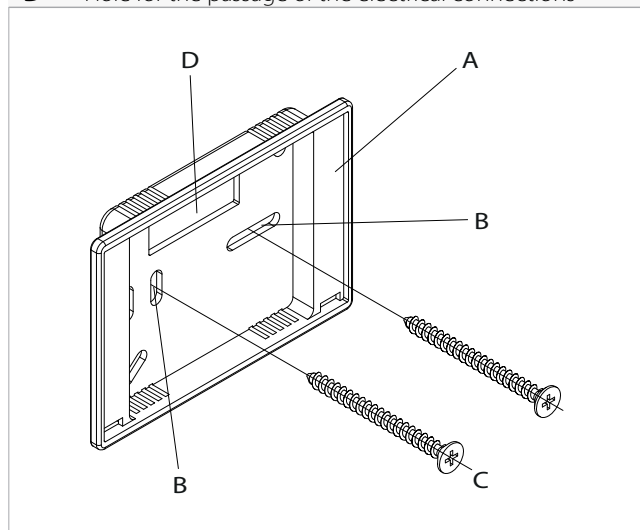
A Notches



Before wall installation:

- Unhook the protruding notches on the back side of the control.
- separate the base from the control
- use the base of the control to trace the fixing point on the wall

- | | |
|----------|--|
| A | Base of the control |
| B | Holes for the wall mounting |
| C | Screws |
| D | Hole for the passage of the electrical connections |



For the remote control wall mounting:

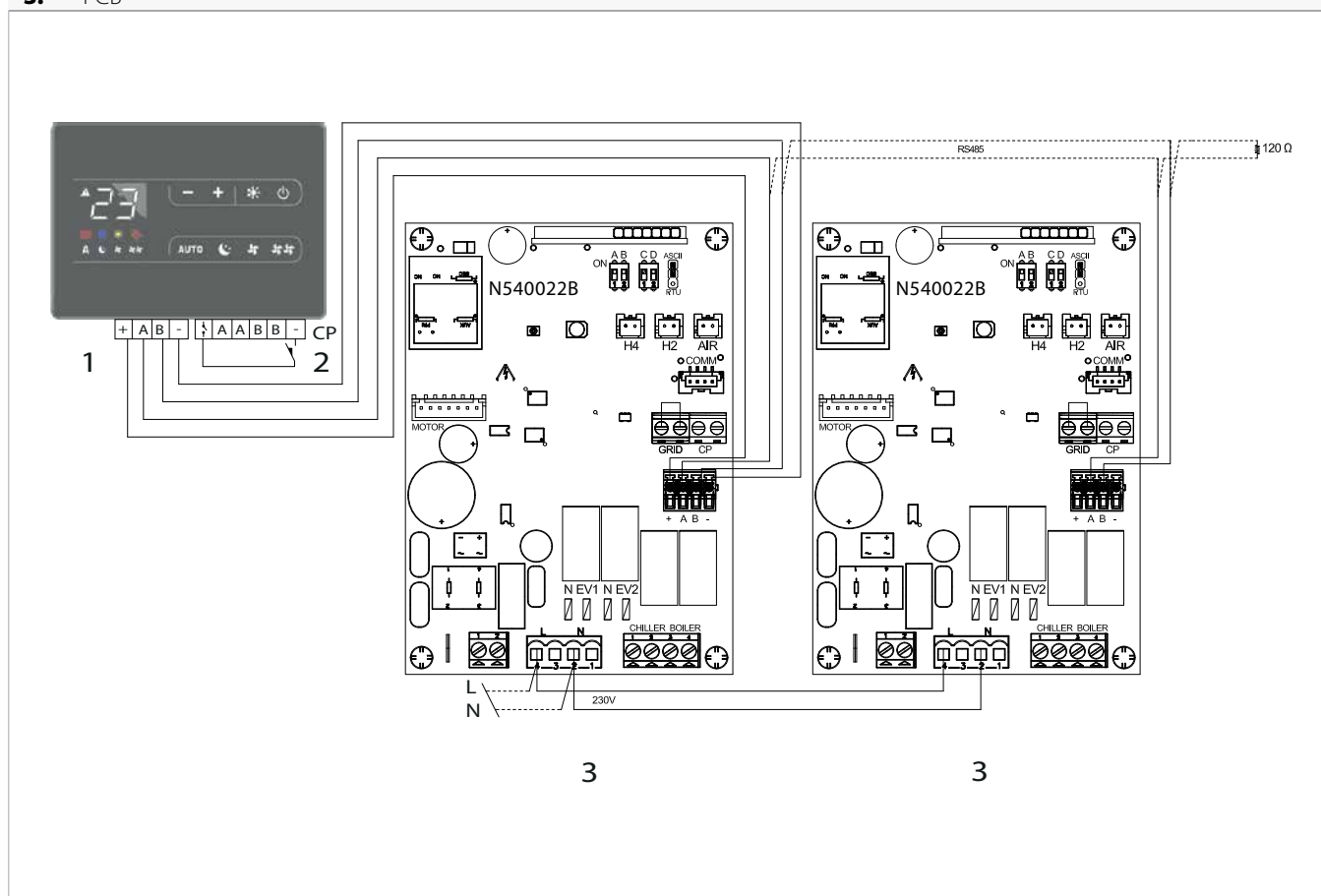
- drill holes in the wall
- pull the electric wires through the hole provided
- fix the base of the control to the wall using suitable screw and plugs
- perform the electrical connection
- close the control

⚠ Pay attention not to crush the conductors when you close the control.

3.2 Electric connections

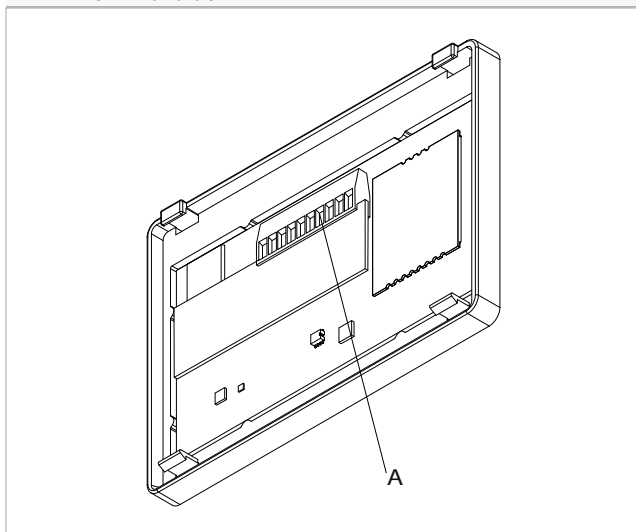
Connection diagram

1. Terminal block for device connection
2. The terminal block for CP presence contact connection
3. PCB



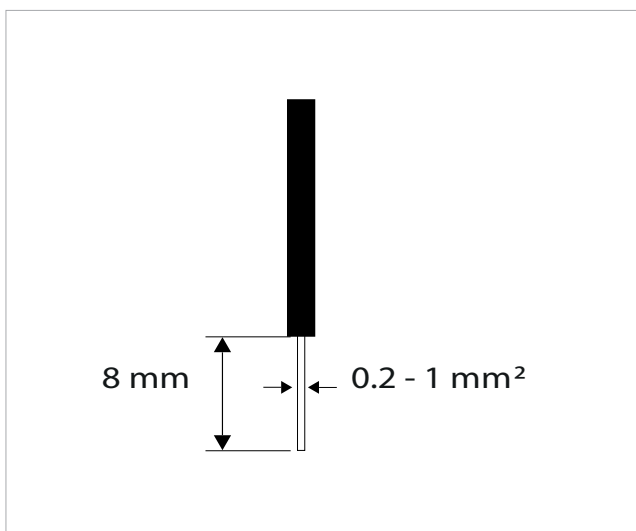
Terminal block position

A Terminal block



The spring terminals allow the connection of rigid or flexible cables with sections from 0.2 to 1 mm². For cables provided with lugs with plastic collar the maximum section is reduced to 0,75 mm².

Connection to the PCB



For the connection:

- remove a portion of the insulation from the end of the cable
- follow the indication on the connection diagram
- insert the cable into the spring terminal
- insert the cable completely
- make sure they are properly fixed by pulling them slightly

CP presence contact input connection


Trough this contact it is possible connect an external device that inhibits the operation of the device, for example:

- opening window contact
- remote on/off
- infrared presence sensor
- enabling badge

- remote change of season

Function

When the contact connected to the CP input is closed, all the users connected will be switched off.

At the touch of a button on the display the symbol  flashes.

- ⊖ It is forbidden connect in parallel the CP input to one of another electronic board. Use separate contacts.

RS485 Serial Connection

The wall-mounted remote control can be connected through a RS485 serial line to one or more device, for a maximum of 30. The devices must be equipped with an electronica card suitable for remotization.

For the connection:

- follow the indication on the connection diagram
- connect respecting the indication "A" and "B"

- ⚠ Use a bipolar shielded cable suitable for the RS485 serial connection with a minimum section of 0,35 mm².

- ⚠ Keeping the bipolar cable separate from power supply cables.

- ⚠ Chase out the wall in order to minimize the length of the leads.

- ⚠ Complete the line with the 120 Ω resistance.

- ⊖ It is forbidden make "star" connections.

3.3 Interface

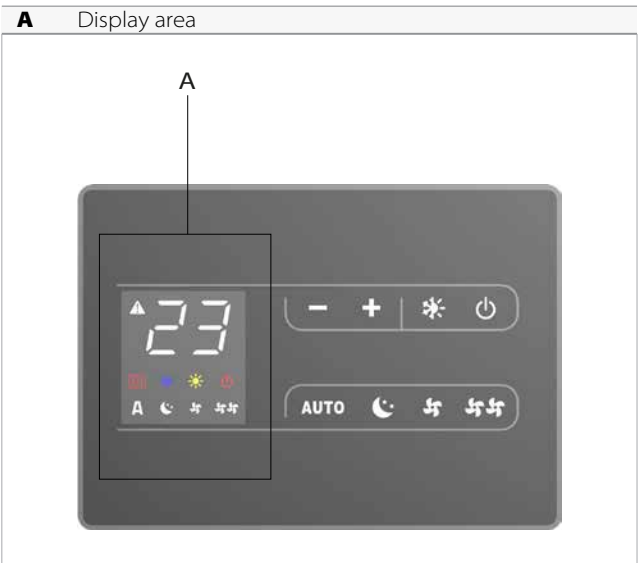
Description

The wall-mounted control panel EDA649-EDB649 / EWG649-EWW649 is a thermostat with possibility of control on several device equipped with electronic control for remotization. It is fitted with:

- temperature probe
- internal memory with data saving even in case of shut-down or power outage

- ⚠ The control can control up to a maximum of 30 units.
- ⚠ The room temperature probe ensures an antifreeze safety even when the control is in stand-by
- ⚠ After 20 seconds after the last action the panel brightness is reduced, only the room temperature is seen on the display. The maximum brightness is restored to the pressure of any key.

Display



Statuses and active alarms on display.

- ⚠ Supervision on
Flashing with CP closed contact
Switched on for alarm indication
- 🔌 Resistance enabled indication
- ❄ Cooling function on
- ☀ Heating function on
- 🔌 Remote control indication off
- A** Automatic function
- 🌙 Night function
- 🌀 Silent function
- 🌀🌀 Maximum ventilation speed

Keys functions



- Down key
- + Up key
- ☀/❄ Allows switching between heating and cooling functions
- 🔌 Allows activating or putting the device in stand-by
- AUTO** The ventilation speed will be adjusted automatically between a minimum and a maximum value
- 🌙 The ventilation speed will be reduced and the set temperature will be changed automatically
- 🌀 The ventilation speed will be limited to a maximum contained value
- 🌀🌀 Allows setting the maximum ventilation speed

Keys and functions related.



General start-up

Before the activation:

- ⚠ Make sure that the remote control is connected to the mains.

- ⚠ In case of a master switch on the power supply line, switch on the system by inserting the switch.




To activate the device

- press the  key
the symbol  lights up

3.4 Main functions

Operating mode set-up

to switch the operating mode

- press the  key for about 2 seconds
The symbol  on indicates the Heating function enable
The symbol  on indicate the Cooling function enable

- ⚠ In heating function the symbols is alight with setpoint higher than the room temperature.

- ⚠ When the setpoint is incorrect both symbols are switched off.

- ⚠ In cooling function the symbols is alight with setpoint lower than the room temperature.

Put in stand-by the control

To put in stand-by the control

- press the  key for about 2 seconds
The control goes out

- ⚠ In stand-by mode the control ensures an antifreeze safety. In case of temperature $< 5^{\circ}\text{C}$, the hot water solenoid valve outputs and boiler consent are activated automatically.

Set room temperature

To set-up the temperature



- operate the   keys to decrease or increase the desired value
The displayed value change

- ⚠ The adjustment range goes from 16 to 28 $^{\circ}\text{C}$, with a resolution of 0,5 $^{\circ}\text{C}$.

- ⚠ Out of range values from 5 $^{\circ}\text{C}$ and 40 $^{\circ}\text{C}$ are allowed, except in automatic mode. These value should be set only for short periods of time.

Automatic operation

To select the Automatic function

- press the  key for about 2 seconds
The symbol  on indicates the Automatic function enable

- ⚠ The ventilation speed is automatically adjusted between a minimum value and a maximum value based on an al-

gorithm type PI, according to the actual distance from the room temperature set-point.

Silent operation



To select the Silent operation

- press the  key for about 2 seconds
The symbol  on indicates the Silent function enable

- ⚠ The ventilation speed is limited at a more reduced maximum value.

Night function

To select the Night function

- press the  key for about 2 seconds
The symbol  on indicate the Night function enable

- ⚠ The ventilation speed is limited at a very low value.



- ⚠ The set temperature changes automatically:

- in heating function decreases by 1 °C after one hour and by another degree after 2 hours

- in cooling function decreases by 1 °C after one hour and by another degree after 2 hours

Maximum ventilation speed

To select the operation at the maximum ventilation speed

- press the  key for about 2 seconds
The symbol  on indicates the maximum speed function enable

- ⚠ Maximum power output is immediately obtained both in heating and cooling.

- ⚠ After reaching the desired room temperature, select a different function to increase the thermal and acoustic comfort.

Set the key lock

To set-up the key locking




- press both   keys for 2 seconds
The text  appearing on the display

- ⚠ All settings are inhibited by the user.

- ⚠ Repeat the sequence to unlock the control.

Brightness reduction


To reduce the display brightness

- press the  key for 5 seconds
The text  appearing on the display
- press the  key to decrease the value, wait 20 seconds

- ⚠ After 20 seconds from the last action the panel brightness will be reduced to increase the comfort during night use. On the display will appear only the room temperature.

Deactivation


To deactivate the display

- press the key  for about 2 seconds
All the light signals go off

- ⚠ In stand-by mode the control ensure an antifreeze safety.

Room temperature probe offset adjustment

To adjust the room temperature probe offset

- from display off, hold the key  for about 5 seconds
Access to the variation menu of the AIR probe offset displayed on the display

- ⚠ Use this adjustment carefully.

- ⚠ This adjustment must be carried out only after having found actual deviations from the room temperature using a reliable tool.

- ⚠ Adjust the measured value within a range of +/- 10 °C in steps of 0,1 °C.


- ⚠ After 20 seconds from the last action the control goes out and the settings is memorized.

Settings menu EDA/EDB649 - EWG/EWW649



Through the control it is possible to access the settings menu.

- ⚠ The settings menu parameters can only be changed by qualified personnel.

To access the menu

- with the display off, hold down  for 10 seconds
The device turns on and the temperature appears
- keep pressed until the indication "Ad" appears


To navigate in the menu

- use the icons  
The menu items change

To select a menu item and to confirm the changes made

- press the icon 
Pressing  and confirming the change takes you to the next item

To exit the settings menu

- press the icon  for 10 seconds
- or wait 30 seconds the automatic shutdown
The display turns off

⚠ After 30 seconds from the last action the control goes out and the settings is memorized.

Menu items

Ad Modbus address

uu Enable/Disable Wifi

Ub Adjust buzzer volume

br Adjust the brightness

di Digital input

rZ Enable/Disable radiant zone

rb Reset modbus

Fr Factory reset




ot Offset probe T

oh Reserved


Sc Scale

rE Reserved

Set the modbus address

- select the menu item "Ad" by pressing 
The default value appears
- the setting range is from 01 (min) to 99 (max)
- increase or decrease the value with the icons  
The displayed value change




Enable or disable Wifi

- select the menu item "uu" by pressing 
The default value appears
- select "YS" to enable wifi
- select "rs" to reset the settings
- select "no" to disable wifi

⚠ This function can only be used for controls with integrated wifi.




⚠ By default wifi is enabled.

Adjusting buzzer volume

- select the menu item "uu" by pressing 
The default value appears
- the volume setting range is from 00 (min) to 03 (max)
- increase or decrease the value with the icons  
The displayed value change



⚠ The volume changes after confirm the modification.

Adjust the brightness of the display


- select the menu item "br" by pressing 
The default value appears
- the brightness setting range is from 00 to 01
- increase or decrease the value with the icons  
The displayed value change

⚠ The brightness changes after confirm the modification.

⚠ You can also reduce the brightness of the display through the keys of the control. With the display off, hold down


 for about 20 seconds, the message "01" will appear. Press  to decrease the brightness to "00". Wait 30 seconds for the correct setting to be checked.

To select digital input


- select the menu item "di" by pressing 
- The default value appears*
- select "CP" for clean contact
- select "CO" to cooling open
- select "CC" to cooling close

⚠ By default digital input is set to CP.

⚠ For return to the default settings, set the digital input to "CP".

⚠ By selecting one of the other inputs (CO,CC) the seasonality is locked. It is not possible to modify it through the key  of the control.


Enable the radiant zone

- select the menu item "rZ" by pressing 
- The default value appears*
- select "no" to disable the radiant zone
- select "YS" to enable the radiant zone


⚠ This function can only be used for wall controls (EWG649 - EWW49) combined with the EF1027 board.

⚠ By default the radiant zone are disabled.


Reset modbus

- select the menu item "rb" by pressing 
- The default value appears*
- select "no" to keep the current settings
- select "YS" to reset the settings

Factory reset

- select the menu item "Fr" by pressing 
- The default value appears*
- select "YS" to reset the settings
- select "no" to keep the current settings

Probe T regulation offset (room temperature probe)

- select the menu item "ot" by pressing 
- The default value appears*
- the setting range is from -9 to 12


⚠ Use this adjustment carefully.

⚠ Adjust the value within a range of -9 °C to +12 °C, in steps of 0,1 °C.

⚠ This adjustment must be carried out only after having found actual deviations from the room temperature using a reliable tool.

⚠ After 30 seconds from the last action the control goes out and the settings is memorized.

Scale

- select the menu item "Sc" by pressing 
- The default value appears*
- To change the temperature unit of measure select °C or °F

3.5 Warnings

Long period shut-down

For seasonal shutdowns or for long periods:

- disable the device

- set the main system switch to Off

⚠ The antifreeze function is not on.

Error signals

⚠ **E1** Room temperature probe failure located inside the thermostat

⚠ **E2** Failure or connection of a double remote room probe on one of the connected device

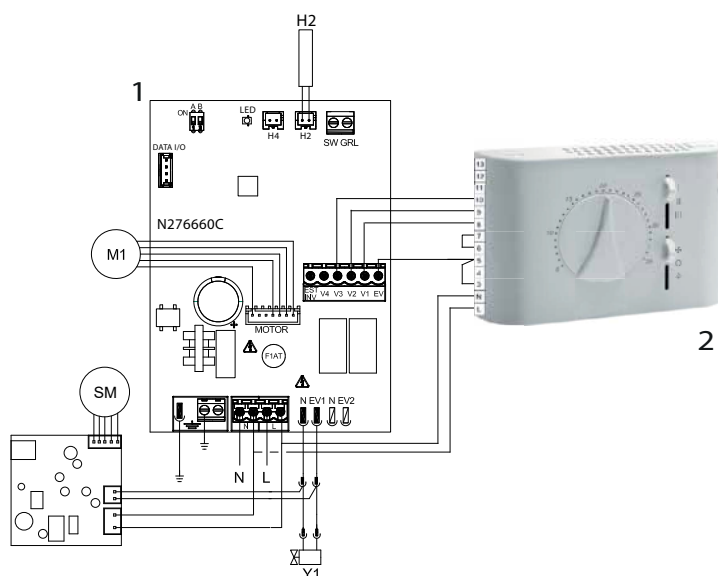
WALL-MOUNTED CONTROL B3V151 - B3V152

4.1 Electric connections

Connection diagram

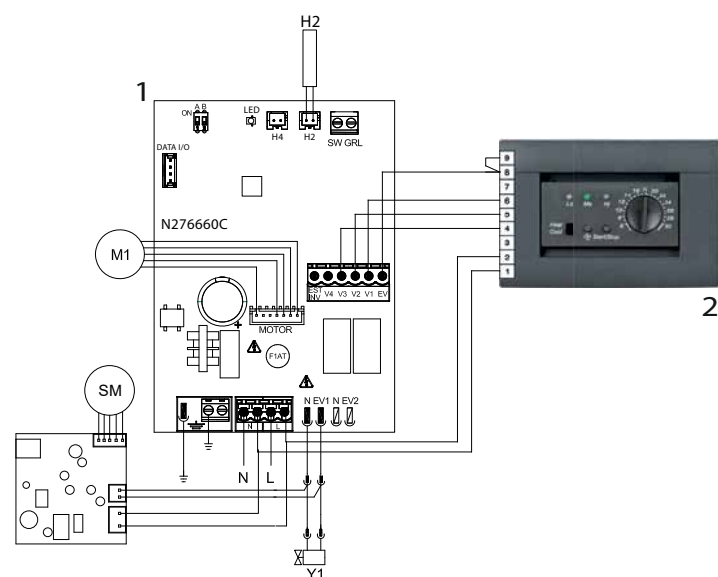
B3V151

1. PCB
2. Wall control



B3V152

1. PCB
2. Built-in wall control



MAINTENANCE

5.1 Routine maintenance

Routine maintenance is essential to keep the device always efficient, safe and reliable over time.

It can be done:

- every six months

Before each cleaning and maintenance intervention:

- disconnect the device from the power mains by turning the system master switch to "OFF"

⚠ Wait for the components to cool down in order to avoid any burns.

⚠ After completing the maintenance work, must be restored the original condition.

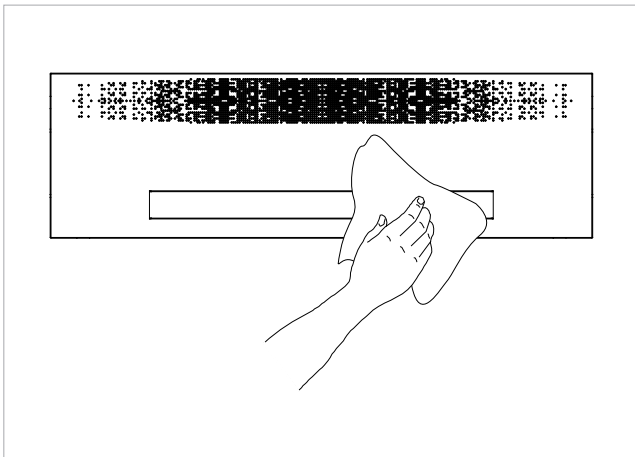
⊘ It is forbidden to open the access doors and carry out any technical or cleaning intervention, before having disconnect the device from the mains supply by placing the main switch of the system on "OFF".

⚠ Warnings:

- Do not lean on the fancoil to avoid damaging the appliance.
- Do not manually move the horizontal louver of the air outlet. Always use the remote control to do this operation.
- If water leaks from the device, you must switch it off immediately and disconnect the power supply. Then, call the nearest customer service centre.
- The device must not be installed in rooms where there are explosive gases or where there are conditions of humidity and temperature out of the limits defined in the installation manual.
- Clean the filter regularly.

Six-monthly operations

External cleaning



Clean the external surfaces using a soft cloth dampened with water.

⚠ Do not use abrasive sponges or abrasive or corrosive detergents as you might damage the painted surface.

Air intake filter cleaning

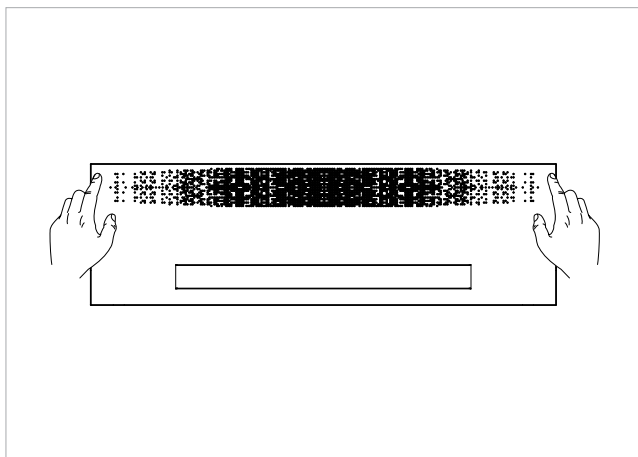
Cleaning the filter must be carried out:

- after prolonged operation, considered the concentration of impurities in the air,

Filter extraction

To extract the filter:

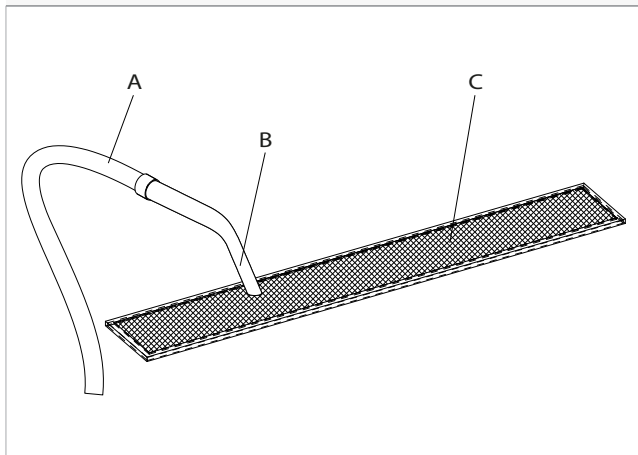
- press on the two upper corners of the aesthetic panel where the push-pull mechanism is located



- the aesthetic panel opens to "V"

Cleaning

- | | |
|----------|----------------|
| A | Vacuum cleaner |
| B | Long nozzle |
| C | Filter |



To clean the filters:

- to use a vacuum cleaner
- to aspirate dust

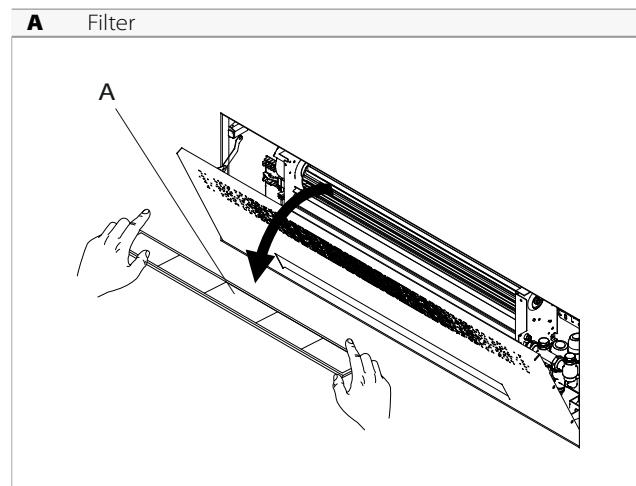
Inserting the filter

Remount the filter paying particular attention to introduce the lower flap in its housing.

- ⚠ After filter cleaning check if the panel is properly mounted.
- ⚠ The device features a safety switch that prevents the fan from starting if the mobile panel is incorrectly mounted or the filter are missing.
- ⚠ Do not use the device without its mesh filter.

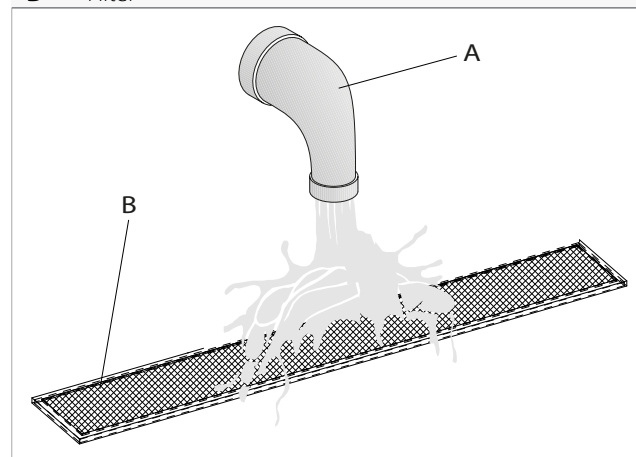
- when you plan to restart the system after prolonged dis-use.

- remove the filters from the top of the unit



- remove the filter

- | | |
|----------|---------------|
| A | Running water |
| B | Filter |



- wash the filter with running water
- allow it dry

⚠ Do not use detergents or solvents to clean the filter.

⊘ It is forbidden to use the device without its mesh filter.

5.2 Suggestions for energy saving

For a correct operation of the device and a great energy saving:

- keep the filters clean
- keep the doors and windows of the locations fitted with air conditioning systems closed as much as possible
- During summer limit the entry of direct sun rays into the rooms to be air-conditioned by means of external screens (projections, curtains, shutters, etc.)

TROUBLESHOOTING

6.1 Preliminary warnings

Should you encounter any of the anomalies below:

- the ventilation does not start even if the water circuit is filled with hot or cold water
 - the device is losing water in heating mode
 - the device is losing water in cooling mode
 - the device generates excessive noise
 - there is dew on the front panel
- Follow the instructions below:

- disconnect the device from power supply immediately
- close the water taps
- contact immediately an authorized technical support center or qualified staff

⚠ The interventions must be carried out by a qualified installer or by a specialized support center.

⊘ Do not intervene personally.

6.2 Troubleshooting table

Effect	Cause	Solution
The ventilation is delayed with respect to the new temperature or function settings.	The circuit valve requires a certain time to open and therefore to make the hot or cold water circulate inside the device.	Wait 2 or 3 minutes to allow the circuit valve to open.
The device does not activate the ventilation.	Cold or hot water is missing from the system.	Make sure the boiler or the water cooler are on.
The ventilation does not start even if the water circuit is filled with hot or cold water.	The hydraulic valve stays closed.	Demount the body of the valve and check if the water circulation is restored.
	The ventilation motor is jammed or burnt.	Check the valve operation feeding it separately to 230 V. If you were to turn on, the problem may be in the electronic control.
	The wirings are not correct.	Check the motor windings and check if the fan rotates freely.
The device is losing water in heating mode.	Leaks at the hydraulic connections of the system.	Check the electrical connections.
	Losses in the valve group.	Check the leak and tighten the connection.
There is dew on the front panel.	Detached thermal insulation.	Check the condition of the gaskets.
There are water drops on the air vent.	High humidity conditions (>60%) might generate condensation, especially at minimum ventilation speeds.	Check the correct positioning of the thermal and acoustic insulations paying particular attention to the front one located on top of the finned coil.
The device is losing water in cooling mode.	The condensate tray is clogged.	As soon as the level of relative humidity drops, the phenomena disappears. However, a few water drops falling inside the device will not cause any malfunction.
	The condensate discharge pipe does not have the slope required for correct drainage.	Slowly pour a bottle of water in the lower section of the battery to check the drainage; if necessary clean the tray and/or improve the slope of the drain pipe.
	The connection pipes and the valves unit are not well insulated.	Check the pipe insulation.
The device generates excessive noise.	The fan touches the structure.	Verify
	The fan is unbalanced.	The unbalancing generates excessive machine vibrations: replace the fan.
	Check the filters for dirt and clean them if necessary	Clean filters



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