ELFORoom^2 003.0 - 005.0 - 011.0 - 015.0 - 017.0

Water terminal

Change living home

Dear Customer,

We congratulate you on choosing an ELFOSystem product, the air conditioning system at annual cycle that offers the possibility in a sole system of meeting all the heating, conditioning and domestic hot water needs.

Clivet is being working for years to offer systems able to assure the maximum comfort for long time with high reliability, efficiency , quality and safety. The target of the company is to offer advanced systems, that assure the best comfort, reduce the energy con-sumption, the installation and maintenance costs for all the life-cycle of the system.

With this manual, we want to give you information that are useful in all the phases: from the reception, to the installation and use until the disposal so that a system so advanced offers the best procedure of installation and use.

Best regards and have a nice reading !

CLIVET Spa

INDEX

1.1 MANUAL

The manual provides correct unit installation, use and maintenance.

Pay particolar attention to:

Warning identifies particularly important operations or information .

Prohibited operations that must not be carried out, that compromise the operating of the equipment or may cause damage to persons or things.

- It is advisable to read it carefully so you will save time during operations.
- Follow the written indications so you will not cause damages to things and injuries people. The preliminary information must be read prior to carrying out any of the following operations.

1.2 GENERAL INSTRUCTIONS

Operate in compliance with safety regulations in force.

Preliminaries

The positioning, hydraulic system, refrigerating, electrics and the channelisation of the air must be determined by the system designer in accordance with local regulations in force.

On the unit can operate only qualified personal , as determined by the regulations in force.

Using the unit in case of breakdown or malfunction :

- voids the warranty
- may compromise the safety of the machine
- may increase time and repair costs.

Follow local safety regulations. .

Keep packing material out of children's reach it may be dangerous. .

Recycle and dispose of packing material in conformity with local regulations. .

Risk situations

The unit has been designed and created to prevent injures to people.

During designing it is not possible to plane and operate on all risk situation.

Read carefully "Residual risk" section where all situation which may cause damages to things and injuries to people are reported.

Installation, starting, maintenance and repair required specific knowledge; if they are carried out by inexperienced personnel, they may cause damages to things and injuries people.

Intended use

Use the unit for cooling/heating water or a water and glycol mix for air-conditioning only, within limits defined in the technical bulletin and on this manual..

Any use other than intended does not involve the manufacturer in any commitment or obligation. .

Installation

Verify that the electrical line characteristics are in compliance with data quotes on the unit serial number label.

Maitenance

Plan periodic inspection and maintenance in order to avoid or reduce repairing costs.
Turn the machine off before any operation.

Modification

All unit modifications will end the warranty coverage and the manufacturer responsibility. .

Breakdown/Malfuction

Disable the unit immediately in case of breakdown or malfunction. .

Contact a constructor certified assistance service.

Use original spares parts only.

User training

The installer has to train the user on :

- start-up / shutdown;
- set points change;
- standby mode;
- maintenance;
- what to do / what not to do in case of breakdown.

Data update

Continual product improvements may imply manual data changes .

1.3 INDICATIONS FOR THE USER

Keep this manual with the wiring diagram in an accessible place for the operator.
Note the unit lable data so you can provide them at the assistance centre in case of intervention (see "Unit identification" section).
Provide a machine notebook that allows any interventions carried out on the machine to be noted and tracked making it easier to suitably note the various interventions and aids the search for any breakdowns.
In case of breakdown or malfunction:

- immediately deactivate the unit .
- contact a constructor certified assistance service.
- use original spares parts only

Ask the installer to format on:

- start-up / shutdown;
- set points change;
- standby mode;
- maintenance;
- what to do / what not to do in case of breakdown.

1.4 FUNDAMENTAL SAFETY RULES

Remember that some fundamental safety rules should be followed when using a product that uses electricity and water, such as:

- It is forbidden for the appliance to be used by children or unassisted disabled persons.
- It is forbidden to touch the appliance with wet hands or body when barefoot.
- It is forbidden to carry out any cleaning before having disconnected the appliance from the electricity mains supply by turning the system master switch to "OFF".
- It is forbidden to modify the safety or adjustment devices or adjust without authorisation and indications of the manufacturer.
- It is forbidden to pull, cut or knot the electrical cables coming out of the appliance, even if it is disconnected from the mains supply.
- It is forbidden to poke objects or anything else through the inlet or outlet grills.
- It is forbidden to open the doors which access the internal parts of the appliance without first turning the system master switch 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.
- It is forbidden to climb onto the appliance or rest any object on it.
- The external parts of the appliance can reach temperatures of more than 70°C.

⚠ DANGER FROM BURNS -TAKE CARE WHEN TOUCHING

1.5 UNIT INDENTIFICATION

Serial number label
The serial number label is positioned on the unit and allows to indentify all the unit features.

It has not to be removed for any reason.

It reports the regulations indications such as:

- machine type,
  series → ELFOROOM^2
  size → **003.0 (o 005.0……017.0)**
- Serial number
  Axxxxxxxxxxx
- year of manufacture
- wiring diagram number
- electrical data
- manufacturer logo and address

Serial number
It identifies uniquely each machine.

It identifies specific spare parts for the machine.

Assistance request
Note data from the serial number label and write them in the chart on side, so you will find them easily when needed.

In case of intervention you have to provide data.

Series
Size
Serial number
Year of manufacture
Wiring diagram

1.6 UNIT VERSION

Vertical - Horizontal in view

Vertical - Horizontal uncased

1.7 ACCESSORIES

Each accessory is accompanied by its instruction leaflets for assembly.

- **KASPX**
  Intake plenum kit
- **GMX**
  Outlet grille
- **GRA1X**
  Air outflow grille
- **PR90MX**
  90° air outlet plenum kit
- **PMSTX**
  Telescopic upper supply plenum kit
- **KV3B4X**
  3-way valve kit with electrothermal head and balancing for 4-pipe system (available only with options:B4T)
- **KV3VBX**
  3-way valve kit with electrothermal head and balancing for the 2-pipe version
- **HIDE1X**
  Remote control with 3 position switch + on/off for wall installation (available only with options: 3V010)
- **HIDE2X**
  Remote control with E/I +3V +on/off for wall installation (available only with options: 3V010)
- **HIDE3X**
  Plurifunctional remote control for wall installation (available only with options: 3V010)
- **HID-T2X**
  HID-T2 electronic ambient control
  (external, temperature only)
- **HID-T3X**
  HID-T3 electronic ambient control
  (external, temperature and humidity)
- **HID-TI2X**
  HID-TI2 flush-mounted electronic ambient control
  (wall-mounted, temperature only)
- **KCMDX**
  Motor connection cables for unit with couplings on the right
- **PCIX**
  Uncased closure panel
- **BACKVX**
  Painted back panel for cased version
- **CSFIX**
  Formwork for uncased installation
- **FXPPX**
  Floor fixing bracket kit
- **KPDX**
  Plinth kit

2.1 PRELIMINARY INFORMATION

General

Operate in compliance with safety regulations in force .

For detailed information (dimensions, weight, technical characteristics etc.) please refer to the “Technical information” section.

Use single protection devices : gloves, glasses ecc.

Stocking

Observe external packing instructions .

Handling

Verify unit weight and handling equipment lifting capacity .

Identify critical points during handling (disconnected routes, flights, steps, doors).

Verify the position of the barycentre in the Technical information - DIMENSIONS section.

Before handling verify that the unit keeps its balance.

Packing removing

Be careful not to damage the unit.

Recycle and dispose of packing material in conformity with local regulations.

2.2 DELIVERY CONTROL

Before accepting the delivery you have to check:

- That the unit hasn’t been damaged during transport.
- Check that the materials delivered correspond with that indicated on the transport document comparing the data with the identification label positioned on the packaging.

In case of damage or anomaly:

- Write down on the transport document the damage you found and quote this sentence: "Conditional acceptance — clear evidence of deficiencies/damages during transport".
- Contact supplier and the carrier by fax and registered mail with advice of receipt.

Any disputes must be made within the 8 days following the delivery. Complaints after this period are invalid.

2.3 HANDLING

Do not leave loose packages during the transport

Do not handle the unit alone

Do not tramble

3 - POSITIONING

3.1 PRELIMINARY INFORMATION

General

Operate in compliance with safety regulations in force.

For detailed information (dimensions, weight, technical characteristics etc.) please refer to the TECHNICAL INFORMATION section.

Use single protection devices : gloves, glasses ecc.

During positioning consider these elements :

- technical spaces required for the machine and system
- place where the machine will be installed
- electrical connections
- water connections
- air / aeraulic ducts

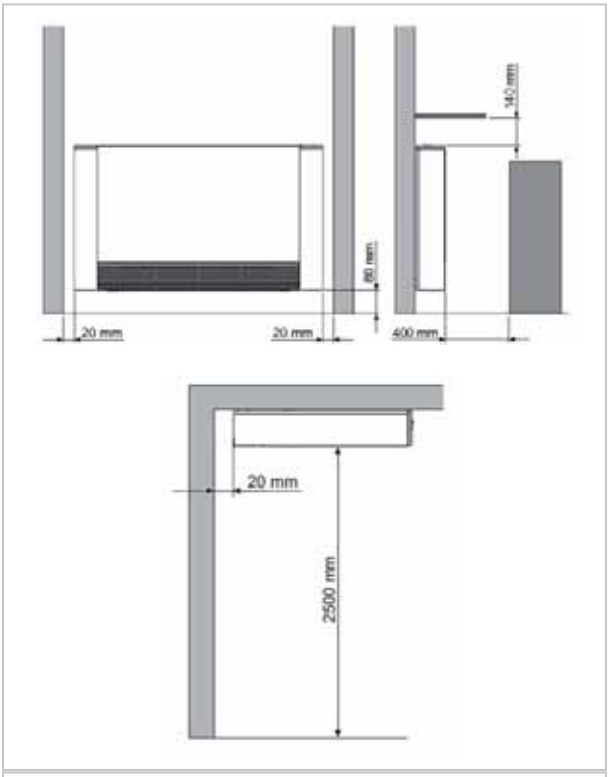
Do not considerer these elements could decrease performances and operational life of the unit.

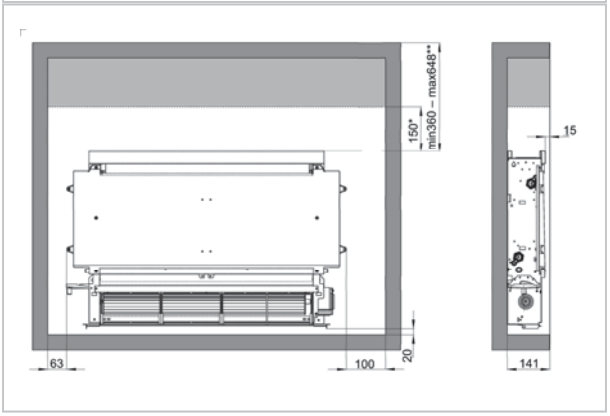
3.2 FUNCTIONAL SPACES

Functional spaces are designed to:

- guarantee good unit operation
- Carry out maintenance operations
- protect authorized operators and exposed people.

Respect all functional spaces indicated in the figure.





*= dimensions to follow to assemble the 90° insulated supply plenum kit, code PR90MX
**= dimensions to follow to assemble the telescopic upper supply plenum kit, code PMSTX.

3.3 POSITIONING

Avoid installing the unit in proximity to:

- positions subject to exposure to direct sunlight;
- in proximity to sources of heat;
- in damp areas or places with probable contact with water;
- in places with oil fumes
- places subject to high frequencies.

Make sure that :

- the wall on which the unit is to be installed is strong enough to support the weight;
- the part of the wall interested does not have pipes or electric wires passing through;
- the interested wall is perfectly flat;
- there is an area free of obstacles which could interfere with the inlet and outlet air flow;
- the installation wall is preferably an outside perimeter wall to allow the discharge of the condensation outside;
- in case of ceiling installation the airflow is not directed towards persons.

Ambient thermostat

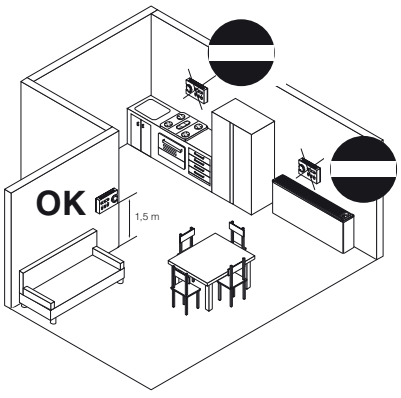
If provided a wall-mounted ambient thermostat - OPTION

The choice of the installation point is decisive for the environmental comfort and the energy consumption.
The thermostat must be placed :

- In a room with medium temperature and humidity conditions, representative of the other rooms
- at a height of **150 cm**
- preferably on an internal wall

Positions to avoid :

- next to heat sources
- points exposed to direct sunlight
- in a position with air rejected from outlets or diffusers
- behind curtains or pieces of furniture
- near windows and doors to the outside
- on walls crossed by fireplaces or heating ducts
- on external walls.



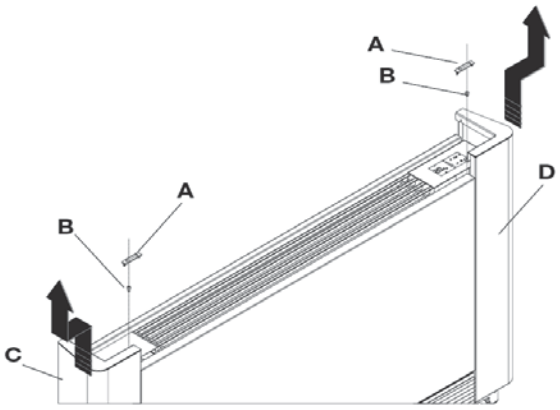
3.4 INSTALLATION

The following descriptions of the various mounting phase and the relative designs refer to a version of the machine with fixtures on the left. The operations for the mounting of machines with fixtures on the right are exactly the same.

Only the images are to be considered as a mirror image.

3.5 SIDE OPENING

- lift A
- unscrew B
- move to the left C
- lift C

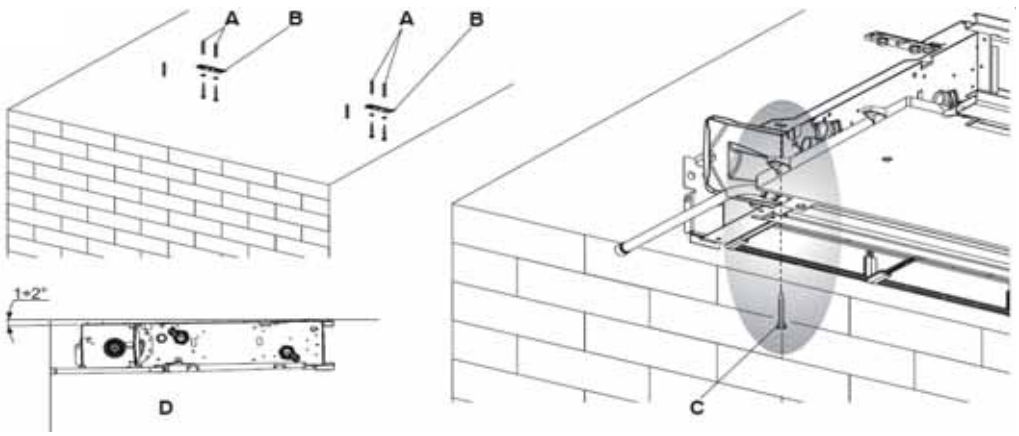


- lift A
- unscrew B
- move to the right D
- lift D

3.6 HORIZONTAL OR CEILING INSTALLATION

- Using the paper template, trace on the ceiling the position of the two fixing brackets and the two rear screws.
- Using a suitable drill, make the holes and insert the toggle bolts (2 for each bracket) (fig. 3.1 ref. A); fix the two brackets (fig. 3.1 ref. B). Do not over-tighten the screws.
- Position the machine on the two brackets, keeping it in position and then fix the two screws into the rear toggle bolts (fig. 3.1 ref. C), one on each side.
- Make sure that there is sufficient inclination of the unit towards the drainage pipe to facilitate the water drainage (fig. 3.1 ref. D).
- Fully tighten all 6 fixing screws.

fig 3.1



3.7 VERTICAL FLOOR OR WALL INSTALLATION

When floor mounting with support pins, respect the min. ground height of 80mm., for the pin mounting and refer to the individual instructions leaflets supplied and the relative manual

- Using the paper template, trace the position of the two fixing brackets on the wall (fig. 3.2).
- Use a suitable drill to make the holes with and insert the toggle bolts (2 for each bracket) (fig. 3.3 ref. A); fix the two brackets (fig. 3.3 ref. B). Do not over-tighten the screws so that the brackets can be adjusted with a spirit level (fig. 3.4).
- Fully tighten the four screws to block the two brackets.
- Check the stability by manually moving the brackets to the right and to the left, up and down.
- Mount the unit, checking that it fits correctly onto the brackets and checking that it is stable (fig. 3.5).

fig 3.2

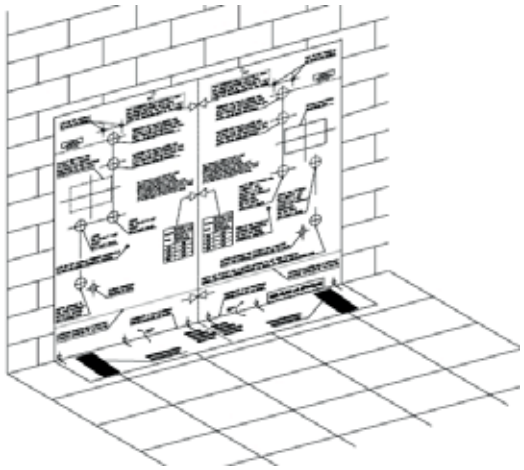


fig 3.3

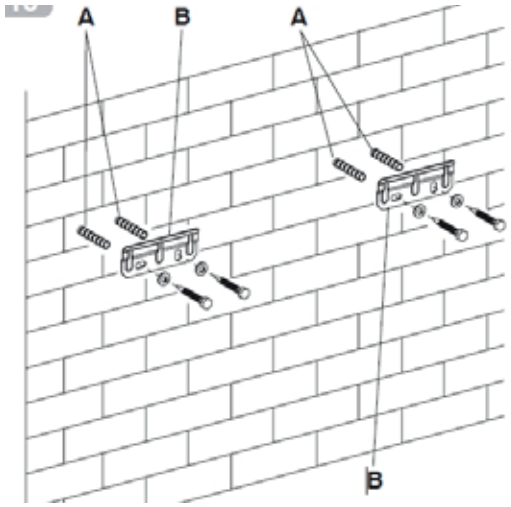


fig 3.4

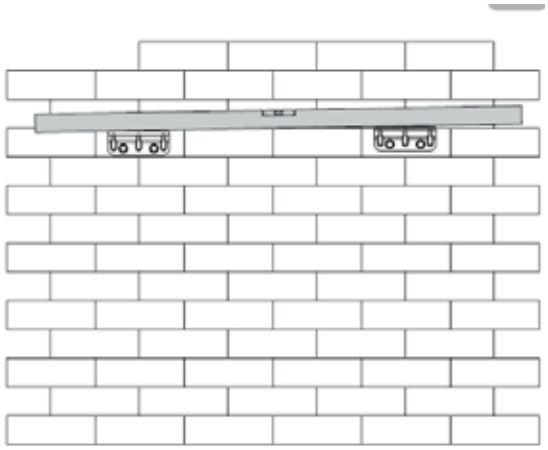
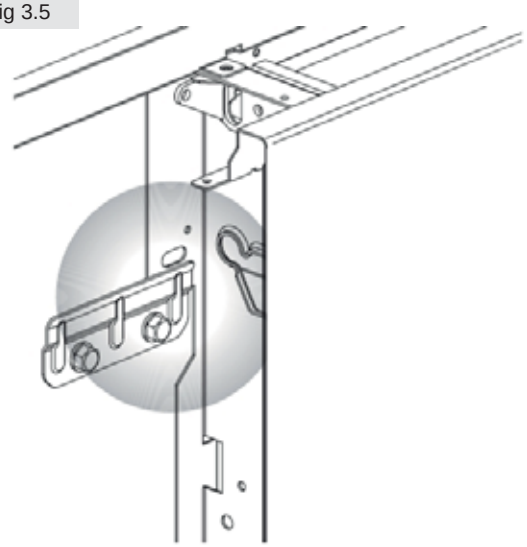


fig 3.5



4.1 PIPELINE DIAMETER

Inlet water : EUROKONUS 3/4

Outlet water : EUROKONUS 3/4

Condensate discharge : Ø 14 mm (internal diameter)

For the position of the pipeline and the wall fixings, refer to the designs shown in the following sections, based on the specific configuration.

4.2 CONNECTIONS

The choice and sizing of the hydraulic lines must be made by an expert who must operate according to the rules of good technique and the laws in force.

To make the connections:

- position the hydraulic lines (ref. A)
- tighten the connections using the “spanner and counter spanner” method (ref. B)
- check for any leaks of liquid
- coat the connections with insulating material (ref. C).

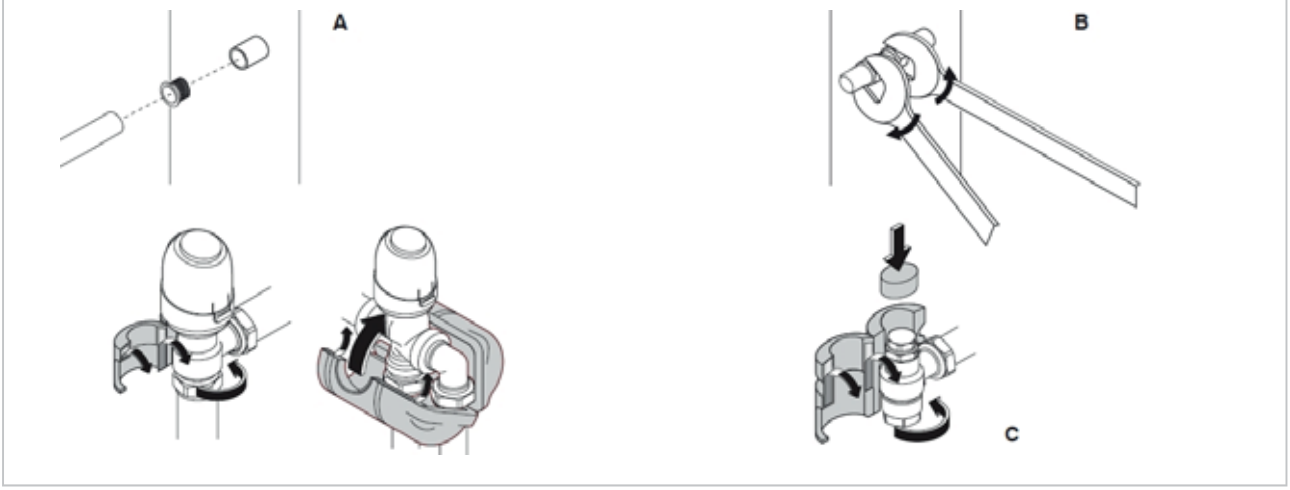
The hydraulic lines and joints must be thermally insulated.

Avoid partially insulating the pipes.

Do not over-tighten to avoid damaging the insulation.

Use hemp and green paste to seal the threaded connections; the use of Teflon is advised when there is anti-freeze in the hydraulic circuit.

Insulate the water lines / In the figure are indicated the optional components



4.3 CONDENSATION DISCHARGE

The condensation discharge network must be suitably sized (minimum inside pipe diameter 14 mm) and the pipeline positioned so that it keeps a constant inclination, never less than 1%.

- In the vertical installation, the discharge pipe is connected directly to the discharge tray, positioned at the bottom of the side shoulder underneath the hydraulic fixtures.
- In a horizontal installation the discharge tube is connected to the one already present on the machine.

If possible, make the condensation liquid flow directly in a gutter or a “rainwater” discharge.

When discharging directly into the main drains, it is advisable to 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 bowl.

If the condensation needs to be discharged into a container, it must be open to the atmosphere and the tube must not be immerged in water to avoid problems of adhesiveness and counter-pressure that would interfere with the normal outflow.

However, on completion of the installation it is advisable to check the correct outflow of the condensation liquid by slowly pouring about ½ l of water into the collection tray in about 5-10 minutes.

If there is a height difference that could interfere with the outflow of the condensation, a pump must be mounted (provided by the customer)

4.3.1 Condensation discharge HORIZONTAL version

To mount the horizontal bowl refer to the instructions in kits.

- check that the "L" pipe and the flexible rubber hose are correctly connected to the bowl (fig. 4.1 rif. A).
- slide in the side of the machine keeping the pipe in position up against the front grill.
- fully close the side checking that the pipe remains blocked in the special grove on the side (fig. 4.2 rif. B).

For the horizontal installation carefully note the following precautions:

- make sure that the machine is installed perfectly level or with a slight inclination towards the condensation discharge;
- insulate carefully the inflow and outflow pipes up to the machine union to prevent any drops of condensation outside the same collection bowl;
- insulate the bowl condensation discharge pipe along all of its length.

fig 4.1

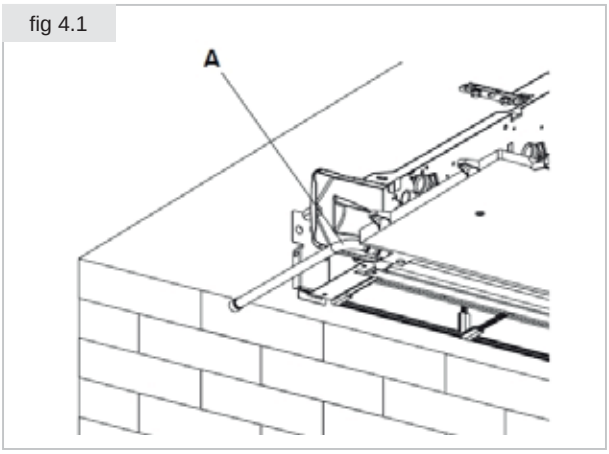
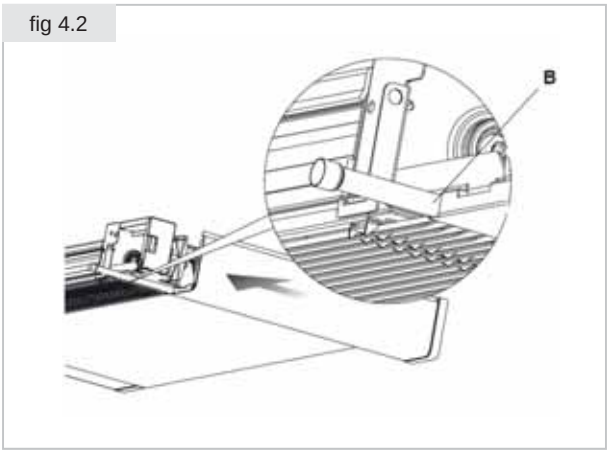


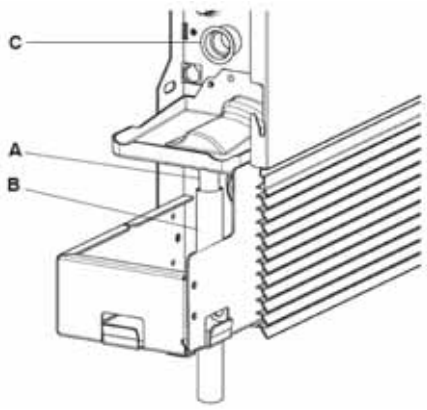
fig 4.2



4.3.2 Condensation discharge VERTICAL version

- Connect to the condensation collection tray discharge union (fig. 4.3 rif. A) a pipe for the outflow of the liquid (fig. 4.3 rif. B) blocking it adequately.
- Check that the drip-collector extension (fig. 4.3 ref. C) is present and correctly installed.

fig 4.3



4.4 FIXTURE ROTATION

The operations described and the relative images refer to a machine with fixtures on the left on which the fixtures on the right side must be rotated.

If there is a machine available with right side fixtures that require rotation to the left, the sequence of the operations is the same, only the images are a mirror image.

⚠ To connect the motor to the control kit, use the special cabling optional.

4.4.1 Dismouting panels

- Dismount the upper grill (fig. 4.4 ref. A) unscrewing the two fixing screws (fig. 4.4 ref. B)
- On the left-hand side lift the cover covering the screw (fig. 4.4 ref. C) and loosen the screw (D) that fixes the left panel (fig. 4.4 ref. E) , then move it slightly to the left and lift it up.
- On the opposite side lift the cover covering the screw (fig. 4.4 ref. C) and unscrew it.
- Move the side panel slightly (fig. 4.4 ref. F) to the right and lift it.
- Remove the lower front grill (fig. 4.5 rif. G).
- Loosen the screws (fig. 4.5 ref. H-I) fixing the front panel (fig. 4.5 ref. L) and dismount it.

fig 4.4

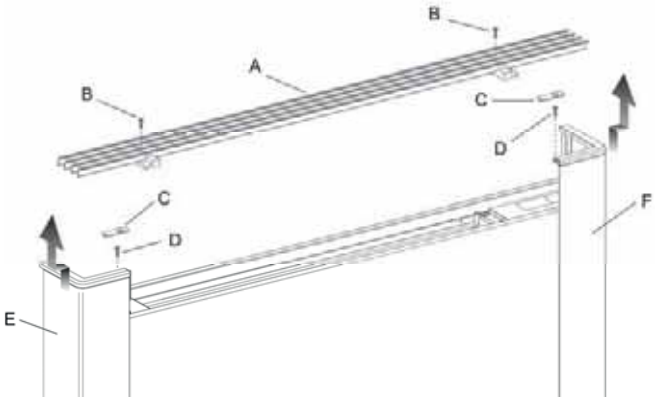
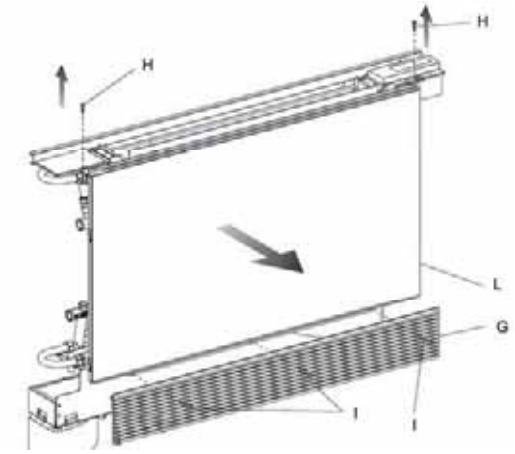


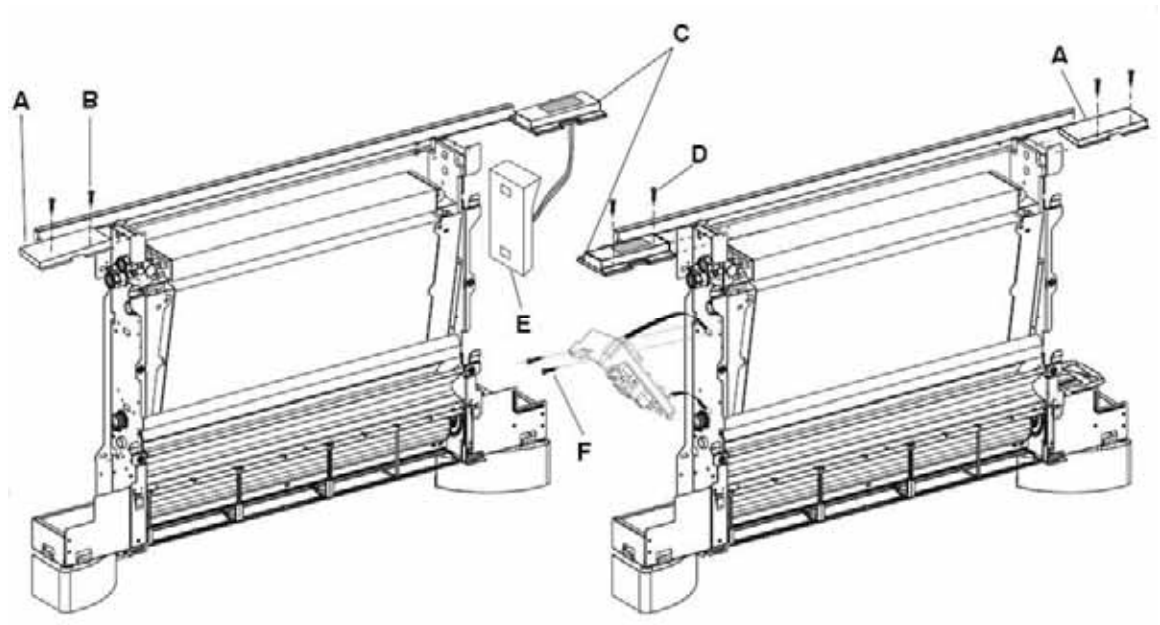
fig 4.5



4.4.2 Dismounting control panel

- Position the system master switch to OFF.
- Dismount the door that accesses the collector units (fig. 20 ref. A) unscrewing the two fixing screws (fig. 4.6 ref. B).
- Dismount the control panel (fig. 4.6 ref. C) unscrewing the two fixing screws (fig. 4.6 ref. D).
- Unplug the control board (fig. 4.6 ref. E), unscrewing the two fixing screws (fig. 4.6 ref. F).
- Unplug the connectors of the electrical connections.
- Remove the cables inside the machine and re-insert them from the opposite side.
- For the motor connection, use the special cable for right hand fixtures , available as an accessory.
- Invert the mounting positions of the door (fig. 4.6 ref. A) with the control panel (fig. 4.6 ref. C) and remount them in their respective positions.

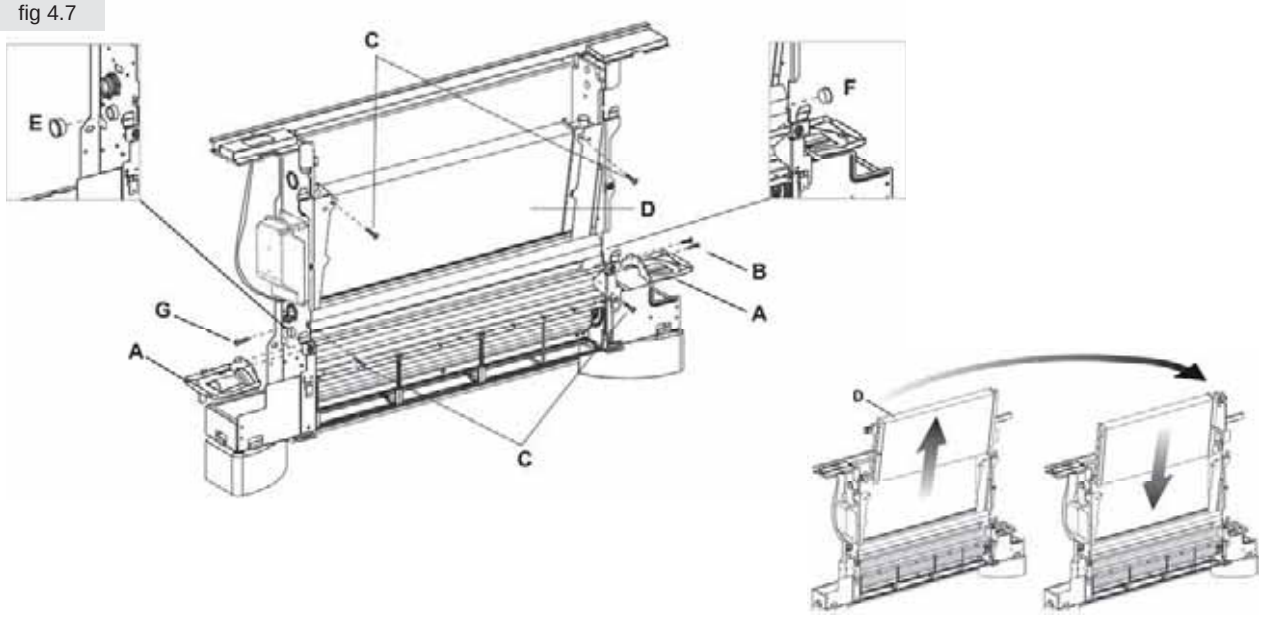
fig 4.6



4.4.3 Coil rotation for connections on RIGHT

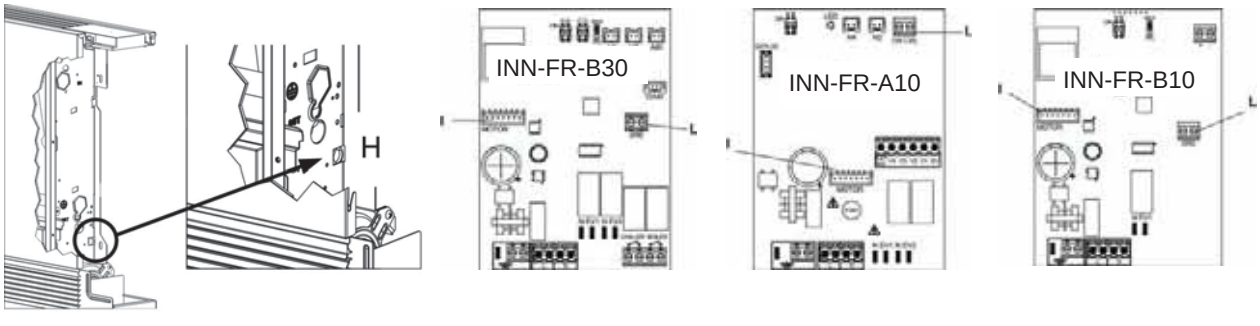
- dismount the condensation collection tray (fig. 4.6 ref. A) and remount it on the opposite side with the relative fixing screws (fig. 4.6 ref. B).
- loosen the four screws that fix the lower exchanger (fig. 4.7 ref. C);
- remove the battery water probe;
- remove the exchanger (fig. 4.7 ref. D);
- remove the drip-collector extension from the central tray (fig. 4.7 ref. E);
- on the opposite side remove the cap on the condensation evacuation hole (fig. 4.7 ref. F);
- loosen the central condensation collection tray fixing screw (fig. 4.7 ref. G), move the tray and rest it on the opposite side so that the fixture mouth for the dripcollector extension comes out of the structure, and block the tray with the screw previously removed;
- insert the drip-collector extension (fig. 4.7 ref. E) on the opposite side (Right), check that is the correctly installed;
- insert the cup (fig. 4.7 ref. F) on the opposite side (Left);
- rotate the exchanger (fig. 4.7 ref. D) moving the fixtures to the opposite side, and insert it on the machine;
- insert the battery water probe;
- tighten all the fixing screws of the exchanger
- coat the connections with insulating material.

fig 4.7



4.4.4 Motor connection kit cables (accessory KCMDX)

The cables are fed through the back of the device through the specific hole (ref.H)
The cable, equipped with male/female connectors, must be connected on the right side to the motor and on the left side to the quick connector of the motor present on the board (ref.I).
Also, the two terminals from the grid safety microswitch must be extended and connected on the left side to contact S1 present on the board (ref.L).

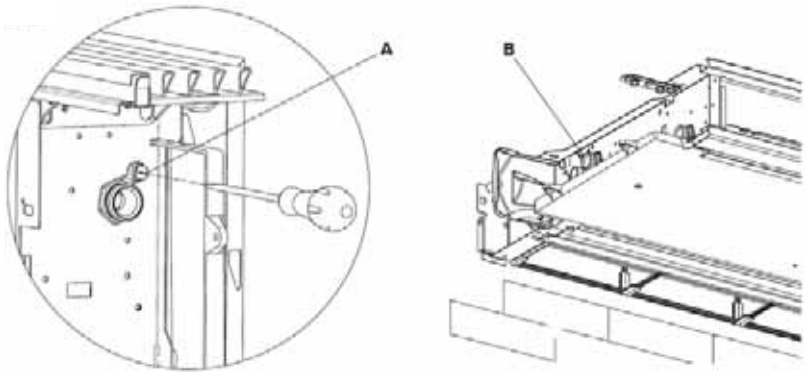


4.4.5 Filling the system

When starting up the system, make sure that the hydraulic unit lockshield is open. If there is no electric power and the thermo-valve has already been powered use the special cap to press the valve stopper to open it.

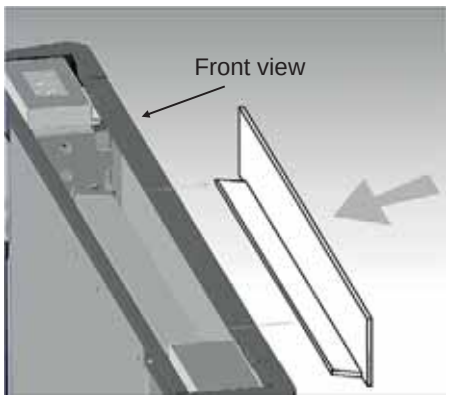
- Open all the system interception devices (manual or automatic);
- Start the filling by slowly opening the system water filling tap;
- For the models installed in a vertical position, take a screwdriver and act on the highest breather of the battery (fig.4.8 rif.A);
- for appliances installed in a horizontal position, act on the highest positioned breather (fig.4.8 rif.B);
- When water starts coming out of the breather valves of the appliance, close them and continue filling until reaching the nominal value for the system.
- Check the hydraulic seal of the gaskets.
- It is advisable to repeat these operations after the appliance has been running for a few hours and periodically check the pressure of the system.

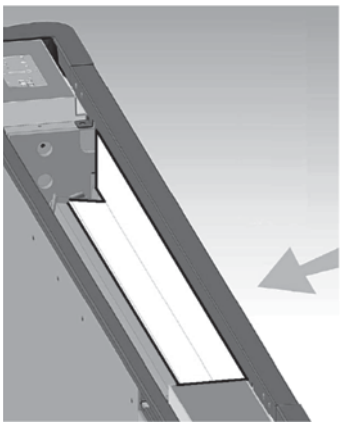
fig 4.8



4.4.6 Mounting panel

The insulating panel must be in the shown position , otherwise the battery is not crossed by air. When all the operations described have been completed, remount all the components dismounted previously following the dismounting operations in the opposite order.



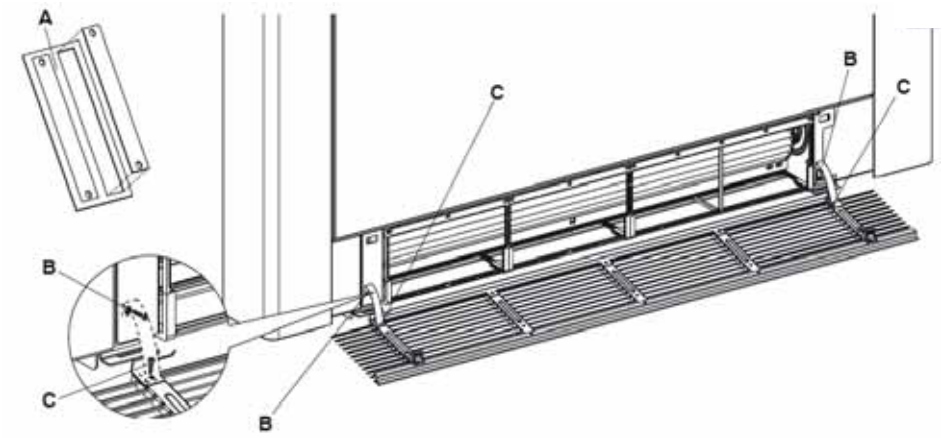


4.5 MOUNTING FRONT GRILL SAFETY SUPPORT

In the case in which the coolerconvector is installed in a horizontal position, to guarantee the safety of the cleaning/ filter replacement operations it is obligatory that the two clamps, in the supplied bag together with the instruction manual and the accessories, are mounted by the installer.

- Separate the two clamps (fig. 4.9 rif. A);
- open the front grill and completely unscrew the fixing screws on the springs (fig. 4.9 rif. B);
- fix the two clamps, blocking them by retightening the screws (fig. 4.9 rif. B);
- fix the other part of the clamp to the grill using the supplied screws (fig. 4.9 rif. C);
- Close the grill.

fig 4.9



5.1 PRELIMINARY INFORMATION

The characteristics of the electrical lines must be determined by specialized personnel able to design electrical installations; moreover, the lines must be in conformity with regulations in force.

The protection devices of the unit power line must be able to stop of presumed short circuit current, whose value must be determined in function of system characteristic

The power cables and the protection cable section must be define in accordance with the characteristics of the protections adoptee.

All electrical operations should be performed by trained personnel having the necessary requisites by the regulations in force and being informed about the risks relevant to these activities.

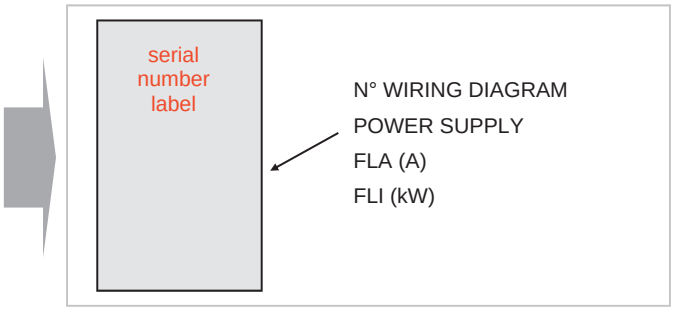
Operate in compliance with safety regulations in force.

5.2 ELECTRICAL DATA

The serial number label reports the unit specific electrical data, included any electrical accessories .

The electrical data indicated in the technical bulletin and in the manual refer to the standard unit, accessories excluded.

Refer to the electrical data report on the serial number label.



F.L.A. full load ampere
Full load current at max admissible conditions

F.L.I. Full load input
Full load power input
(at max. admissible condition)

5.3 CONNECTIONS

1. Refer to the unit electrical diagram (the number of the diagram is shown on the serial number label)
2. Verify that the network has characteristics conforming to the data shown on the serial number label
3. Before starting work, verify that the sectioning device at the start of the unit power line is open, blocked and equipped with cartel warning
4. Primarily you have to realize the earthing connection
5. Shelter the cables using adequate measure fairleads
6. Before power the unit, make sure that all the protections that were removed during the electrical connection work have been restored.

5.4 SIGNAL / DATA

Do not overpass the maximum power allowed, which varies, according to the type of signal.

Lay the cables far from power cables or cables having a different tension and that are able to emit electromagnetic disturbances.

Do not lay the cable near devices which can generate electromagnetic interferences.

Do not lay the cables parallel to other cables; cable crossings are possible, only if laid at 90°.

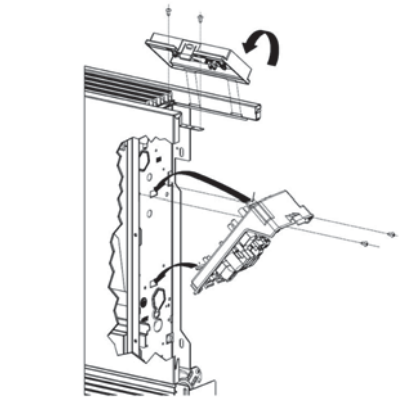
Connect the screen to the ground, only if there aren't disturbances

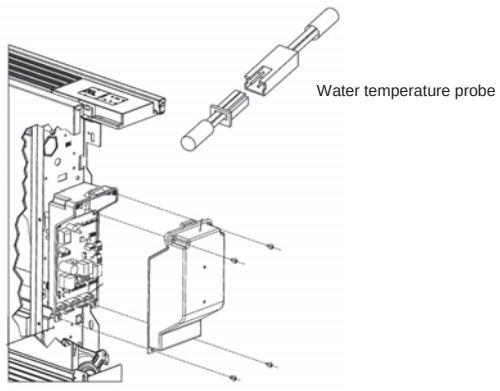
Guarantee the continuity of the screen during the entire extension of the cable.

Respect impendency, capacity and attenuation indications.

5.5 ACCESS TO THE ELECTRICAL PANEL

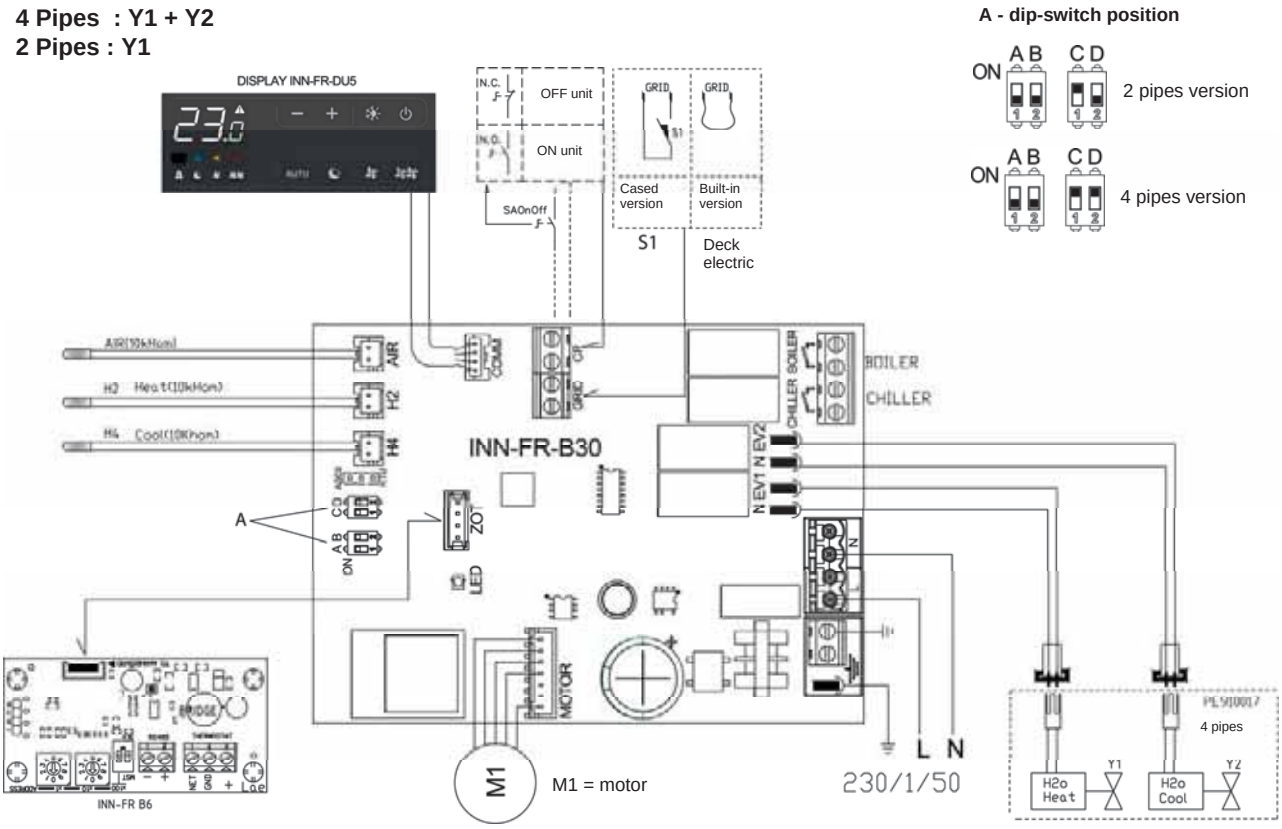
Open the sides: instructions at paragraph 3.5.





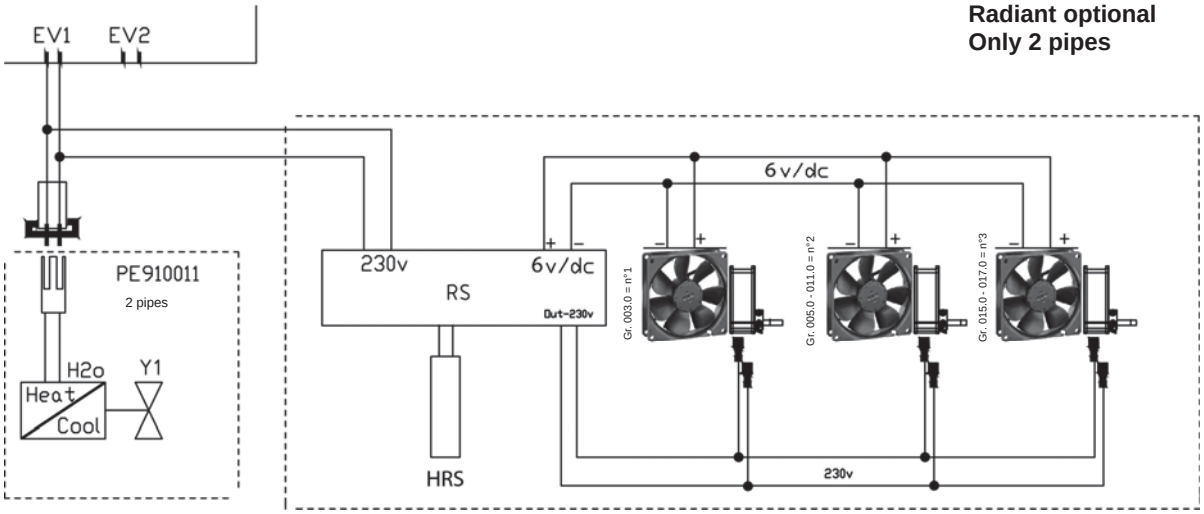
5.6 Connection with room thermostat mounted on- board

4 Pipes : Y1 + Y2
2 Pipes : Y1



BOILER	Heating go-ahead output (boiler-caldaia) free contact max 1A
CHILLER	Cooling go-ahead output (chiller) free contact max 1A
CP	Remote ON / OFF
H2	Water temperature probe (10kΩ) (4 Pipes → heating) (2 Pipes → cooling / heating)
H4	Water temperature probe (10kΩ) (4 Pipes → cooling)
S1	Grill safety micro-switch
Y1	Water solenoid valve (4 Pipes → heating) (2 Pipes → heating / cooling)
Y2	Water solenoid valve (4 Pipes → cooling)
AIR	Air temperature probe (10kΩ)

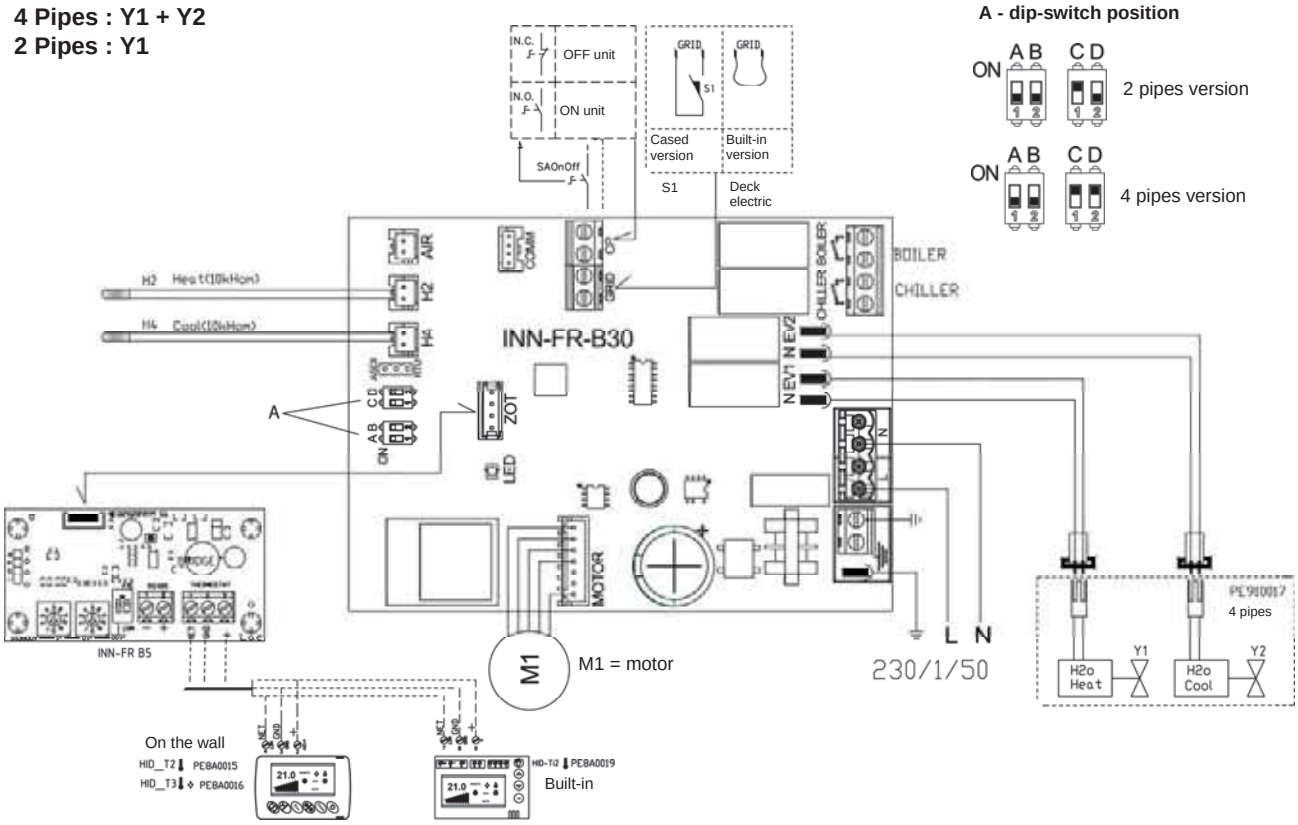
Radiant optional
Only 2 pipes



HRS - Water temperature probe (2kΩ)

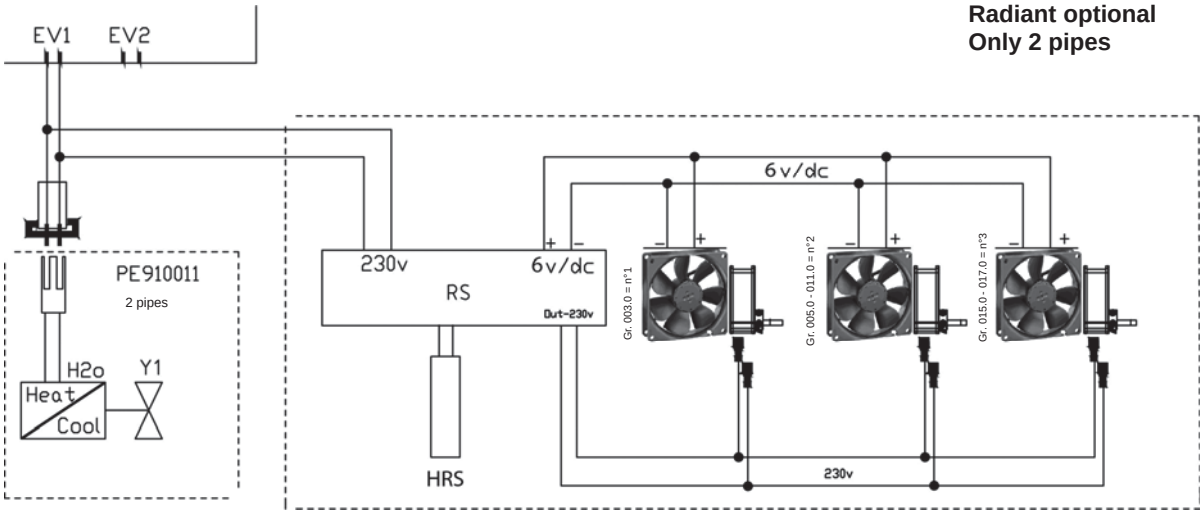
5.7 Connection to HID-Txx electronic room thermostat

4 Pipes : Y1 + Y2
2 Pipes : Y1



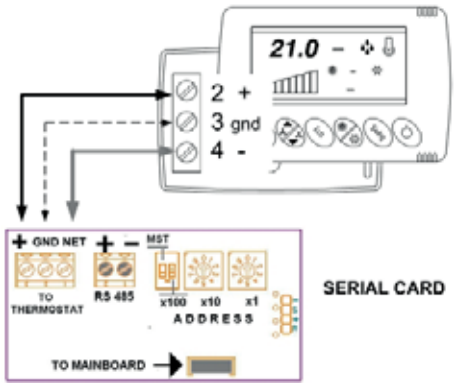
BOILER	Heating go-ahead output (boiler-caldaia) free contact max 1A
CHILLER	Cooling go-ahead output (chiller) free contact max 1A
CP	Remote ON / OFF
H2	Water temperature probe (10kΩ) (4 Pipes → heating) (2 Pipes → cooling / heating)
H4	Water temperature probe (10Ω) (4 Pipes → cooling)
S1	Grill safety micro-switch
Y1	Water solenoid valve (4 Pipes → heating) (2 Pipes → heating / cooling)
Y2	Water solenoid valve (4 Pipes → cooling)

Radiant optional
Only 2 pipes

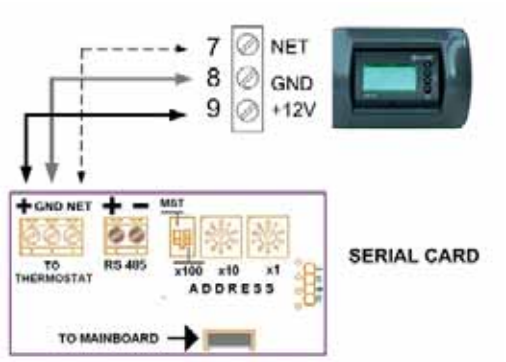


HRS - Water temperature probe (2kΩ)

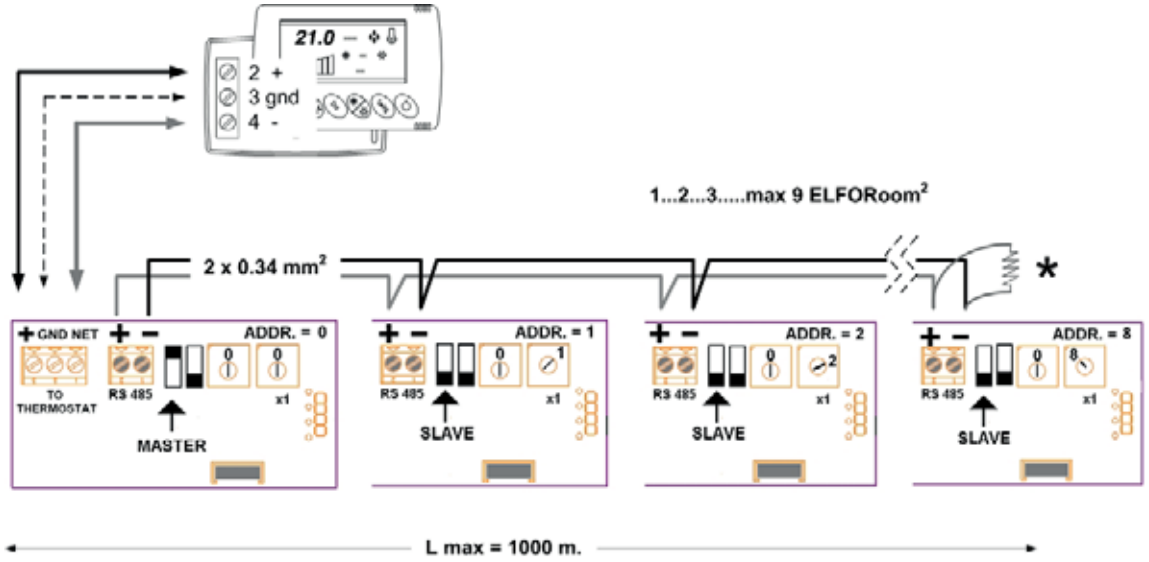
HID-T2 / T3 THERMOSTAT



HID-il2 THERMOSTAT

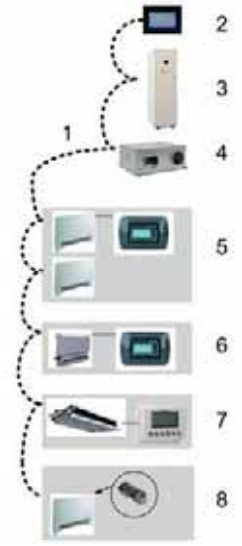


5.8 MINI-NETWORK - MAX 9 ELFORoom²



* 120 Ω network termination resistance - customer care

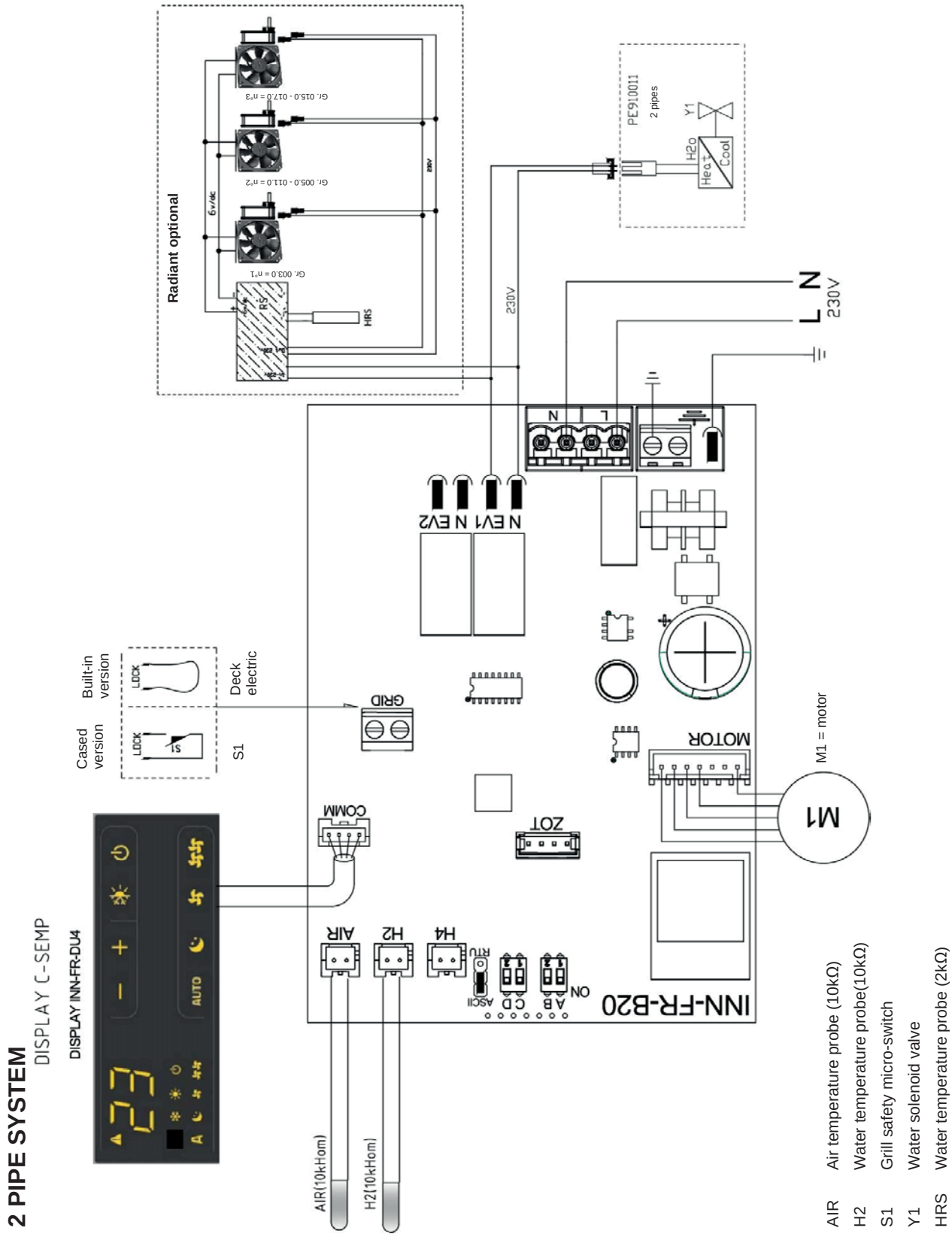
5.9 ELFOSystem GAIA Edition



1. Bus RS485
2. ELFOControl²
3. GAIA
4. ELFOFRESH²
5. Zone with 2 ELFOROOM² with keypad and HID-Ti2 thermostat controls both terminals
6. Zone with 1 ELFOROOM² with keypad and HID-Ti2 thermostat that controls the terminal
7. ELFOROOM² with keypad and HID-T3 thermostat that controls both terminals
8. ELFOROOM² with built-in thermostat

5.10 Connection with 4-speed electronic control

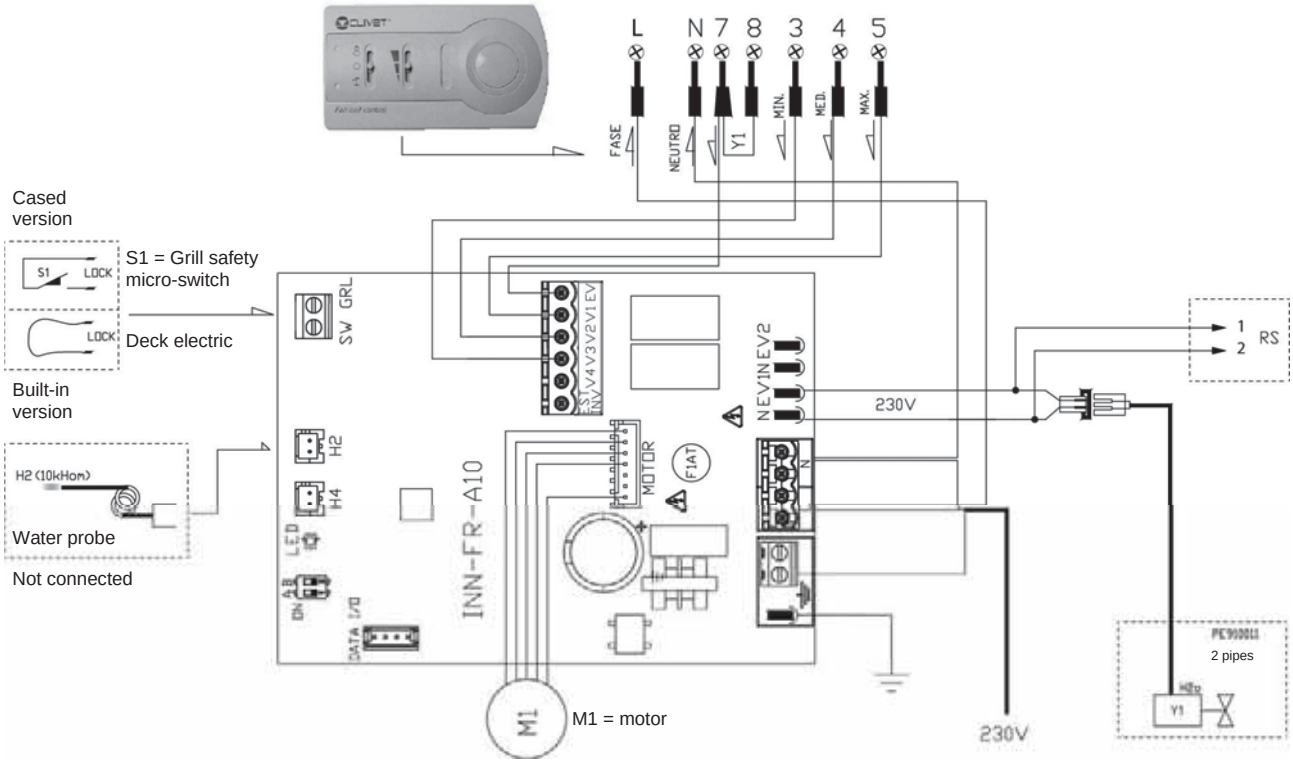
CSEMP - Simplified electronic control with 4 speeds DC motor, built-in thermostat without RS485 interface



5.11 Thermostats connections

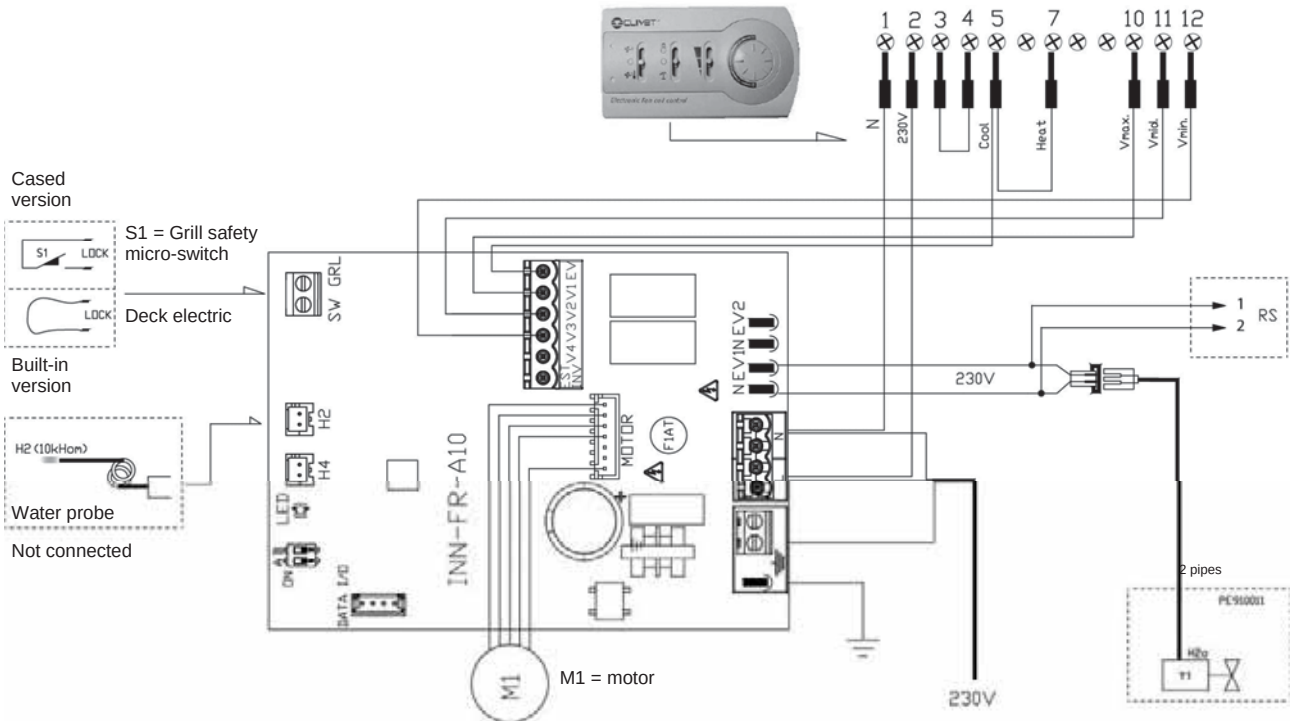
SC3V - DC motor modulation electronic board for matching to 3 speeds thermostats without RS485 interface

HID-E1 thermostat - 2 pipe system



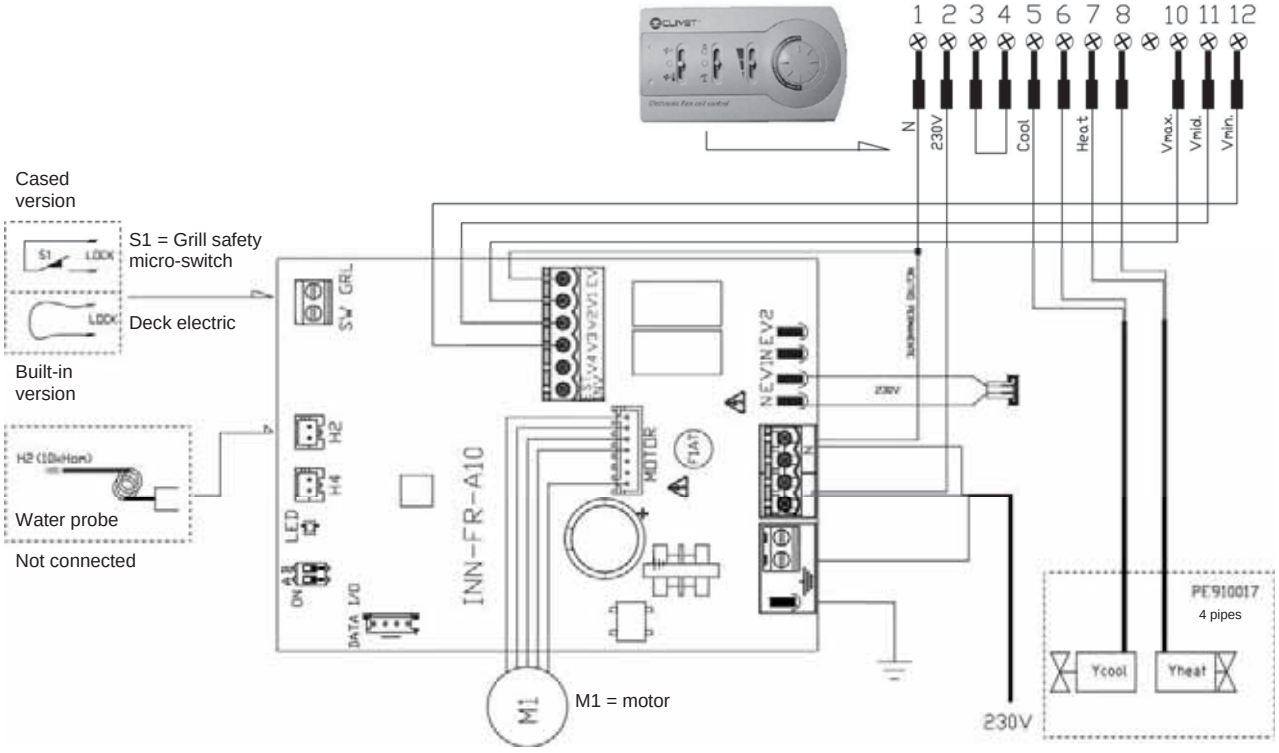
Y1 Water solenoid valve(heating/cooling) RS Radiant optional (page.74)

HID-E2 thermostat - 2 pipe system



Y1 Water solenoid valve(heating/cooling) RS Radiant optional (page.74)

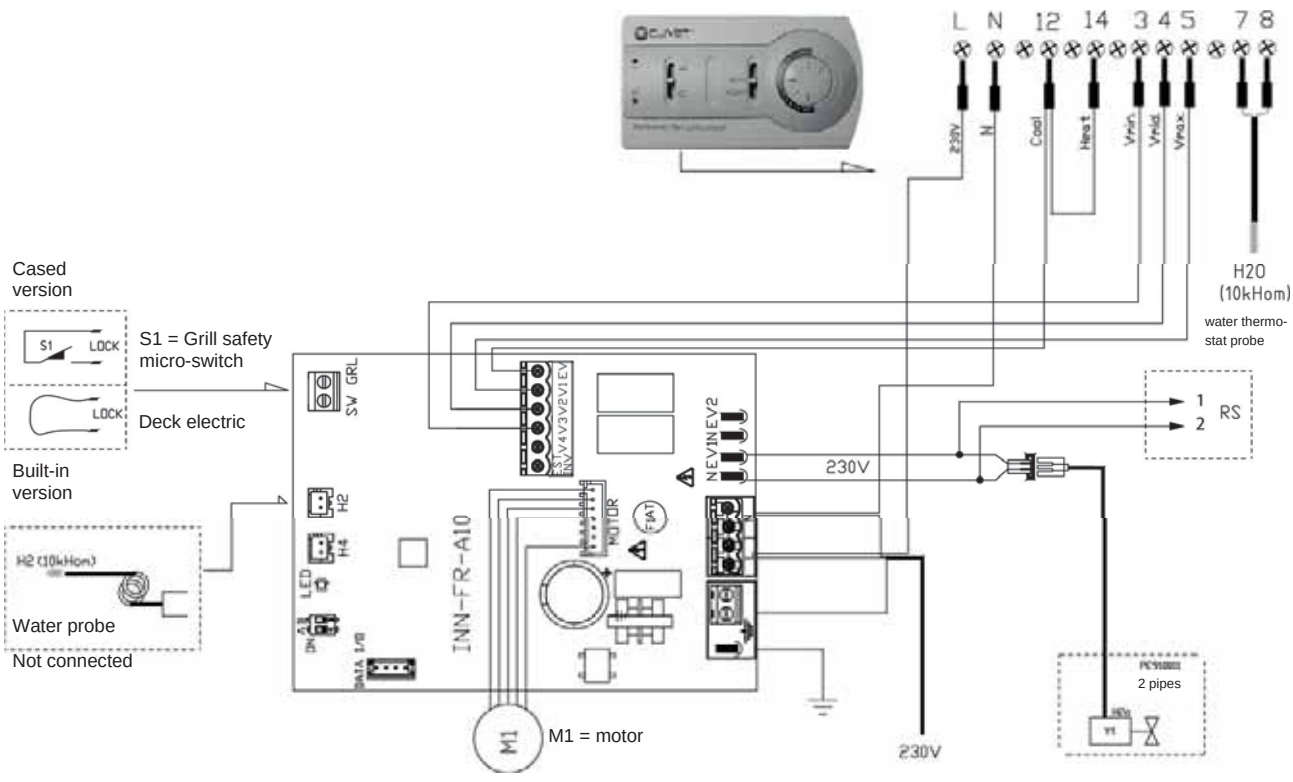
HID-E2 thermostat - 4 pipe system



Ycool Water solenoid valve(cooling)

Yheat Water solenoid valve(heating)

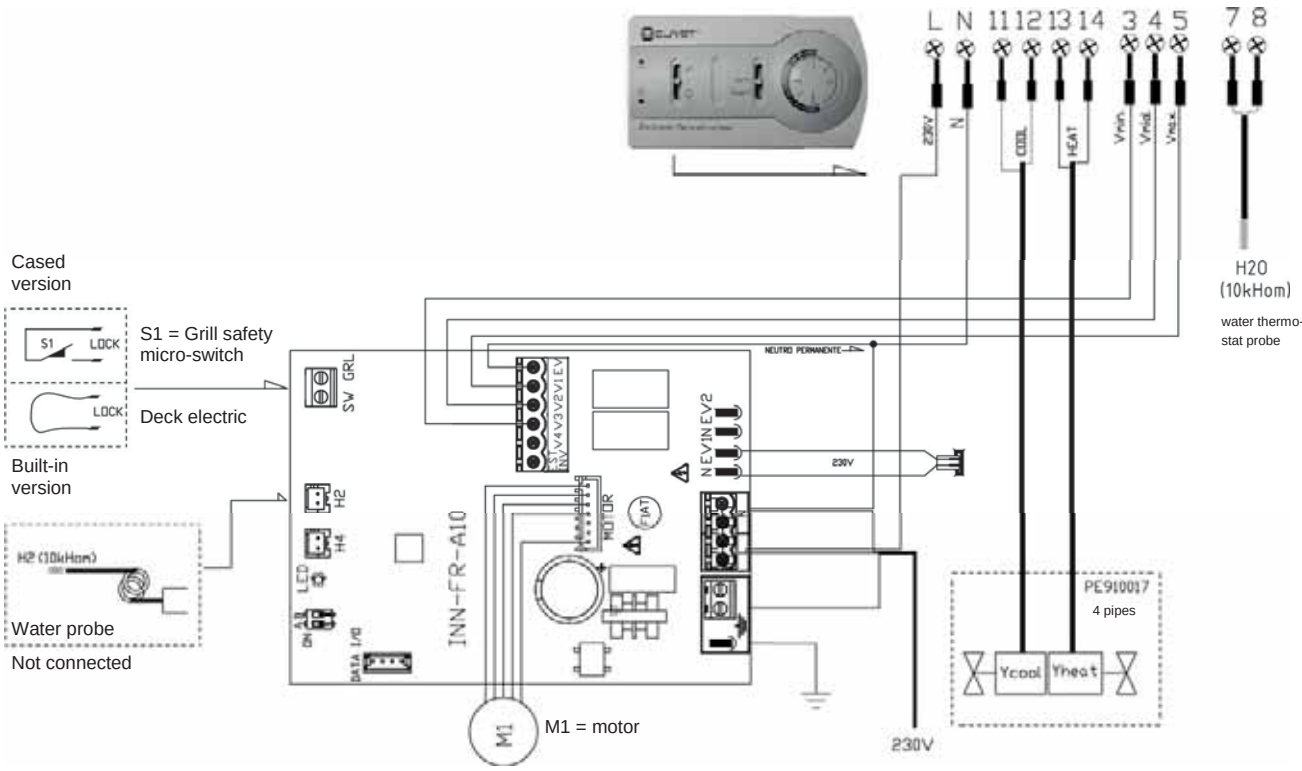
HID-E3 thermostat - 2 pipe system



Y1 Water solenoid valve(heating/cooling)

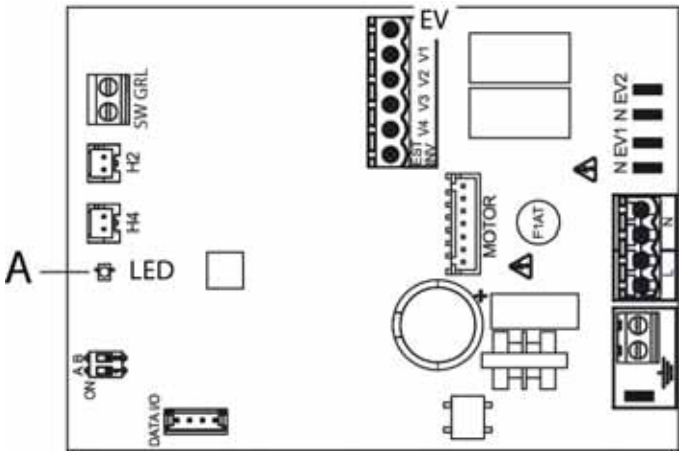
RS Radiant optional (page.74)

HID-E3 thermostat - 4 pipe system



Ycool Water solenoid valve(cooling) Yheat Water solenoid valve(heating)

LED meaning / alarms



The LED (A) is off if input EV (thermostat control) is not closed (stand-by condition).

It is switched on upon closure of contact EV (thermostat control) and signals standard operation.

ALARMS

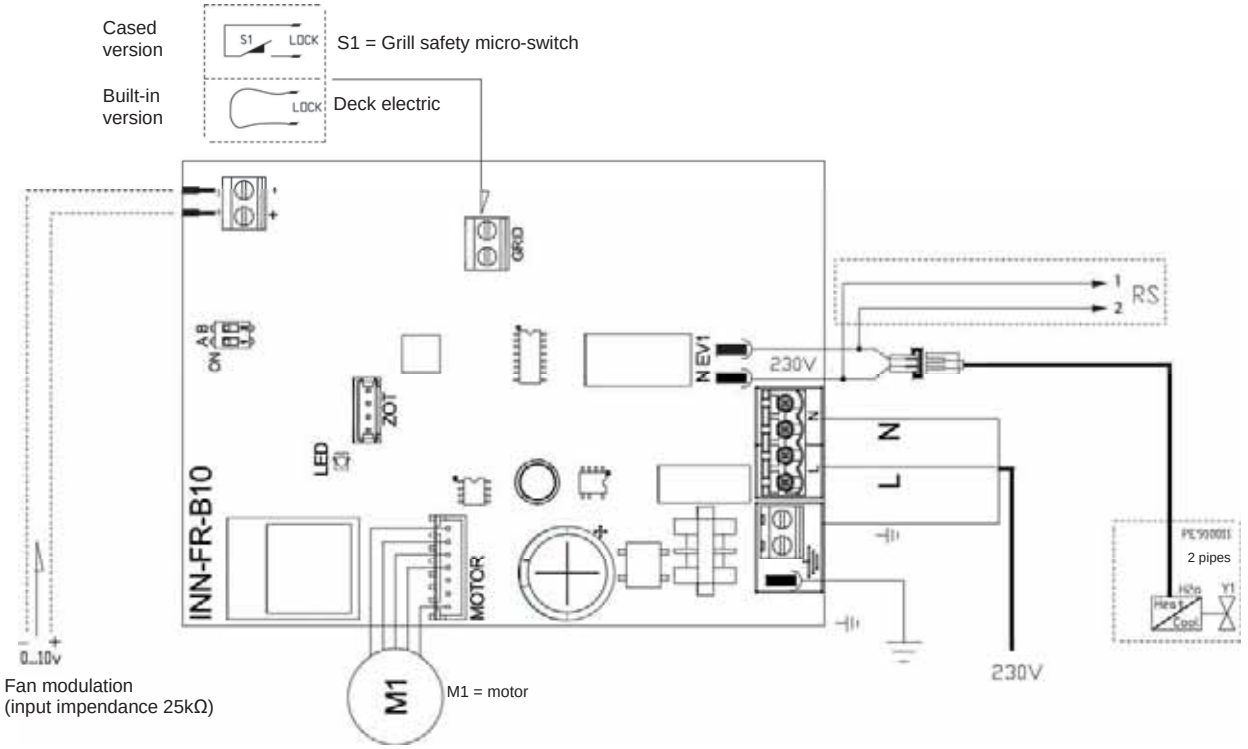
It flashes frequently if the S1 grille safety micro-switch is activated due to filter cleaning operations.

It emits a single flash + pause for fan stop alarm due to unsuitable water (with H2 water probe connected).

2 flashes + pause for motor alarm (for example, jamming due to foreign bodies, fault in the rotation sensor).

3 flashes + pause for water probe alarm disconnected or faulty.

SC010 - 0-10V modulating fan - 2 pipe system



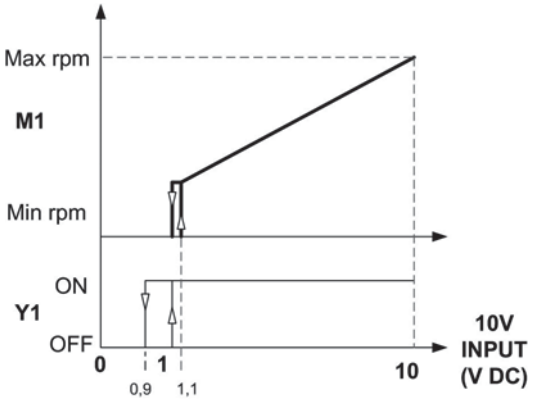
Y1 Water solenoid valve(heating/cooling)

RS Radiant optional (page.74)

If the S1 input to which the grille safety micro-switch is connected is closed, the 10 V input activates the Y1 solenoid valve and adjusts the speed of the fan.
The speed “ramp” provides for linear adjustment from the minimum speed (400 RPM) to the maximum (1,400 RPM) with voltages ≥ 1.1V - 10 V DC.
The motor is switched off for values less than 1 V DC.
The Y1 solenoid valve is activated for voltages > 1 V DC and is switched off when it falls below 0.9 V DC.

Fan modulation

Fan speed



10v = fan 1400 rpm

1v = fan 450 rpm

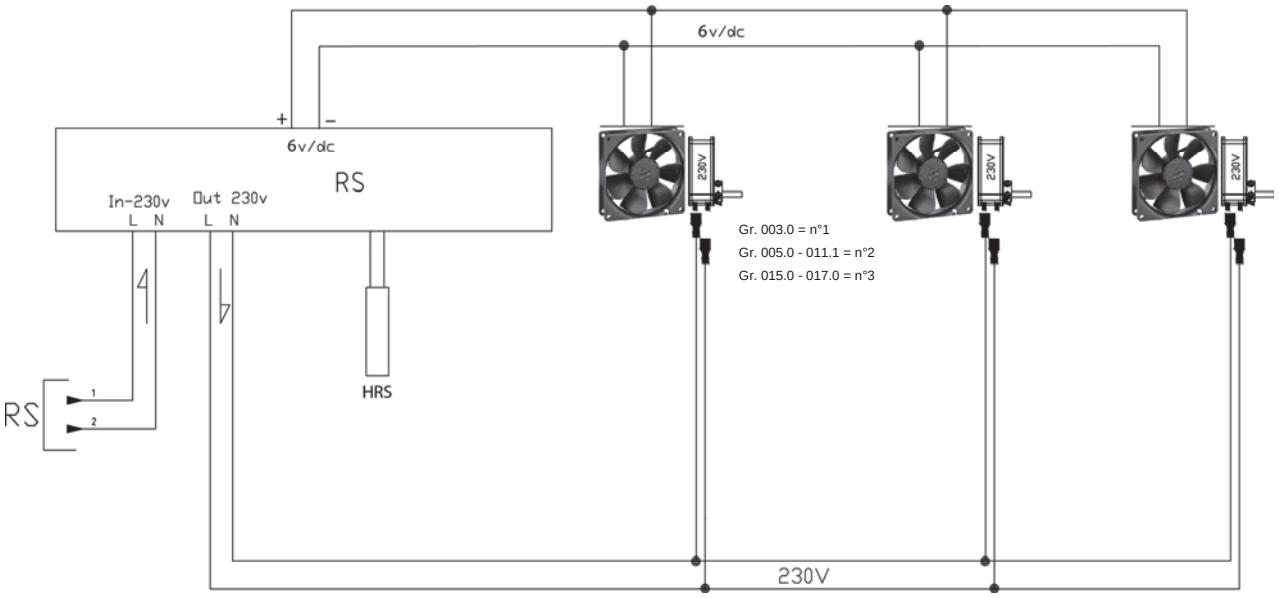
<1v = fan off

LED meaning / alarms

The LED (A) is off if the input signal is lower than 0.9 V. It is switched on for values greater than 1 V and indicates normal operation.

- It flashes frequently if the S1 grille safety micro-switch is activated due to filter cleaning operations.
- 2 flashes + pause for motor alarm (for example, jamming due to foreign bodies, fault in the rotation sensor).

Radiant optional - Only 2 pipes



HRS - Water temperature probe (2kΩ)

6.1 BUILT-IN ELECTRONIC THERMOSTAT

display **keys**

display	
A	Automatic function
	Silent function
	Maximum ventilation speed
	Night function
	Heating
	Cooling
	Active supervision (flashing, see p.77)
	Active alarm (Fixed on)

keys	
	ON / Standby
+	Increase set temperature
	Decrease set temperature
AUTO	Automatic regulation of the ventilation speed
	Night function
	Minimum ventilation speed
	Maximum ventilation speed
	Heating / Cooling

ON / Standby

Keep the ON standby button pressed for about 2 seconds.

The lack of a warning light indicates the "stand-by" status (no function).

When the control is set to this operating mode it guarantees an anti-freeze security.

If the room temperature falls below 5°C the boiler condensation and hot water solenoid valves are activated.

AUTO automatic regulation of the ventilation speed

Press and hold the AUTO key.

When the function is activated, the relative symbol on the display turns on

The ventilation speed is adjusted automatically between a minimum value and a maximum value, according to the actual gap between the ambient temperature and the selected

temperature change set

Use the two buttons to set the desired room temperature which is displayed on the 3 digit display.

The adjustment range is from 16 to 28 °C; with resolution is 0.5 °C, but are also permitted off-scale values of 5 °C and 40 °C.(except in AUTO mode)

Only set these values for short periods and then set the selection to an intermediate value.

The command is very precise, set it to the desired value and wait until the command has made the adjustment based on the room temperature detected.

night functioning

Keep the night functioning button.

When the function is activated, the relative symbol on the display turns on.

Selecting this operating mode, the ventilation speed is limited to a much lower value and the set temperature is automatically adjusted as follows:

- reduced by 1° C after one hour and a further degree after 2 hours in the heating function.

- Increased by1°C after one hour and a further degree after 2 hours in the cooling function.

silent function

Hold down the Silent key.

The activated function is indicated by the relevant symbol lighting up on the display

The ventilation speed is limited to a lower value.

heating / cooling

Press and hold the Heating / Cooling key for about 2 seconds to switch the operating mode between heating and cooling. This is reported by the fact that the 2 symbols, active heating or active cooling, turn on.

In heating mode, the symbol is ON with setpoint higher than the room temperature, both OFF with lower setpoint.

In cooling mode, the symbol is ON with setpoint lower than the room temperature, both OFF higher with setpoint.

In the versions with 4 pipes, with the automatic heating/ cooling adjustment on, if the 2 symbols turn on simultaneously, this means that the setpoint has been reached (neutral band).

If one of the 2 symbols is flashing, this means that the (hot or cold) water temperature has not been reached and the fan stops until the temperature reaches a value that is suitable to meet the request.

maximum ventilation speed

Keep the maximum ventilation speed button.

When the function is activated, the relative symbol on the display turns on.

With this operating mode, maximum power is obtained immediately both in heating and cooling.

Once the desired ambient temperature has been reached, we recommend selecting one of the other 3 operating modes to achieve greater thermal and acoustic comfort.

keys lock

By pressing the + and - Temperature keys together for 3 second, this activates the local block of all the keys.

This is confirmed by the fact that the word bL is displayed.

The user is prevented from using all the adjustments and pressing any key and the display shows bL. The keys are unlocked by repeating the sequence.

brightness reduction

After 20 seconds from the last action the panel brightness is reduced on purpose to increase comfort at night and the display shows the room temperature.

If the level of brightness still tends to cause a nuisance, it is possible to turn off the display completely.

With the panel off, press and hold the + key for 5 seconds until the message 01 appears.

With the - key, move the value to 00 and wait for 20 seconds to verify the correct setting.

alarms

E1

Ambient temperature probe failure (AIR).

E2

Problem affecting the fan motor (for instance a jam due to foreign bodies, a rotation sensor failure)

E3

Failure affecting the water temperature probe of the versions with 2 pipes (H2) located in the main coil. (Check that the installed probe is of the 10 kΩ type)

E5

Failure affecting the cold water temperature probe of the versions with 4 pipes (H4).

GR

activation of the protective micro switch due to the fact that the filter is being cleaned

Setting automatic cooling/ heating regulation system

For use by the installer

When set to this condition the control can automatically choose between cooling or heating, excluding the normal manual selection.

This setting is particularly useful for the 4-pipe versions.

This regulation system can only be activated by an authorised installer or qualified technician.

To activate this function, keep the sum./ win. button (ref. A) pressed for 10 seconds until of the cooling symbols (ref. C) and heating (ref. B) light up simultaneously.

To return again to the manual cooling only or heating only condition press the sum/win button (ref. A) for 10 seconds until of the cooling symbols (ref. C) and heating (ref. B) switch off.

Press the button again to select the winter function.

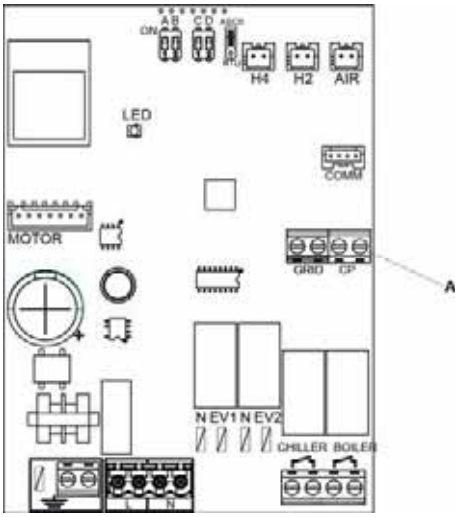
Check the functioning of the heating symbol (ref. B) (alight when the setpoint is higher than the room temperature, both switched off when the setpoint is lower).

Press the sum/win button once to select the summer function. Check the functioning Check the functioning of the cooling symbol (ref. C) (alight when the setpoint is lower than the room temperature, both switched off when the setpoint is higher).

This selection will be maintained even if there is a power black -out.

Setting CP presence contact input

At the closing of the CP contact, connected to the input (ref.A), the card is placed in stand-by, the display of the control is turned off and at the pressing any key the symbol flashes.



The input cannot be connected in parallel to one of another electronic board (use separate contacts).

offset adjustment of ambient temperature probe

For use by the installer

The temperature probe is located in the bottom part of the appliance, it may sometimes occur that the measurement differs from the actual temperature.

Using this feature, you can adjust the measured value on the display within a range of +/- 10°C in steps of 0.1°C

Use this setting with caution and only after verifying actual room temperature deviations using a reliable instrument!

With the panel off, press and hold down the - key for 5 seconds and then enter the menu that allows you to vary the AIR probe offset on the display (using the + and - keys) from 10 to +10 K in steps of 0.1 K.

After 20 seconds from the last action, the panel switches off and the setting is memorised.

6.2 4 SPEED CONTROL

The control makes the control of the ambient temperature fully autonomous by setting the setpoint that can be adjusted from 5 to 40°C, one of the 4 speeds and the summer/winter selection.

As it is connected to the water temperature probe inside the coil, it performs the minimum winter function (30°C) and maximum summer function (20°C).

After about 20 seconds from the last action, the panel's brightness is suitably reduced to increase comfort during the night and the ambient temperature is shown on the display.

Maximum brightness is restored by pressing any key.

display	
A	Step-based automatic operation
	Supersilent function
	Minimum speed
	Maximum speed
	Cooling
	Heating
	Active supervision (flashing)
	Active alarm (Fixed on)

keys	
+	Increase set temperature
−	Decrease set temperature
	Heating/Cooling: allows to switch the operating mode between heating and cooling (2 seconds).
	Allows to activate the appliance, to select one of the 4 speeds or put it in stand-by (2 seconds).

ON / Standby

Press the ON / Standby

Select one of the 4 operating speeds by pressing the relative key **AUTO**

Stand-by: keep the ON / Standby button pressed for about 2 seconds. The lack of a warning light indicates the "stand-by" status (no function).

When the control is set to this operating mode it guarantees an anti-freeze security.

If the room temperature falls below 5°C solenoid valves are activated.

Heating/Cooling

Press and hold the Heating / Cooling key for about 2 seconds to switch the operating mode between heating and cooling. This is reported by the fact that the 2 symbols, active heating or active cooling, turn on.

In heating mode, the symbol is ON with setpoint higher than the room temperature, both OFF with lower setpoint.

In cooling mode, the symbol is ON with setpoint lower than the room temperature, both OFF higher with setpoint.

In the versions with 4 pipes, with the automatic heating/ cooling adjustment on, if the 2 symbols turn on simultaneously, this means that the setpoint has been reached (neutral band).

If one of the 2 symbols is flashing, this means that the (hot or cold) water temperature has not been reached and the fan stops until the temperature reaches a value that is suitable to meet the request.

Fan speed adjustment

By using the 4 keys, you can select the fan speed (automatic, minimum, super silent and maximum).

When the function is activated, the relative symbol on the display turns on.

The fan automatically performs a step-based adjustment as the room temperature setpoint is gradually reached.

The supersilent speed will lead to strong dehumidification in cooling and to radiant operation only (with fan off and solenoid on) in heating.

By setting the top speed, one immediately obtains the maximum deliverable power both in heating and cooling mode.

Once the desired ambient temperature has been reached, we recommend selecting one of the other 3 operating modes to achieve greater thermal and acoustic comfort.

Temperature change set

Use the two buttons to set the desired room temperature which is displayed on the 3 digit display.

The adjustment range is from 16 to 28°C, with resolution is 1 ° C, but are also permitted off-scale values of 5°C and 40°C (except in AUTO mode)

Only set these values for short periods and then set the selection to an intermediate value.

The command is very precise, set it to the desired value and wait until the command has made the adjustment based on the room temperature detected.

brightness reduction

After 20 seconds from the last action the panel brightness is reduced on purpose to increase comfort at night and the display shows the room temperature.

If the level of brightness still tends to cause a nuisance, it is possible to turn off the display completely.

With the panel off, press and hold the + key for 5 seconds until the message 01 appears.

With the - key, move the value to 00 and wait for 20 seconds to verify the correct setting.

keys lock

By pressing the + and - Temperature keys together for 3 second, this activates the local block of all the keys.

This is confirmed by the fact that the word bL is displayed.

The user is prevented from using all the adjustments and pressing any key and the display shows bL.

The keys are unlocked by repeating the sequence.

offset adjustment of ambient temperature probe

For use by the installer

The temperature probe is located in the bottom part of the appliance, it may sometimes occur that the measurement differs from the actual temperature.

Using this feature, you can adjust the measured value on the display within a range of +/- 10°C in steps of 1°C

Use this setting with caution and only after verifying actual room temperature deviations using a reliable instrument!

With the panel off, press and hold down the - key for 5 seconds and then enter the menu that allows you to vary the AIR probe offset on the display (using the + and - keys) from 10 to +10 K in steps of 1 K.

After 20 seconds from the last action, the panel switches off and the setting is memorised.

alarms

E1

Ambient temperature probe failure (AIR).

E2

Problem affecting the fan motor (for instance a jam due to foreign bodies, a rotation sensor failure)

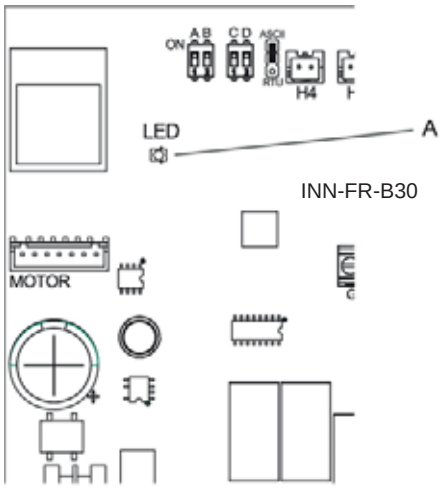
E3

Failure affecting the water temperature probe of the versions with 2 pipes (H2) located in the main coil. (Check that the installed probe is of the 10 kΩ type)

GR

activation of the protective micro switch due to the fact that the filter is being cleaned

6.3 LED MEANING / ALARMS



The board has a green LED (A) that indicates the operating status and any faults.

Siganal Led

Green led On steady	Reports the appliance is operating. Flashes if there are any faults.
Off	fan-coil off or disconnected from the power supply; if the fan-coil is off, when the remote control is turned back on the fan-coil turns on again.
flashes once + pause	Demand for water detected by the H2 probe is not met (above 20°C in cooling mode, below 30°C in heating mode). (Hot or cold) water request not met. This means the fan is stopped until the water temperature reaches a value that is suitable to meet the request.
flashes two+ pause	The warning is associated with a fan motor problem (for instance a jam due to foreign bodies, a rotation sensor failure)
flashes three + pause	Water temperature probe failure in 2-pipe versions (H2). Check that the installed probe is of the 10 kΩ type.
flashes four + pause	4-pipe version: cold water demand detected by the H4 probe not met (above 20° C). This leads to the fan stopping until the temperature reaches a value sufficient to satisfy the request.
flashes five + pause	Cold water temperature probe failure in 4-pipe versions (H4). Located in the main coil. Check that the installed probe is of the 10 kΩ type.
flashes six + pause	Communication error. The control involves a continuous exchange of information on the RS485 serial line with remote control. If this is not provided for more than 5 minutes, the error is displayed and the ventilation fan-coil is disabled.
continuous flashing at high frequency	Activation of the protective micro (S1) switch due to the fact that the filter is being cleaned

6.4 Setting auxiliary functions

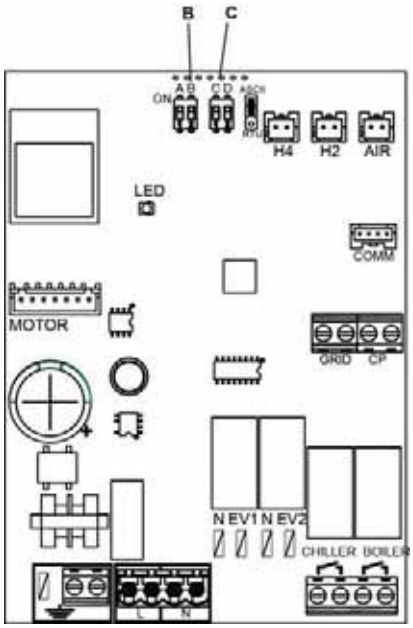
There are 4 dip-switches on the electronic control panel for setting the functions of the appliance as required.

Use cursor C to modify the night function (heating) logic:

- In the ON position the ventilation is inhibited thus letting the machine heat the room through natural radiation or convection as happens with traditional radiators;
- in the OFF position the fan functions normally.

Set cursor B to ON (in cooling only) to enable the continual ventilation at the minimum speed, even after the set point has been reached to ensure a more regular functioning of the temperature probe.

With the cursor in the OFF position, the function is put in cycle mode (2 minutes ON, 10 minutes OFF).



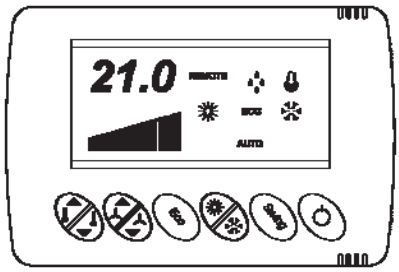
6.5 Shut–down for long periodos

When switching off for long periods or holidays, proceed as follows:

- Deactivate the appliance
- Set the master switch to OFF

The anti-freeze function is not active.

6.6 HID-T2 / T3 THERMOSTAT - OPTIONAL



21.0	set-point
☼	unit in COOLING
❄	unit in HEATING
ECO	eco MODE
AUTO	visible if the cooling/heating mode choice is AUTOMATIC
REMOTE	unit is managed by NET
☼ ❄	flashing : water temperature out of limits (COOLING t>20°C, HEATING t<30°C)

Switch the thermostat ON

Hold down the ON OFF switch for 4 seconds

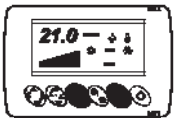
If the function is remotely managed via ModBus, it is not possible to perform any change (the word "REMOTE" starts flashing)

Turn on/take off the anti-tampering block

Press the ECO + SWING buttons together for 5 seconds

The block is shown by 3 horizontal bars, when any key is pressed

If the function is managed remotely via ModBus, no modification can be performed (the word "REMOTE" starts flashing)



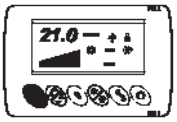
Modify the set-point

Pressing on the arrows, the set-point increases or decreases (heating, ECO heating, cooling, ECO cooling).

The minimum difference between the two set points can not be lower than 1°C and the value is kept automatically.

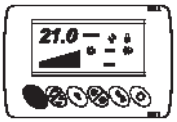
For example, if the unit is in cooling mode and the Summer set point is decreased so that it is close to the Winter set point, the winter set point will be automatically lowered.

If the function is managed remotely via ModBus, no modification can be performed (the word "REMOTE" starts flashing)



Display room temperature

Hold down on both arrows of the SET key; the room temperature is displayed, alternating with the letters **"t a".**

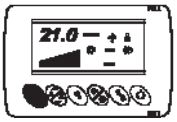


Display room humidity

ONLY FOR HID-T3 THERMOSTAT WITH UR PROBE

Hold down on both arrows of the SET key, the room temperature is displayed, alternating with the letters "**t a**".

Hold down the Set key and the humidity value will appear, alternating with the letters **"ur"**

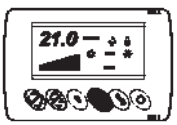


Go from HEATING mode to COOLING mode and vice versa.

If the unit is in manual mode, switching is performed by the relevant key

If the word "AUTO" is active on the display, the switching from one mode to another is managed automatically by the unit and the pressing of this key has no effect.

If the function is managed remotely via ModBus, no modification can be performed (the word "REMOTE" starts flashing)



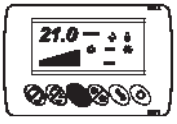
Place the unit in ECO mode

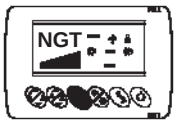
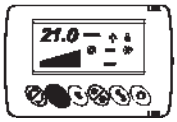
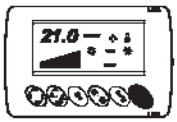
Briefly press the ECO key

To restore normal operation, repeat the operation

The summer ECO set-point is higher than the SUMMER set-point, and the winter ECO set-point is lower than the WINTER set point.

If the function is managed remotely via ModBus, no modification can be performed (the word "REMOTE" starts flashing)



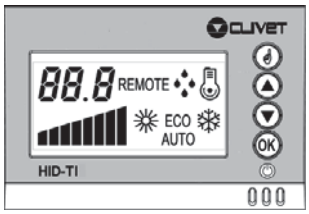
NIGHT FUNCTIONING Press twice the ECO 2 button shortly : on the display will appear NGT (NIGHT) See paragraph 6.4	
Put the unit in MANUAL VENTILATION: The fan speed self-adjusts itself, according to room temperature MANUAL ventilation: speed is decreased or increased by the user The pressure of one of the two arrow keys deactivates the automatic ventilation. The bar corresponding to the active speed flashes when ventilation is in manual mode To restore the AUTOMATIC ventilation, perform the following: - increase speed to the maximum - another pressing will make the 8 bars flashing - if no other action is performed, the unit returns to automatic ventilation If the function is managed remotely via ModBus, no modification can be performed (the word “REMOTE” starts flashing)	
SILENT Pressing briefly the ON/OFF key and the silence mode is activated. Press the ON-OFF key again to deactivate it. When silent mode is activated, the thermostat display shows the letters “**SIL**”. When the Set-changing keys are pressed, the first pressing displays the actual set instead of **SIL**. After 10 sec. time-out, SIL is visualized if no keys that modify the set-point are pressed. If the function is managed remotely via ModBus, no modification can be performed (the word “REMOTE” starts flashing).	

ALARMS

Before resetting an alarm, identify and remove its cause.
Repente resets can cause irreversible damage.
In case of doubt contact an authorized service centre.
The table shows all the variables that can be managed by the electronic system.
According to the machine configuration and its accessories, a few alarms can be meaningless.

	Description	RESET
RES	Active heater alarm	auto
FES	Active filter alarm	SWING key
BT1	Air probe fault alarm	auto
BT2	Water probe fault alarm	auto
H2O	Unsuitable water temperature alarm	auto
EHH	No communication / wrong thermostat connection	auto
SYS	Fault inside the control module	auto
Mot	fan motor sensor in alarm	auto

6.7 HID-Ti2 THERMOSTAT - OPTIONAL



☝	selection of operating mode
▲	increase selected field
▼	decrease selected field
OK	confirm set value / ON – OFF thermostat

	Ventilation status		Unit in COOLING mode	ECO	ECO set point enabled
	Active humidification		Unit in HEATING mode	AUTO	Unit automatically selects whether to heat or cool
	Compressor active	**REMOTE**	Management from ELFO CONTROL		

OPERATING MODES

"Normal" operation, HID-TI connected to CLIVET-BUS:

- the HID thermostat shows the operating status of the unit to which it is connected
- periodically measure the temperature/humidity in the room where it is installed
- it is possible to use only the 4 front keys (user programming).

"Nolink" operation, HID-TI not connected to CLIVET-BUS:

- the thermostat is powered by auxiliary power (a battery must be present)
- it is possible to access hidden keys for installer use
- it is a temporary mode that allows "advanced programming" of the unit.

Power on/off

To power on/off the adjustment unit, press and hold the OK key.

Off status is indicated on the display by the message OFF

Selection of mode of operation

If you press for about 3 seconds on the key ☝, the display will show the symbols that define current operating mode.

If you press key ☝ you can select the desired operating mode in the following cyclical sequence
heating → economic heating → cooling → economic cooling → ventilation → heating

When you press the key [**OK**], you confirm the displayed mode. The symbols will flash during setting of the mode, and then normal operation resumes.

During programming of the operating mode, if no key is pressed for about 10 seconds, you will go back to normal operation, without modifying the operating mode.

Modification of adjustment set point

In normal operation, for operating modes that include it, you can modify the adjustment set point using the keys [▲] and [▼] respectively to increase/decrease in steps of 0.1°.

Display of ambient temperature

You can display the ambient temperature as measured by the probe on the thermostat or the one on the unit. From normal operating status:

press briefly on key ☝: the display will show the message Fan and the bar of the fans

press key ☝ again: the display will show only the message **tA**.
press the key [**OK**] to confirm the selection. The message **tA** will flash on the display, followed by a return to normal operation in which the message **tA** will alternate with the ambient temperature for a few seconds.

You can also go back to normal operation by pressing, instead of the key **OK**, the key ☝.Or you can wait about 10 seconds without pressing any key.

Management of fan speed

Ventilation mode

in VENTILATION MODE, no adjustments are made to the temperature

you can change fan speed using keys ▲ and ▼.

Modes: heating, economical heating, cooling, and economical cooling

- press briefly on key G: the display will show the message “Fan” and the bar of the fans
- use the keysp ▲and ▼ select the desired speed
- go back to normal operation by pressing the key **OK**

During fan speed modification, if no key is pressed for about 10 seconds, normal operation will resume, preserving any modifications that have been made**.**

When setting fan speed, you will go from AUTOMATIC (where the speed of the fans is controlled automatically based on ambient temperature) to MANUAL operation where the user sets the speed.

To go back to automatic fan operation, repeatedly press ▲ until the entire bar is flashing.

Manual status of the fans is indicated by a flashing bar

The setting of fan speeds is not cyclical

Silenced mode

To activate/de-activate silenced mode, briefly press the key **OK**

Silenced mode is indicated on the display by the message **SIL**

Keypad lock

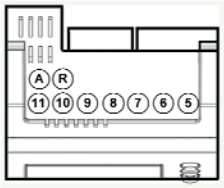
Used to disable functions related to the pressing of user keys.

Take the thermostat out of its housing, and press the key **[11].**

- The display will show the message **bLC**
- put thermostat back in place
- The message **bLC** will flash until the procedure is complete (a few seconds).

From this moment on, pressing any key will not have any effect, and will instead cause the display to momentarily show the message **bLC.**

To go back to a normal situation, release the keypad lock and repeat the operation.



For operation with HID-Ti2 Configure the parameter 96 = 1

NIGHT FUNCTIONING MODE not available with HID-Ti2

ALARMS

Before resetting an alarm, identify and remove its cause.
Repente resets can cause irreversible damage. In case of doubt contact an authorized service centre.
The table shows all the variables that can be managed by the electronic system.
According to the machine configuration and its accessories, a few alarms can be meaningless.

	Description	RESET
RES	Active heater alarm	auto
FES	Active filter alarm	▲+ ▼ keys
BT1	Air probe fault alarm	auto
BT2	Water probe fault alarm	auto
H2O	Unsuitable water temperature alarm	auto
EHH	No communication / wrong thermostat connection	auto
SYS	Fault inside the control module	auto
Mot	fan motor sensor in alarm	auto

7.1 GENERAL

Routine maintenance is indispensable to keep the cooler-convector in perfect working condition, safe and reliable over the years.

This can be done every six months for some interventions and annually for others, by the Technical Service Assistance, technically authorised and prepared, using always original spare parts.

7.2 INSPECTIONS FREQUENCY

The inspections should be carried out at least:

- Every year for only the cooling units
- Every six months for the cooling and warming units

The frequency, however, depends on the use .

⚠ In the event of frequent use it is recommended to plan inspections at close intervals :

- frequent use (continuous or very intermittent use, near the operating limits, etc)
- critical use (service necessary) .

7.3 CLEANING THE OUTSIDE

⚠ Before every cleaning and maintenance intervention, disconnect the appliance from the mains by switching off the master switch.

Wait until the parts have cooled down to avoid the risk of burns.

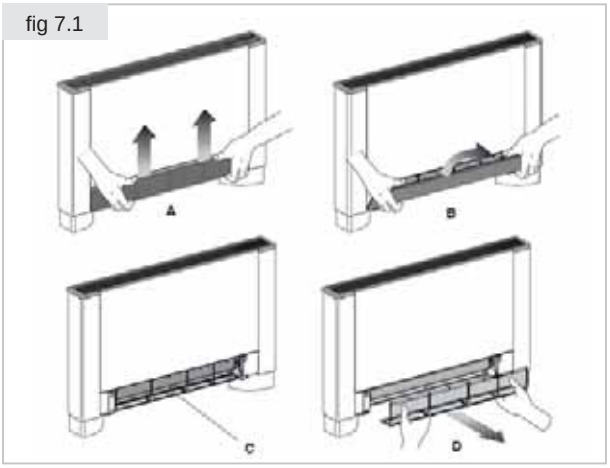
When necessary, clean the outer surfaces of the cooler-convector with a soft cloth damp cloth.

⛔ Do not use abrasive sponges or abrasive or corrosive detergents to avoid damaging the painted surfaces.

7.4 Extraction of filter cells in the versions with aspiration

- extract the front grill by lifting it slightly (ref.A) and turn it until it comes right out of its seat (fig. 7.1 rif. B) ;
- extract the filter (ref. C), pulling it horizontally outwards (fig. 7.1 rif. D).

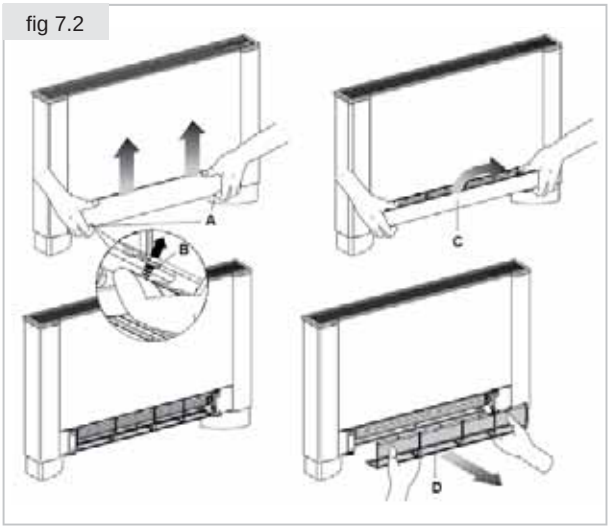
fig 7.1



7.5 Extraction of filter cells in the versions with mobile aspiration panel

- Insert your hands under the end of mobile panel
- Press the plastic lug B
- Lift and extract the mobile panel C
- Extract the filter D

fig 7.2



7.6 Cleaning filtering seats

- Suck up the powder with a vacuum cleaner (ig. 7.3 rif. A)
- Wash the filter (fig. 7.3 ref. B) with running water without using detergents or solvents, and leave to dry.
- Remount the filter on the cooler-convector (fig. 7.4 ref. A), taking care to insert the lower flap (fig. 7.4 ref. B) into its seat (fig. 7.4 ref. C)

⛔ • It is forbidden to use the unit without the net filters.

⚠ • The appliance is fitted with a safety switch that prevents the operation of the cooler with the mobile panel missing or out of position.

- After finishing the cleaning of the filter, check that the panel is mounted correctly.

fig 7.3

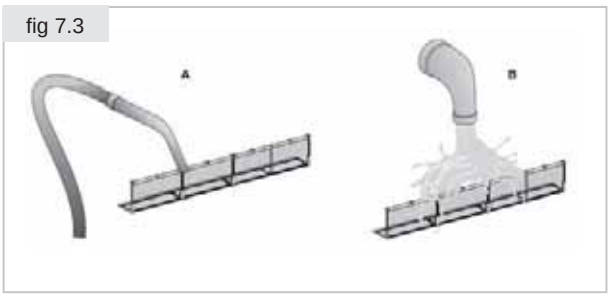
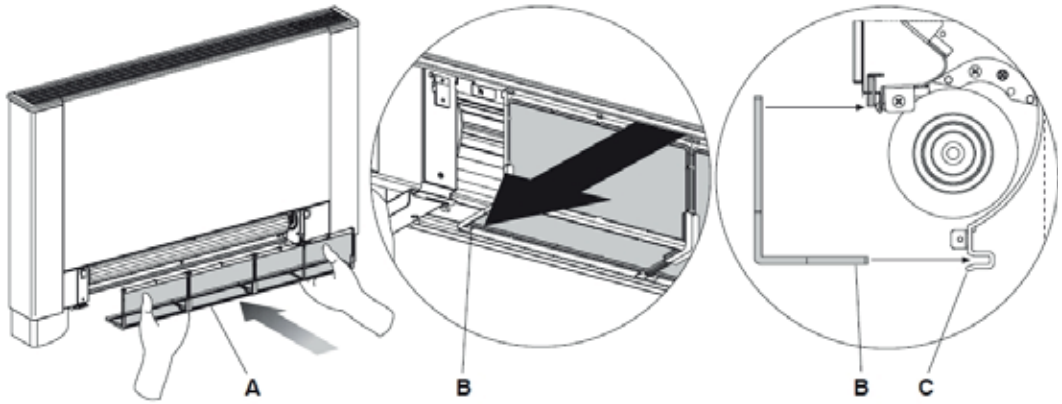


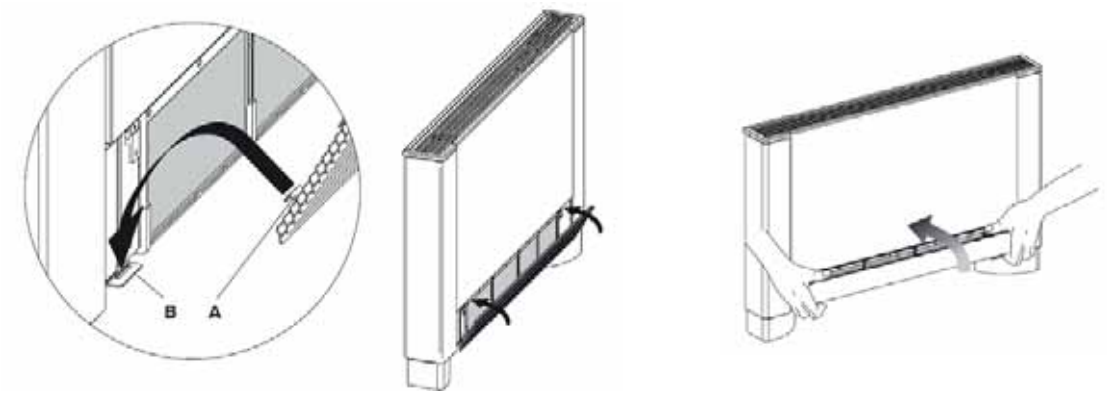
fig 7.4



7.7 Ending clearing operations

- For the versions with a grill with flaps, insert the two lugs (fig. 7.5 ref. A) into the special slots (fig. 7.5 ref. B), turn it and hook it up with a slight tap on the upper part.
- For the versions with a mobile panel, rest it in its position, parallel to the front panel and press until it is blocked

fig 7.5



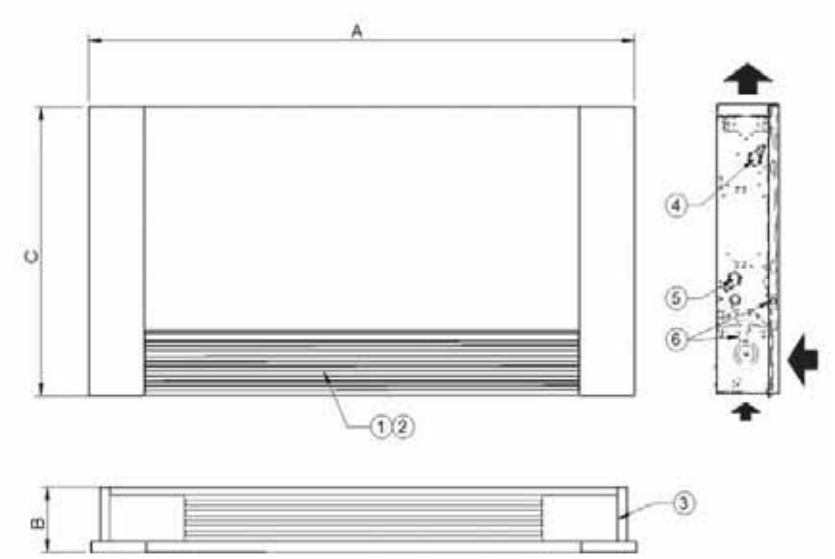
7.8 TABLE OF ANOMALIES AND REMEDIES

⚠ The interventions must be carried out by a qualified installer or by a specialised service centre.

Effect	Cause	Remedy
The coil does not reach a uniform temperature.	Air present in the inner circuit of the appliance.	Release the air several times
A delayed activation of the ventilation respect to the new temperature or function settings.	The circuit valve needs some time to open and as a result the hot or cold water takes time to circulate in the appliance.	Wait for 2 or 3 minutes to open the circuit valve.
The ventilation speed increases or decreases automatically.	The electronic control adjusts the comfort level regularly.	Wait for the temperature adjustment or in case of necessity select the silent function.
The appliance does not activate the ventilation.	No hot or cold water in the system.	Check that the water boiler or cooler are functioning correctly.
The ventilation does not activate even if there is hot or cold water in the hydraulic circuit.	The hydraulic valve remains closed.	Dismount the valve body and check if the water circulation is restored. Check the working efficiency of the valve by powering it separately with 230V. If it activates the problem could be the electronic control.
	the fan motor is blocked or burnt out.	Check the windings of the motor and the free rotation of the fan.
	the micro-switch that stops the ventilation when the filter grill is opened does not close correctly.	Check that by closing the grill the microswitch contact is activated.
	the electrical connections are not correct.	Check the electrical connections.
The appliance leaks water during the heating function.	Leaks in the hydraulic connections of the system.	Check the leak and fully tighten the connections.
	Leaks in the valve unit.	Check the state of the gaskets.
There are formations of dew on the front panel.	The thermostatic valve built into the connection unit between plate and battery does not close the flow towards the wall.	Replace the union that joins the thermostatic valve to the water inlet upper unit.
	Thermal insulation unstuck.	Check the correct positioning of the thermo-acoustic insulation paying attention to that in the front above the finned battery.
There are drops of water on the air outlet grill.	In situations of high humidity (>60%) condensation could form, especially at the minimum ventilation speeds.	As soon as the humidity starts falling the phenomenon disappears. In any case the presence of a few drops of water in the appliance does not indicate a malfunction.
The appliance leaks water only during the cooling function.	The condensation bowl is blocked. The condensation discharge does not need an inclination for correct drainage.	Slowly pour a bottle of water in the low part of the battery to check the drainage; if necessary, clean the bowl and/or increase the inclination of the drainage pipe.
	The connection pipes and the valve unit are not insulated well.	Check the insulation of the pipes.
The appliance makes a strange noise.	The fan touches the structure.	Check for any interference by manually rotating the fan.
	The fan is unbalanced.	The unbalancing causes excessive vibrations of the machine; replace the fan.
	Dirty filters.	Clean the filters

8.1 DIMENSIONS

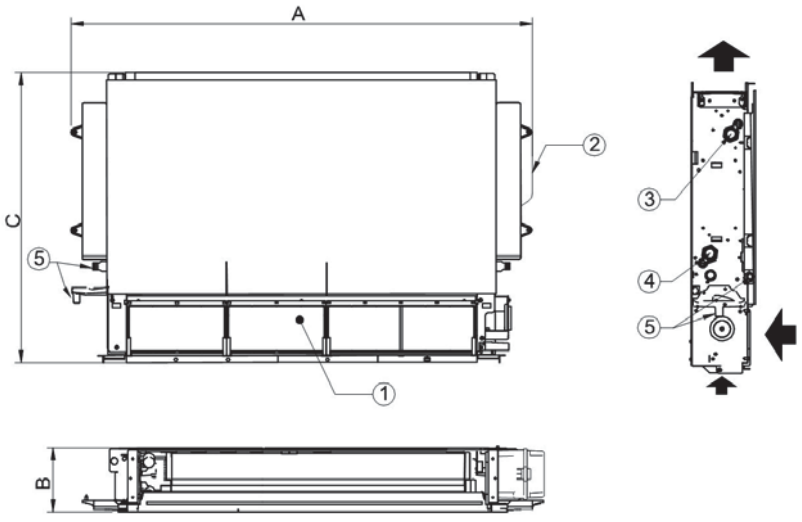
Uncased version - 2 pipes



1. Intake grille removable
2. Air intake removable filter
3. Electrical panel
4. Water inlet, Eurokonus 3/4” F
5. Water outlet, Eurokonus 3/4” F
6. Condensate drain (Ø 14 mm)

SIZE			003.0	005.0	011.0	015.0	017.0
A		mm	737	937	1137	1337	1537
B		mm	130	130	130	130	130
C		mm	579	579	579	579	579
Net weight		kg	17	20	23	26	29
Shipping weight		kg	18	21	24	27	30

Cased version - 2 pipes

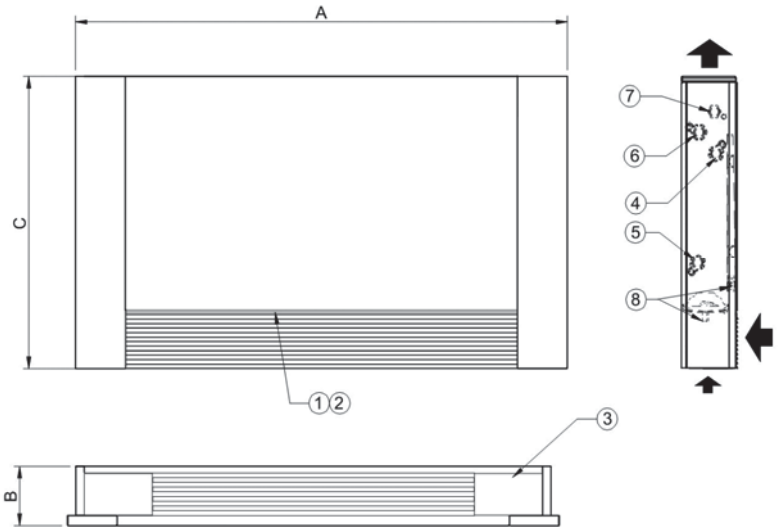


1. Air intake removable filter
2. Electrical panel
3. Water inlet, Eurokonus 3/4” F
4. Water outlet, Eurokonus 3/4” F
5. Condensate drain (Ø 14 mm)

SIZE			003.0	005.0	011.0	015.0	017.0
A		mm	527	727	927	1227	1327
B		mm	130	130	130	130	130
C		mm	586	586	586	586	586
Net weight		kg	9	12	15	18	21
Shipping weight		kg	10	13	16	19	22

DIMENSIONS

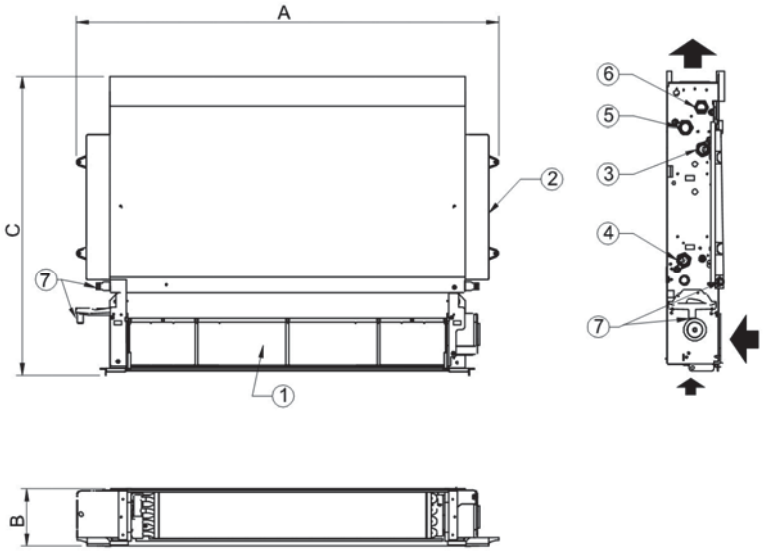
Uncased version - 4 pipes



1. Intake grille removable
2. Air intake removable filter
3. Electrical panel
4. Water inlet, Eurokonus 3/4” F
5. Water outlet, Eurokonus 3/4” F
6. Additional coil water inlet 3/4” F (4 pipe-installation)
7. Additional coil water outlet 3/4” F (4 pipe-installation)
8. Condensate drain (Ø 14 mm)

SIZE			003.0	005.0	011.0	015.0	017.0
A		mm	737	937	1137	1337	1537
B		mm	130	130	130	130	130
C		mm	639	639	639	639	639
Net weight		kg	18	21	25	28	32
Shipping weight		kg	19	22	26	29	33

Cased version - 4 pipes



1.Air intake removable filter
2.Electrical panel
3.Water inlet, Eurokonus 3/4” F
4.Water outlet, Eurokonus 3/4” F
5.Additional coil water inlet 3/4” F (4 pipe-installation)
6.Additional coil water outlet 3/4” F (4 pipe-installation)
7.Condensate drain (Ø 14 mm)

SIZE			003.0	005.0	011.0	015.0	017.0
A		mm	527	727	927	1227	1327
B		mm	130	130	130	130	130
C		mm	650	650	650	650	650
Net weight		kg	10	13	17	20	24
Shipping weight			11	14	18	21	25

GENERAL TECHNICAL SPECIFICATIONS

Size			003.0	005.0	011.0	015.0	017.0
COOLING							
Cooling capacity	1	kW	0,89	1,91	2,83	3,69	4,19
Sensible capacity	1	kW	0,65	1,29	1,94	2,5	2,78
Total power input	1	kW	0,012	0,02	0,022	0,03	0,033
HEATING							
Heating capacity	2	kW	0,93	1,97	2,71	3,45	4,11
INTERNAL EXCHANGER							
Water content		l	0,47	0,8	1,13	1,46	1,8
Water flow-rate	1	l/s	0,04	0,084	0,126	0,16	0,182
Pressure drop	1	kPa	7,2	8,4	22,5	18,6	24,9
AIR HANDLING SECTION FANS (OUTLET)							
Type of supply fan	3		TGZ	TGZ	TGZ	TGZ	TGZ
Supply air flow rate	4	l/s	45	89	128	160	180
CONNECTIONS							
Water fittings			Eurokonus 3/4	Eurokonus 3/4	Eurokonus 3/4	Eurokonus 3/4	Eurokonus 3/4
Condensate discharge			14	14	14	14	14
POWER SUPPLY							
Standard power supply		V	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50

(1) Ambient temperature 27°C/19.5 WB; water inlet 7°C and outlet 12°C
(2) Ambient temperature 20°C DB water inlet 45°C and outlet 40°C
(3) TGZ=tangential
(4) Air flow at max speed measured with clean filters
(5) power supply 230/1/50 Hz +/-10%

ELECTRICAL DATA

Voltage: 230/1/50

Size			003.0	005.0	011.0	015.0	017.0
F.L.A. - FULL LOAD CURRENT AT MAX ADMISSIBLE CONDITIONS							
F.L.A. - Total		A	0,11	0,16	0,18	0,26	0,28
F.L.I. FULL LOAD POWER INPUT AT MAX ADMISSIBLE CONDITION							
F.L.I. - Total		kW	0,012	0,02	0,022	0,03	0,033

power supply 230/1/50 Hz. Voltage variation: max. -/+10%

OPERATING LIMITS

OPERATING LIMITS (HEATING)

Size			003.0	005.0	011.0	015.0	017.0
INTERNAL EXCHANGER							
Max inlet water temperature		°C	80	80	80	80	80
Min. water inlet temperature		°C	30	30	30	30	30
Min. air temperature inlet (D.B.)		°C	5	5	5	5	5
Maximum water side pressure		bar	10	10	10	10	10

OPERATING LIMITS (COOLING)

Size			003.0	005.0	011.0	015.0	017.0
INTERNAL EXCHANGER							
Max inlet water temperature		°C	20	20	20	20	20
Min. water inlet temperature		°C	4	4	4	4	4
Max. air temperature inlet (D.B.)		°C	32	32	32	32	32
Min. air temperature inlet (D.B.)		°C	5	5	5	5	5
Maximum water side pressure		bar	10	10	10	10	10

SOUND LEVELS

FAN SPEED: High speed (H)

Size	Sound Power Level (dB)								Sound pressure level	Sound power level
	Octave band (Hz)									
	63	125	250	500	1000	2000	4000	8000	dB(A)	dB(A)
003.0	51	51	47	49	48	43	37	27	39	52
005.0	45	45	48	50	51	45	38	28	40	53
011.0	51	51	48	49	50	45	38	28	39	53
015.0	47	47	49	48	51	44	37	28	39	53
017.0	52	52	50	49	52	45	39	29	43	54

FAN SPEED: Medium speed (M)

Size	Sound Power Level (dB)								Sound pressure level	Sound power level
	Octave band (Hz)									
	63	125	250	500	1000	2000	4000	8000	dB(A)	dB(A)
003.0	50	50	45	43	41	35	28	24	32	45
005.0	45	45	45	45	42	36	29	24	32	46
011.0	49	49	44	46	43	37	30	24	33	47
015.0	38	38	43	43	40	34	27	25	30	44
017.0	47	47	46	46	44	38	31	25	37	48

FAN SPEED: Low speed (L)

Size	Sound Power Level (dB)								Sound pressure level	Sound power level
	Octave band (Hz)									
	63	125	250	500	1000	2000	4000	8000	dB(A)	dB(A)
003.0	49	49	34	33	27	22	22	23	23	36
005.0	45	45	39	39	22	27	23	23	26	40
011.0	46	46	39	41	35	28	23	23	27	41
015.0	35	35	38	35	34	22	19	22	23	37
017.0	45	45	39	38	33	25	20	23	27	39

The values were detected in a closed environment with a volume of 100 m^3 with a reverberation time of 0.5 seconds.

The sound levels are referred to unit operating at a full load in nominal conditions. The sound pressure level is referred at a distance of 1m. from the external unit surface, with fairing, fitted to a wall. Please note that when the unit is installed in conditions other than nominal test conditions /for example near walls or obstacles in general) the sound levels may undergo substantial variation.

General

In this section the most common situations are signalled. As these cannot be controlled by the manufacturer these could be a source of risk situations for people or things.

Danger zone

This is an area in which only an authorised operator may work.

The danger zone is the area inside the unit which is accessible only with the deliberate removal of protections or parts thereof.

Handling

The handling operations, if implemented without all of the protection necesssary and without due caution, may cause the fall or the tipping of the unit with the consequent damage, even serious, to persons, things or the unit itself.

Handle the unit following the instructions provided in the present manual regarding the packaging and in compliance with the local regulations in force.

Installation

An incorrect installation of the unit could cause water leaks, condensate accumulation, electric shock, bad functioning or damage to the unit itself.

Check that the installation has been implemented by qualified technical personnel only and that the instructions contained in the present manual and the local regulations in force have been adhered to.

The installation of the unit in a place where even infrequent leaks of inflammable gas and the accumulation of this gas in the area surrounding the area occur could cause explosions or fires.

Carefully check the positioning of the unit.

The installation of the unit in a place unsuited to support its weight and/or guarantee adequate anchorage may cause the fall or the tipping of the unit with the consequent damage to things, people or the unit itself.

Carefully check the positioning and the anchoring of the unit.

Easy access to the unit by children, unauthorised persons or animals may be the source of accidents, some serious.

Install the unit in areas which are only accessible to authorised person and/or provide protection against intrusion into the danger zone .

General risks

Smell of burning, smoke or other signals of serious anomalies may indicate a situation which could cause damage to people, things or the unit itself.

Electrically isolate the unit (yellow-red isolator).

Contact the authorised service centre to identify and resolve the problem at the source of the anomaly.

Accidental contact with exchange batteries, compressors, air delivery tubes or other components may cause injuries and/or burns.

Always wear suitable clothing including protective gloves to work inside the danger zone.

Maintenance and repair operations carried out by non-qualified personnel may cause damge to persons, things or the unit itself.

Always contact the qualified assistance centre.

Failing to close the unit panels or failure to check the correct tightening of all of the panelling fixing screws may cause damage to persons, things or the unit itself.

Periodically check that all of the panels are correctly closed and fixed.

If there is a fire the temperature of the refrigerant could reach values that increase the pressure to beyond the safety valve with the consequent possible projection of the refrigerant itself or explosion of the circuit parts that remain isolated by the closure of the tap.

Do not remain in the vicinity of the safety valve and never leave the refrigerating system taps closed.

Electric parts

An incomplete attachment line to the electric network or with incorrectly sized cables and/or unsuitable protective devices can cause electric shocks, intoxication, damage to the unit or fires.

Carry out all of the work on the electric system referring to the electric layout and the present manual ensuring the use of a system thereto dedicated.

An incorrect fixing of the electric components cover may favour the entry of dust, water etc inside and may consequently can electric shocks, damage to the unit or fires.

Always fix the unit cover properly.

When the metallic mass of the unit is under voltage and is not correctly connected to the earthing system it may be as source of electric shock and electrocution.

Always pay particular attention to the implementation of the earthing system connections.

Contact with parts under voltage accessible inside the unit after the removal of the guards can cause electric shocks, burns and electrocution.

Open and padlock the general isolator prior to removing the guards and signal work in progress with the appropriate shield.

Contact with parts that could be under voltage due to the start up of the unit may cause electric shocks, burns and electrocution.

When voltage is necessary for the circuit open the isolator on the attachment line of the unit itself, padlock it and display the appropriate warning shield.

Moving parts

Contact with the transmissions or with the fan aspiration can cause injuries.

Prior to entering the inside of the unit open the isolater situated on the connection line of the unit itself, padlock and display the suitable sign.

Contact with the fans can cause incurie.

Prior to removing the protective grill or the fans, open the isolator on the attachment line of the unit itself, padlock it and display the appropriate warning sign.

Hydraulic parts

Defects in tubing, the attachments or the cut-off parts may cause a leak or water projection with the consequent damages to peopl, things or shortcircuit the unit.

10.1 DISCONNECTING

Only authorised personnel must disconnect the unit.

Avoid leak or spills into the environment .

Before disconnecting the unit, the following must be recovered, if present:

- refrigerant gas
- Anti-freeze solutions in the hydraulic circuit
- Awaiting dismantling and disposal, the unit can also be stored outdoors, as bad weather and rapid changes in temperature will not cause damage to the environment, if electric, cooling and hydraulic circuits of the unit are integral and closed.

10.2 DISMANTLING AND DISPOAL

THE UNIT MUST ALWAYS BE SENT TO AUTHORISED CENTRES FOR DISMANTLING AND DISPOSAL.

When dismantling the unit, the fan, the motor and the coil, if operating, may be recovered by the specialist centres for reuse.

All the materials must be recovered or disposed of in compliance with the corresponding national standards in force.

For further information on the decommissioning of the unit, contact the manufacturer.

10.3 EC WEEE DIRECTIVE

The units covered by the legislation in question are marked with the symbol on the side.

With the aim of protecting the environment, all of our units are produced in compliance with Directive EC on waste electrical and electronic equipment (WEEE).

The potential effects on the environment and on human health due to the presence of hazardous substances are shown in the use and maintenance manual in the section on residual risks.

Information in addition to that indicated below, if required, can be obtained from the manufacturer/distributor/importer, who are responsible for the collection/handling of waste originating from equipment covered by EC - WEEE. This information is also available from the retailer who sold this appliance or from the local authorities who handle waste.

Directive EC - WEEE requires disposal and recycling of electrical and electronic equipment as described therein to be handled through appropriate collection, in suitable centres, separate from collection for the disposal of mixed urban waste.

The user must not dispose of the unit at the end of its life cycle as urban waste. It must instead be handed over to appropriate collection centres as set forth by current standards or as instructed by the distributor.

If disposal takes places at the same time as delivery of a new electrical or electronic equipment for the same family, the product may be collected directly by the distributor.