

ALFEA M

Monobloc 1 service air/water Heat pump

Hydronic unit

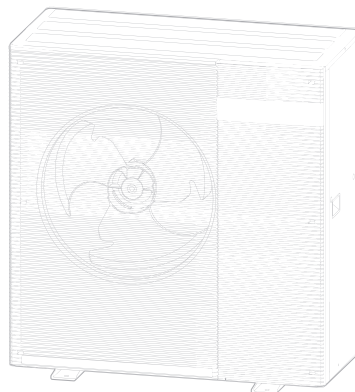
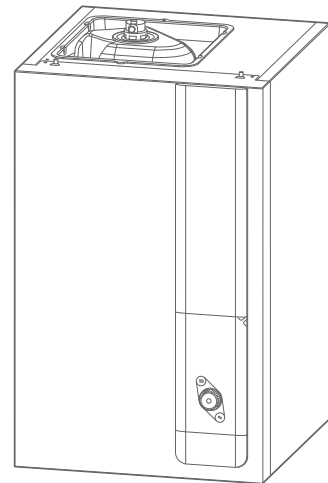
024289



024349



024352





■ Installation and maintenance rules

The appliance must be installed and maintained by an approved professional in accordance with current regulations and codes of practice.

■ Location

The Heat pump installation must conform to the legislation and regulations of the installation site of the Heat pump.

- **Warning, hydronic unit should not be installed in an air current.**

■ Hydronic connections

The connection must conform to industry standard practice according to current regulations.

Reminder: Seal everything when fitting in accordance with industry standard practice for plumbing work:

- Use suitable seals (fibre gasket, O-ring).
- Use Teflon or hemp tape.
- Use sealing paste (synthetic depending on the case).

For the outdoor hydronic circuit, use an insulation which is suitable for outdoor use and is UV/moisture-resistant (usage temperature -20 to +80 °C).

- **In some installations, the presence of different metals can cause corrosion problems; the formation of metal particles and sludge can appear in the hydronic circuit.**
- **In this case, it is advisable to use a corrosion inhibitor in the proportions indicated by the manufacturer.**
- **You must also ensure that treated water does not become corrosive.**

If a domestic hot water tank* is installed, on the cold water inlet, place a safety valve calibrated to between 7 and 10 bar max. (depending on local regulations) and connected to a drain pipe leading to the sewer. Operate the safety valve according to manufacturer's specifications. The pressure-limiting device should be operated regularly to remove scale deposits and check that it is not blocked. The domestic hot water tank must be fed with cold water passing through a safety valve. There must be no other valves between the safety valve and the tank.

The discharge pipe must be connected to the sewer. The discharge pipe must be kept open in the open air. The discharge pipe must be installed in an environment kept frost-free and in a continuous downward slope.

Emptying the hot water tank*

Close the cold water inlet into the tank.

Connect a pipe on the drain valve of the water tank drain valve for discharging water to the sewer. The discharge pipe must be kept open in the open air. Open a hot water tap and open the water tank drain valve.



■ Electrical connections

Before performing any maintenance, make sure that all power supplies have been isolated.

• Specifications of electricity supply

The electrical installation must be carried out in accordance with current regulations.

For installations without neutral, use a galvanically isolated transformer earthed on the secondary side.

Electrical connections will only be made once all other installation operations (fastening, assembly, etc.) have been completed.

Warning!

The contract signed with the energy provider must be sufficient not only to cover the Heat pump's power requirements but also the combined sum of all the appliances likely to be operating at the same time. If the power is too low, check the power rating stated in your contract with your energy provider.

Never use a power socket for the power supply.

The Heat pump must be supplied directly with power (without external switch) by special protected leads from the electric panel via dedicated bipolar circuit breakers, C curve for the outdoor unit, C curve for the electrical heating* and domestic water backups*.

The electrical installation must be fitted with a 30mA RCD.

This appliance is designed to operate using a rated voltage of 230V +/- 10%, 50 Hz.

• General remarks on electrical connections

It is essential to maintain neutral-phase polarity when making electrical connections.

Rigid wires are preferable for fixed installations, particularly in a building.

Tighten the cables using the cable glands to prevent the power cables from being accidentally disconnected.

The earth connection and its continuity must be ensured.

The earth wire must be longer than the other wires.

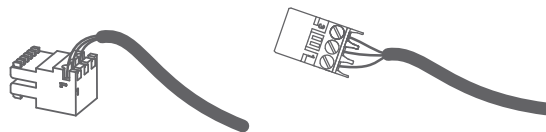
• Cable glands

To ensure the stability of power (Low Voltage) and sensor (Extra-Low Voltage) cables, it is essential that the cable glands are tightened according to the following recommendations:

Size of cable gland (mm)	Diameter of cable (mm)	Cable gland tightening torque (check-nut) (N.m)	Coupling nut tightening torque (N.m)
PG7	1 to 5	1.3	1
PG9	1.5 to 6	3.3	2.6
PG16	7 to 14	4.3	2.6
PG21	13 to 18	5	4

• Connecting to controller boards

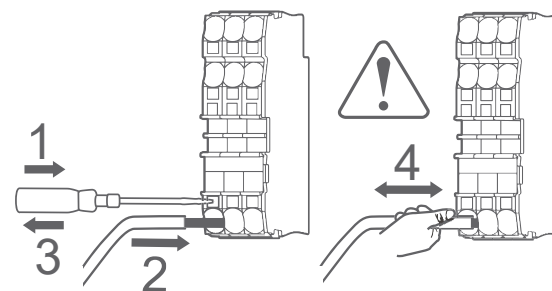
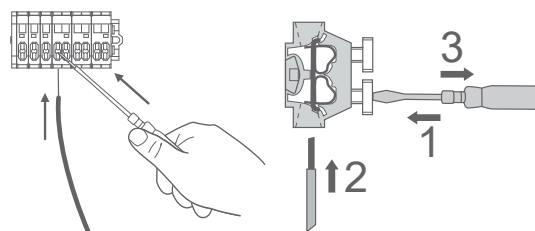
- Remove the corresponding connector and make the connection.



Pre-cabled bundle connector and/or screw connector

• Connecting to spring terminals

- Strip wire end around 12 mm.
- Push the spring with a screwdriver so that the wire enters the cage.
- Slide the wire into the opening provided for this purpose.
- Remove the screwdriver and then check that the wire stays gripped by the cage by pulling on it



(* depending on options / setting)



Read the document comprising the precautions for use (regulation installation and maintenance conditions) before installation and/or use.



This document was written in French and translated.

► Symbols and definitions



WARNING. Risk of serious injury to the person and / or risk of damage to the machine. Observe the warning.



Important information that must always be kept in mind.



Tips and tricks / Advice.



Bad practice.



Warning: Electricity hazard.



Read the installation manual.



Read the Operating Manual.



Read the instructions.

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Q Presentation of the equipment

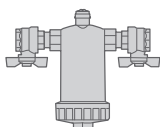
► Packing list

■ 1 package: Hydronic unit.

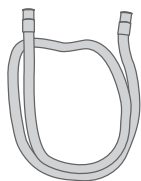
Package pairing table

Heat pump		Outdoor unit		Hydronic unit	
Model	Code	Reference	Code	Reference	Code
ALFEA M 6	527177	UE MONOBLOC R290 ATLANTIC 6	750796	ALFEA M	024289
ALFEA M 8	527178	UE MONOBLOC R290 ATLANTIC 8	750797		
ALFEA M 10	527179	UE MONOBLOC R290 ATLANTIC 10	750908		
ALFEA M 12	527180	UE MONOBLOC R290 ATLANTIC 12	750909		
ALFEA M 6TRI	527321	UE MONOBLOC R290 ATLANTIC 6TRI	750728	ALFEA M TRI6	024349
ALFEA M 8TRI	527322	UE MONOBLOC R290 ATLANTIC 8TRI	750729		
ALFEA M 10TRI	527323	UE MONOBLOC R290 ATLANTIC 10TRI	750930	ALFEA M TRI9	024352
ALFEA M 12TRI	527324	UE MONOBLOC R290 ATLANTIC 12TRI	750931		

Accessories



Sediment trap



Drain pipe

► Optional accessories

- **Room Thermostat**
Thermostat 105 (ref. 074511)
Thermostat 225 (ref. 074902)
Thermostat 228 (ref. 074903)
- **Outdoor sensor** (ref. 074203).
- **2 circuits kit** (ref. 520260 [74871 + 74872])
for connecting 2 heating circuits.
- **Extension regulation kit** (ref. 074872)
to control a 2nd heating circuit, off-peak
management, load shedding, smart grid, external
control...
- **6 kW backup relay kit** (ref. 075327) to increase the
Heat pump's electrical backup from 3 to 6 kW.
- **Boiler connection kit** (ref. 077056)
for connecting a boiler to the heat pump.
- **DHW kit** (ref. 74873) for connecting a mixed DHW
tank (with built-in electrical backups).
- **Cooling kit** (code 520271).

► Scope

This Heat pump provides:

- Heating in winter,
- Management of two heating circuits*,
- Production of domestic hot water*,
- Cooling in summer* (for floor / ceiling heating-cooling
system or fan-convectors).

*: Depending on options / requiring installation of additional kits
(see § "Optional equipment")

► Specification

Model name	1N~		3N ~	
	6-8	10 - 12	6TRI - 8TRI	10TRI - 12TRI
Electrical characteristics				
Electrical voltage (50 Hz)	V	230V 1N~		400V 3N~
Maximum current	A	-	-	=
Heating electrical backup power	kW	3	2 x 3	3 x 2
Circulation pump power consumption	W	37		
Hydronic circuit				
Connection diameter Inlet (Outdoor unit)	Inches	1"		
Connection diameter Flow (heating)	Inches	3/4"		
Connection diameter valve (Sediment trap)	Inches	1"		
Maximum operating pressure	MPa (bar)	0.3 (3)		
Miscellaneous				
Hydronic unit weight (empty/full of water)	kg	34 / 50		
Hydronic unit / DHW tank water capacity	l	16		
Expansion tank capacity	l	12		
Room temperature	°C	+5 / +30		
Radio characteristics				
Frequency band	MHz	2400 to 2483.5		
Maximum power protocol 802.15.4	dBm	< 20		
Maximum power protocol 802.11	dBm	< 20		
Maximum power protocol 802.15.1	dBm	< 10		
Heating system operating limits				
Max. water temperature for radiator heating	°C	80		
Initial min. water temperature	°C	7		

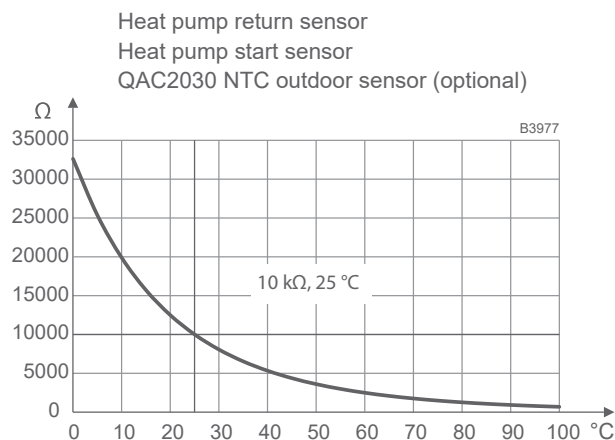


fig. 1 - Ohmic sensor values

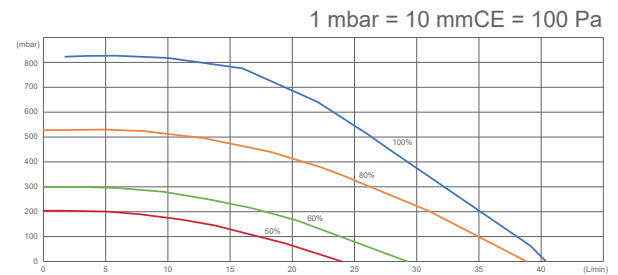


fig. 2 - Available hydronic pressures and flow rates

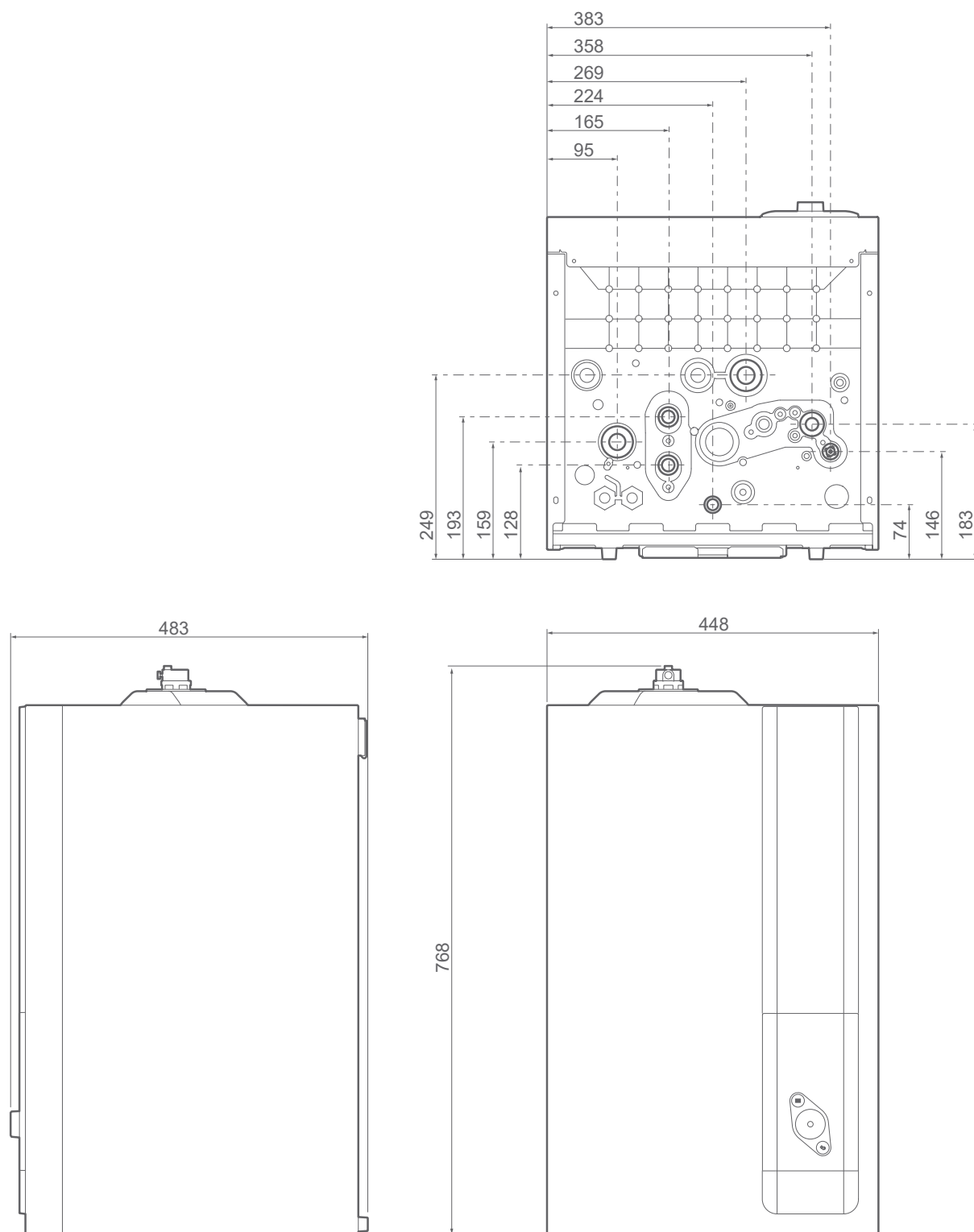
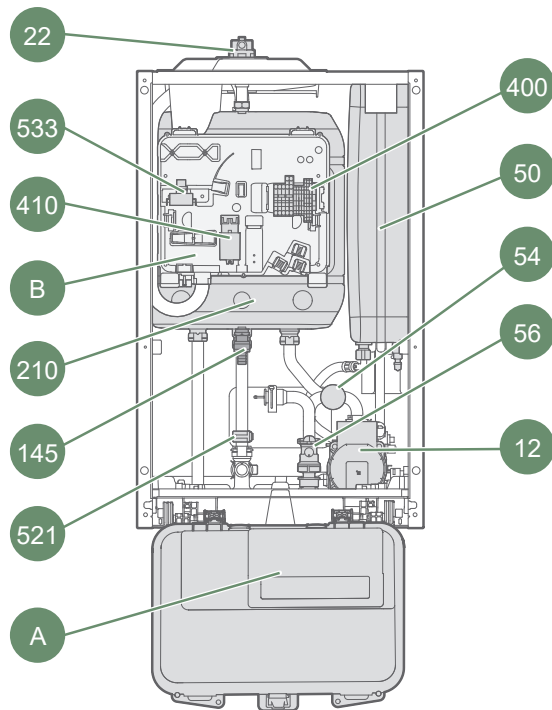


fig. 3 - Dimensions in mm



Electric case:

A - Principal

B - Electric heating backup

12 - Circulating pump

22 - Automatic bleeder valve

50 - Expansion vessel

54 - Manometer

56 - Non return valve

145 - Drain valve

210 - Buffer tank

400 - Power supply terminal blocks

410 - Relay

521 - Flow temp. sensor (heating circuit)

533 - Heat pump backup safety thermostat

fig. 4 - Hydronic unit components

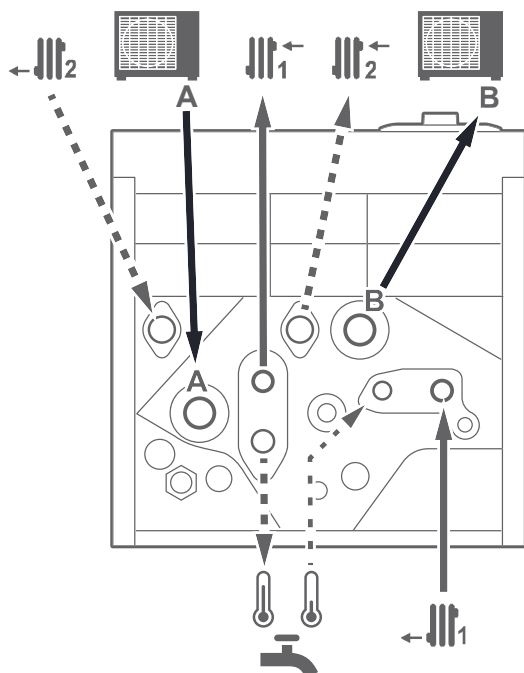


fig. 5 - Hydronic connections

► Operating principle

The hydronic unit has a regulator that allows:

- heating
- cooling*
- domestic hot water*

■ Heating and cooling operating principle

The flow temperature of the heating/cooling circuit is calculated :

- By temperature control via outdoor temperature measurement.
- By room correction (Smart adapt) via thermostat (optional).

Depending on the power required, the Heat pump modulates the compressor and regulates the power reserve to maintain the flow temperature.

The summer/winter changeover can be organized automatically by activating the automatic mode.

In this case, the Heat pump switches between heating, off and cooling modes depending on the outdoor temperature.

■ Fan-convector with integrated control

Do not use the room sensor in the zone concerned.

■ Protective functions

- Anti-legionella cycle for domestic hot water.
- Frost protection: The hydronic unit incorporates a system frost protection function (provided the power supply to the heating pump is not interrupted).

■ Domestic hot water (DHW) operating principles*

Two domestic hot water (DHW) temperatures can be set: Comfort and ECO.

The time program allows you to adapt DHW storage tank recharging to user needs.

The default DHW program is set to the Comfort temperature between 00:00 and 05:00 and between 14:30 and 17:00 and to the ECO temperature for the rest of the day. e

The production of domestic hot water (DHW) is started when the temperature in the tank drops to 7°C below the temperature setpoint.

The Heat pump produces the domestic hot water, which is then additionally heated, if required, by the tank's electrical backup or by the boiler.

DHW production takes priority over heating and cooling.

However, if DHW production takes too long, the Heat pump may decide to alternate between heating/cooling and DHW storage charging.

Anti-legionella cycles can be programmed once a week.

*: Depending on options / settings

Location

► Installing the hydronic unit

▼ Installation precautions



The choice of the position for installation is particularly important insofar as any later movement is a delicate operation requiring the intervention of a qualified person.

- Choose the site of the Heat pump and the hydronic unit after discussion with the customer.
- The room in which the appliance operates must comply with the prevailing regulations.



The area of the room where the appliance operates must higher than 3m².

- To facilitate maintenance and to allow access to the various components, we recommend that you provide sufficient space all around the hydronic unit.



The appliances are not fireproof and should therefore not be installed in a potentially explosive atmosphere.

▼ Positioning the hydraulic unit

- Fix the bracket **S** securely (4 screws and plugs) to a strong, flat wall ensuring that it is correctly levelled. If weak partition wall, install reinforcements (metal or wood), use a suitable fastening system.
- Hook the appliance onto its bracket **S**.



Eight of hydronic unit (full of water) = 50kg

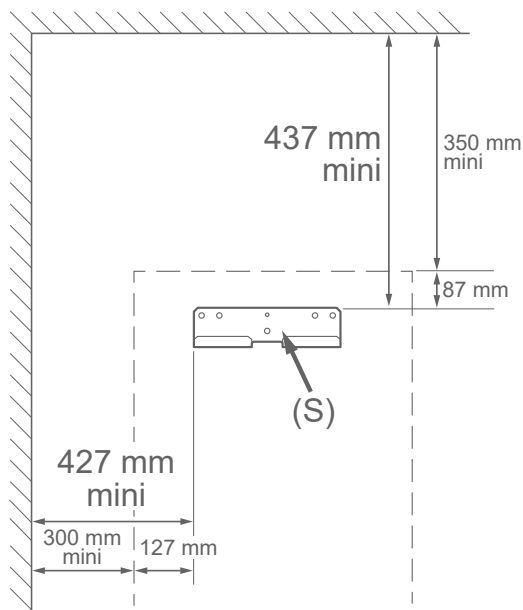


fig. 8 - Mounting bracket

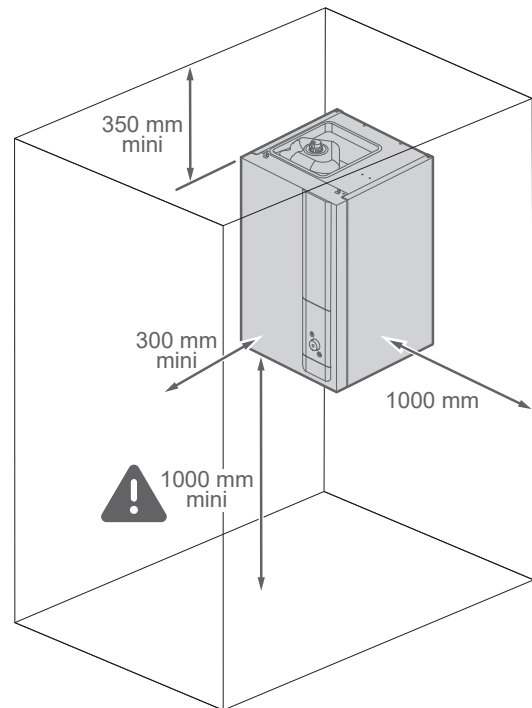


fig. 7 - Minimum installation clearances around the hydronic unit for maintenance

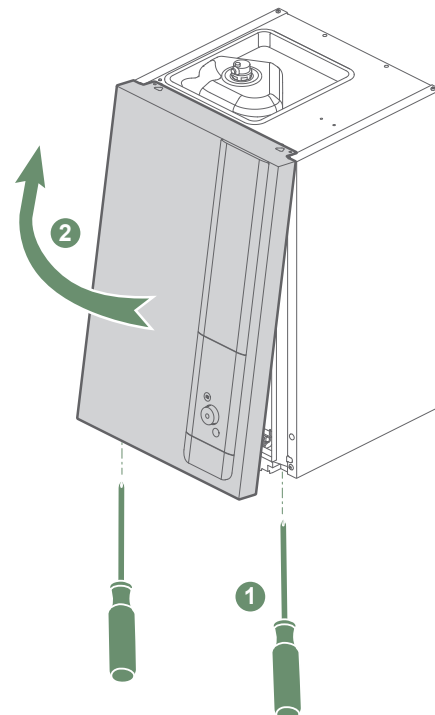


fig. 6 - Front cover opening

Hydronic connections



See "Appendices", page 51

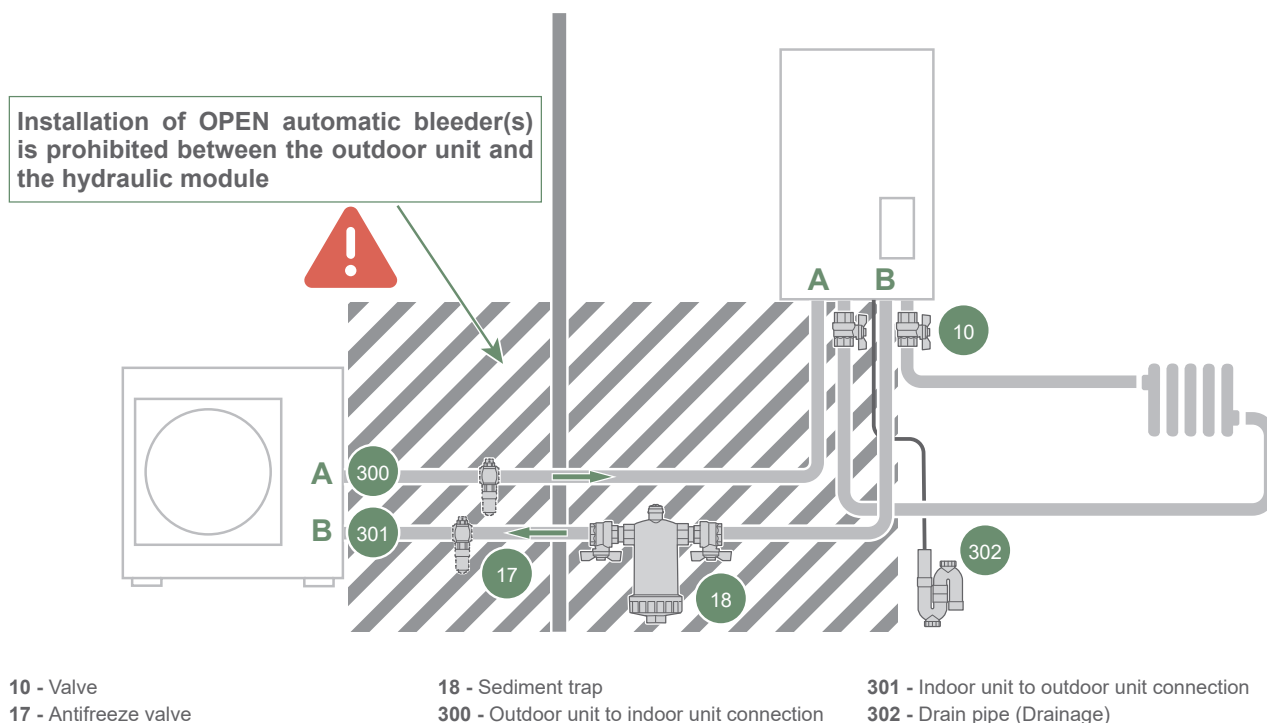


fig. 9 - Connections

Flushing the installation



Before connecting the hydronic unit to the installation, rinse the heating system correctly to eliminate the particles that could compromise the correct operation of the appliance.

Do not use solvents or aromatic hydrocarbons (petrol, paraffin, etc.).

In systems equipped with underfloor or ceiling heating/cooling, oxygen can lead to the formation of organic sludge. This sludge can adversely affect product performance and reliability.



To prevent sludge from forming in the system, use oxygen-tight piping (copper, PEX-OB, multi-layer, etc.).

Ø	Torque
1/2"	25 Nm
3/4"	35 Nm
1"	45 Nm
1"1/4	60 Nm

fig. 10 - Tightening torque

► Outdoor unit

See Outdoor unit installation manual.

Connect the pipe of the outdoor unit to the hydronic unit respecting the direction of flow.



Mandatory: Install a sediment trap (supplied) on the outdoor unit return circuit in the manner suggested.



Install antifreeze valves (mandatory / not supplied) on the hydronic circuit in the recommended direction.

If the antifreeze valves are triggered, check the electrical backup safety thermostat before restarting.

► Heating circuit hydronic connecting

The heating circulator is integrated into the hydronic unit.

Connect the pipe of the central heating to the hydronic unit respecting the direction of flow.

The pipe between the hydronic unit and the heat collector must be at least 3/4 inch in diameter (20x27 mm).

Calculate the diameter of the pipes according to the flow rates and the lengths of the hydronic systems.

Verify that the expansion system is correctly connected. Check the expansion vessel pressure (pre-inflated to 1 bar).

The installation of a regulator (other than those included in our configurations) which reduces or stops the flow through the hydronic unit is prohibited.

► Volume of the heating system

You must maintain the minimum installation water volume. If the required water volume is not available in the heating system a buffer tank must be installed on the return pipework of the heating circuit. For systems equipped with thermostatic valve(s), **water must be able to circulate continuously (at least one open loop per circuit).**

Model	Min. volume excluding Heat pump (in liters)	
	Fan-convector	Radiator
Model 6 (1N~/3N~)	25L/circuit	1 heating loop opening
Model 8 (1N~/3N~)	25L/circuit	1 heating loop opening
Model 10 (1N~/3N~)	25L/circuit	2 heating loops opening or 20L
Model 12 (1N~/3N~)	25L/circuit	2 heating loops opening or 20L

► Filling and bleeding the installation

Check the pipe fixings, tightness of the connectors and the stability of the hydronic unit.

Check the direction in which the water is circulating and that all the valves are open.

Proceed to fill the installation.

Do not operate the circulation pump during filling.

Open all the drain valves (in the installation) to expel the air contained in the pipes.

Close the drain, except hydronic unit bleeder valve, and bleed valves and add water until the pressure in the hydronic circuit reaches 1 bar.

Check that the hydronic circuit has been bled correctly.

Check there are no leaks.

After the “ *Commissioning*”, *page 23* stage, and once the machine has started, bleed the hydronic unit again.



Precise filling pressure is determined by the water pressure in the installation.

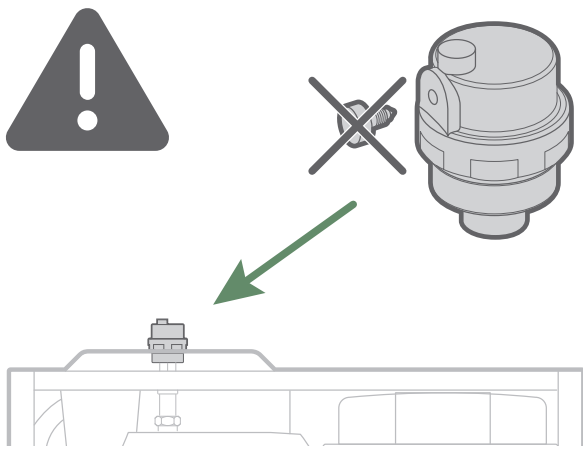


fig. 11 - Hydronic unit bleeder valve

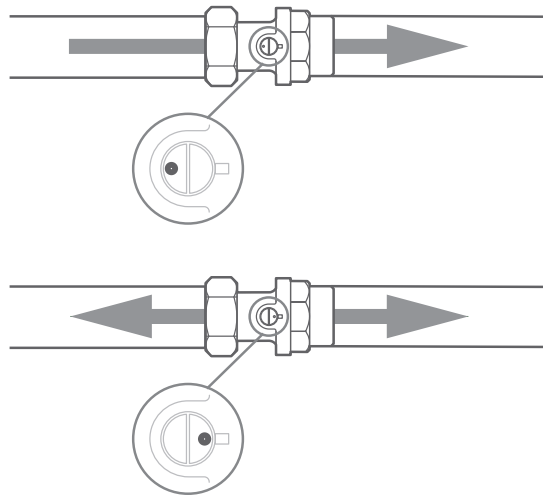


fig. 12 - Non return valve

Electrical connections



Before performing any maintenance, make sure that all power supplies have been isolated.

Electrical installation must be performed in accordance with current regulations.



The electrical diagram for the hydronic unit is shown on [page 43](#).

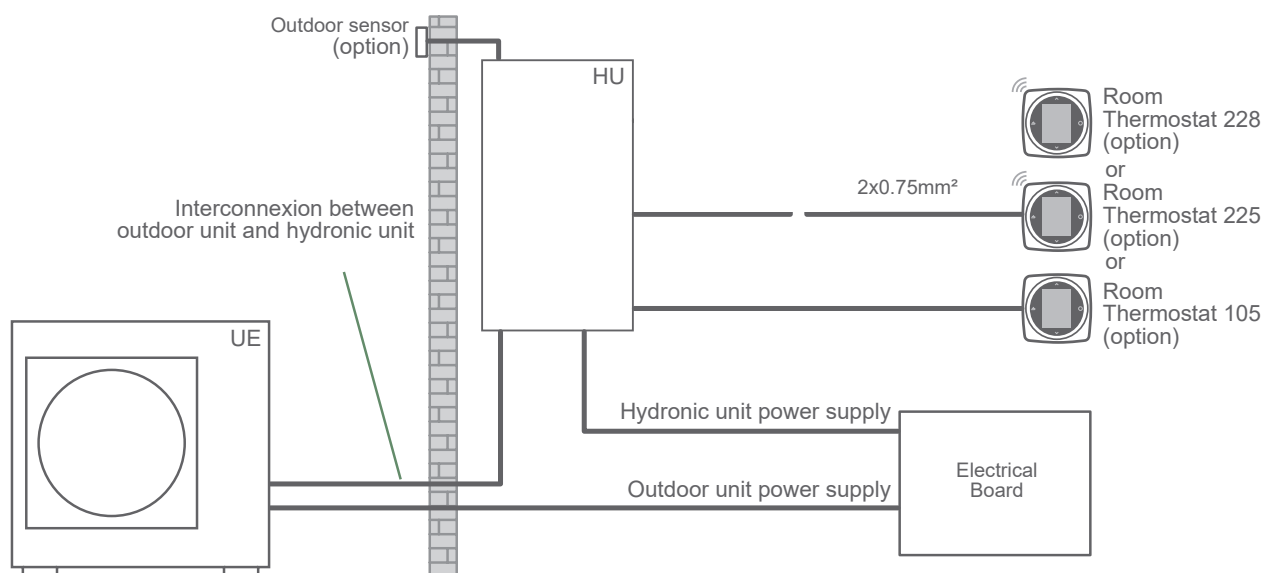


fig. 13 - Overall layout of electrical connections for a simple installation (1 heating circuit)

► Cable dimensions and protection rating

These cable dimensions are provided for information purposes only and do not exempt the installer from checking that these dimensions match requirements and comply with current standards.

		Electrical power Supply			
		Connecting cable	Circuit breaker rating / C curve	Power	Normal intensity
HP	Outdoor unit	see Outdoor unit installation manual			
	Interconnection	4G1.5mm ²	-	-	-
230V 1N~	Hydronic unit 6 - 8	3G1.5mm ²	16A	3kW	13A
	Hydronic unit 10 - 12	3G6mm ²	32A	2 x 3kW	26.1A
400V 3N~	Hydronic unit 6TRI - 8TRI	4G1.5mm ²	10A	3 x 2kW	3 x 8.7A
	Hydronic unit 10TRI - 12TRI	4G2.5mm ²	20A	3 x 3kW	3 x 13A

*: Depending on options / settings

► Hydronic unit

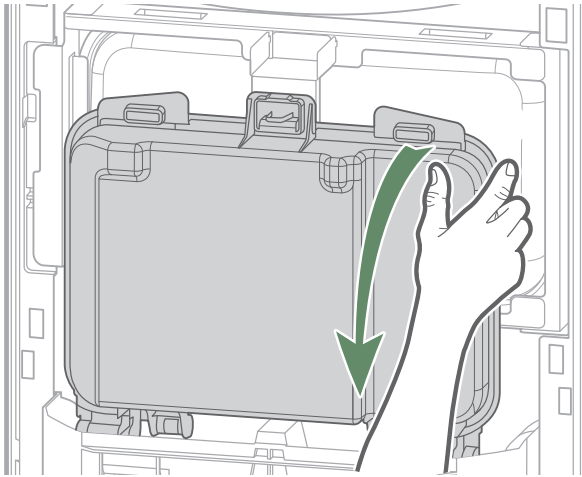
Access the connection terminals:

- Remove the front panel.
- Switch the “main” electrical box
- Open the power control box.
- Make the connections according to the [page 48](#) diagram.

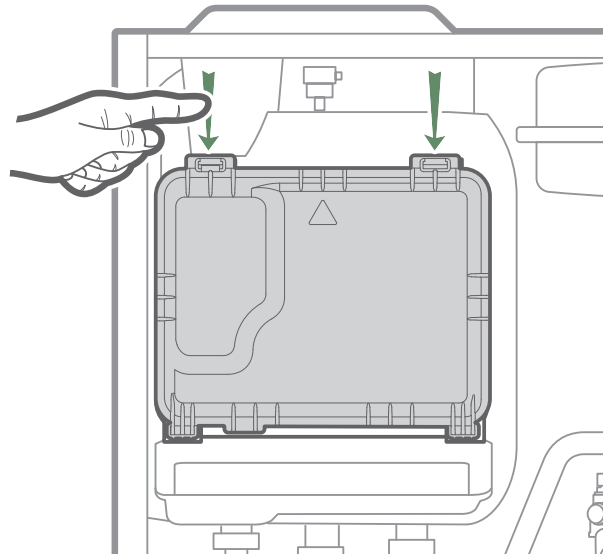
Do not place the sensor and power supply lines parallel to each other to avoid interference due to voltage spikes in the power supply.

Make sure that all electrical cables are housed in the areas provided for this purpose.

■ Switch the main box



■ Access to power terminals



■ Access to sensor connectors

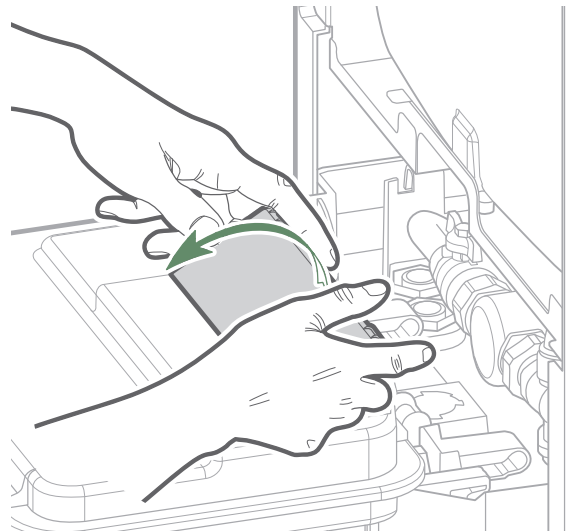


fig. 14 - Access to hydronic unit terminals

▼ Interconnection between outdoor unit and hydronic unit

- 1 Match up the terminal block markers on the hydronic unit to those of the outdoor unit exactly when connecting the interconnection cables.



An incorrect connection could result in the destruction of one or other of the units.

▼ Electric heating supply

- 2 Connect the backup heater's power supply. Protection by rated circuit breaker.

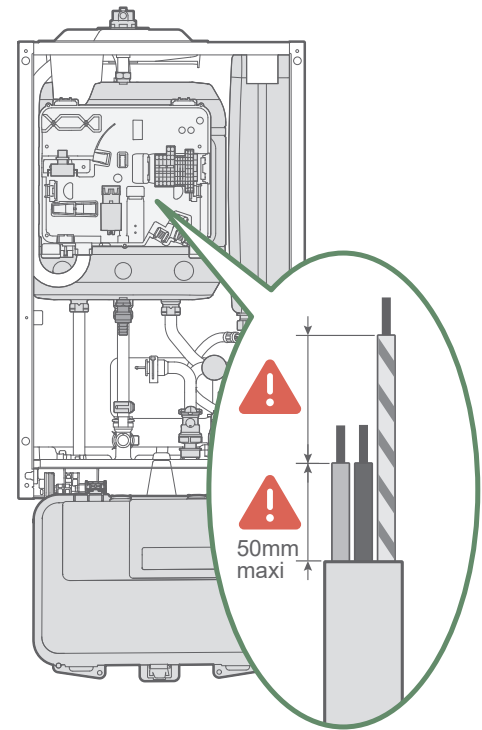


fig. 15 - Cables passage

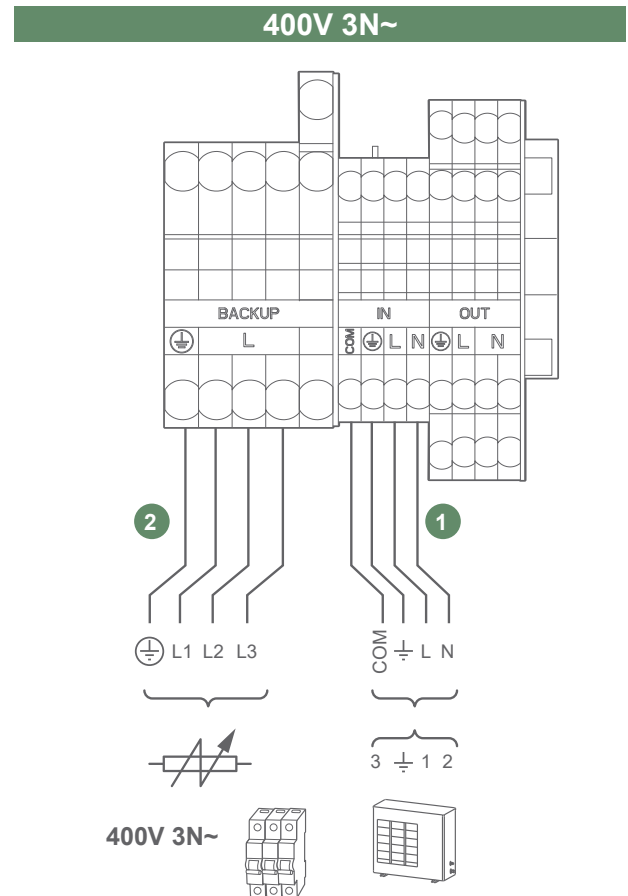
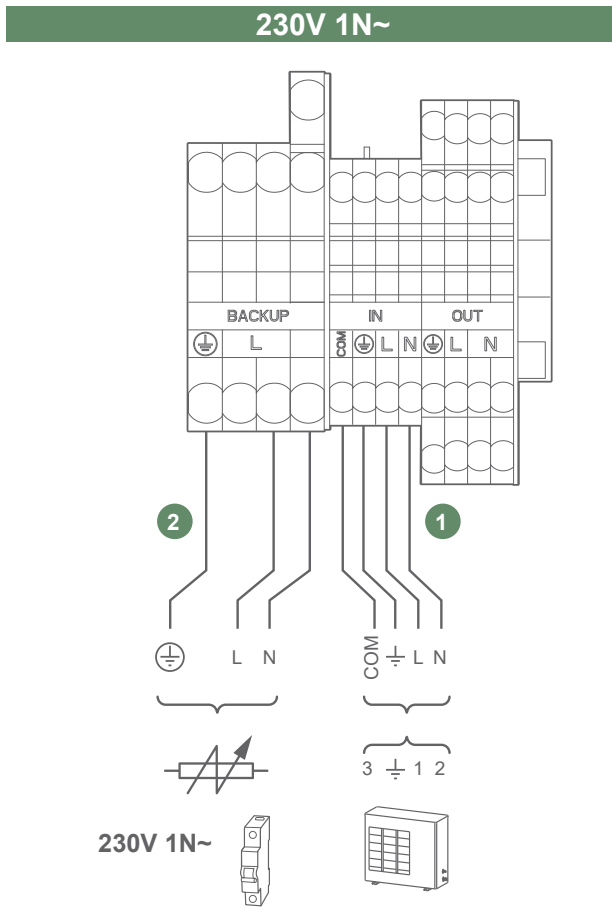


fig. 16 - Power supplies connection

*: Depending on options / settings

► Options

▼ Second heating circuit

→ Please refer to the instructions supplied with the 2-circuits kit.

▼ Mixed domestic hot water tank



If the hot water tank's electric backup is not equipped with a manual reset thermostat, it is necessary to add one.

If the system is equipped with a mixed sanitary tank:

→ Refer to the instructions supplied with the sanitary kit.

→ Refer to the instructions supplied with the DHW combi storage tank.

▼ Cooling

→ Please refer to the instructions supplied with the cooling kit.

4 Connect the condensation sensor to the **Sensor terminal**.

12 24V_{DC} power supply for the condensation sensor.

▼ Faults outside the Heat pump

All information devices (floor/ceiling heating safety device, thermostat, pressure switch, etc.) may indicate an external problem and stop the Heat pump.

4 Connect the external device to **Sensor terminal**.

▼ Room thermostat installation

→ Please refer to the instructions supplied with the room thermostat.

10 Room Thermostat 1 (wired) on the **Sensor terminal**.

11 Room Thermostat 2 (wired) on the **Sensor terminal**.

12 24V_{DC} power supply for wireless room sensor (wired power supply / radio communication).

Fan-convector zone

If the system is equipped with dynamic fan convectors/radiators, do not use a room thermostat.

► Outdoor sensor

→ Please refer to the instructions supplied with the outdoor sensor.

The outdoor sensor is required for the correct operation of the Heat pump, especially in the absence of a room thermostat.

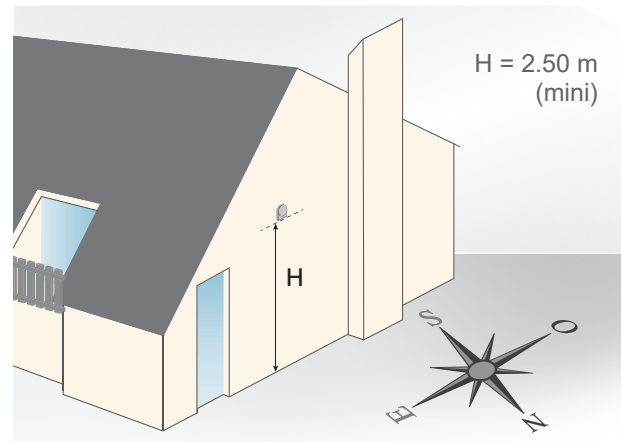
Place the sensor on the coldest part, generally the northern or north-eastern side.

In any case, it must not be exposed to the morning sun.

It must be installed so that it is easily accessible but at least 2.5 m from the ground.

Avoid sources of heat such as chimneys, the tops of doors or windows, nearby extraction ducts, underneath balconies and porches, that would insulate the sensor from the variations in the temperature of the air outdoors.

8 Connect the outdoor sensor to the **Sensors terminal**.



■ Sensor Connector (main box)

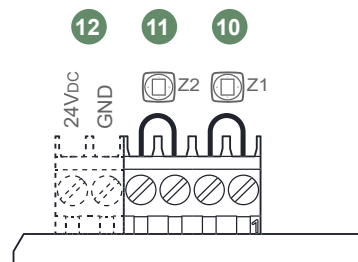
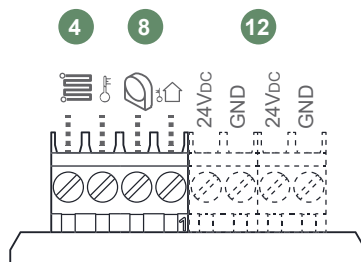


fig. 17 - Sensors connections

▼ Control extension board

➔ Please refer to the instructions supplied with the extension kit.

It is possible to link the operation of the Heat pump to specific contracts, in order to produce domestic hot water (DHW) at the cheapest times of the day:

Off-peak hours

- Connect the "Power Provider" contact to input **DL1 of the T70 connector**.
- In the menu Installed Options set "*External input 1: Type of functions*" to "Off-peak hours".
- By default: 230V sur DL1 = information "Off-peak hours" activated ➔ the DHW is produced at the Comfort setting.

PhotoVoltaics

- Connect the "Power Provider" contact to input **DL1 of the connector T70**.
- In the menu Installed Options, set "*External input 1: Type of functions*" to "PhotoVoltaics".
- By default: 230V on DL1 = information "Photovoltaics" activated ➔ the electric backup for the domestic hot water tank is activated up to a maximum temperature of 65°C.

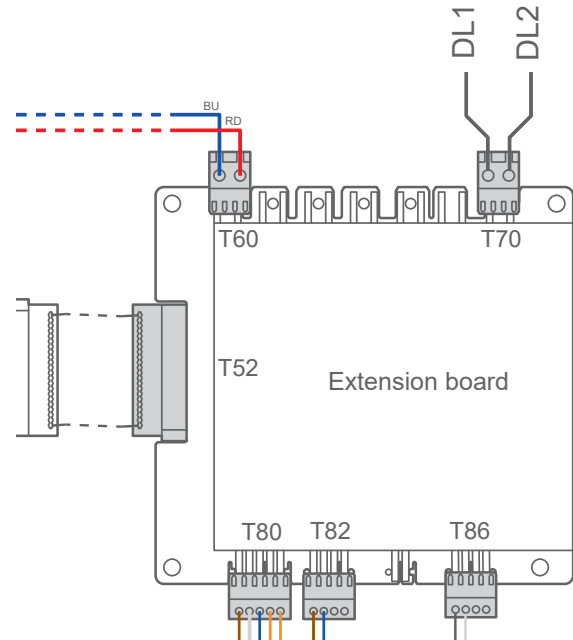
Load shedding or peak shaving

- Connect the load-shedding device to input **DL2 of the connector T70**.
- In the menu Installed Options, set "*External input 1: Type of functions*" to "Power shedding".
- By default: 230V on DL2 = load shedding in progress ➔ Heat pump and DHW auxiliaries are stopped. The Heat pump is enabled or disabled according to the "If power shedding order".
- The Heat pump and DHW backup are stopped. The Heat pump is enabled or disabled according to the "If reset / load shedding command" setting.

Smart Grid

- Connect the 2 power contacts "Power suppliers" to inputs **DL1 and DL2 of the connector T70**.
- In the menu Installed Options, set "*External input 1: Type of functions*" to "Smart Grid".
- By default, "Smart Grid" operation is the following.

DL1	DL2	Behaviour
0V	0V	Normal
230V	0V	Idem Power shedding
0V	230V	Idem Off-peak hours
230V	230V	Triggering boost DHW



External control ("Switch to cooling")

It is possible to control the changeover from "Heating Mode" to "Cooling Mode" via an "external control unit".

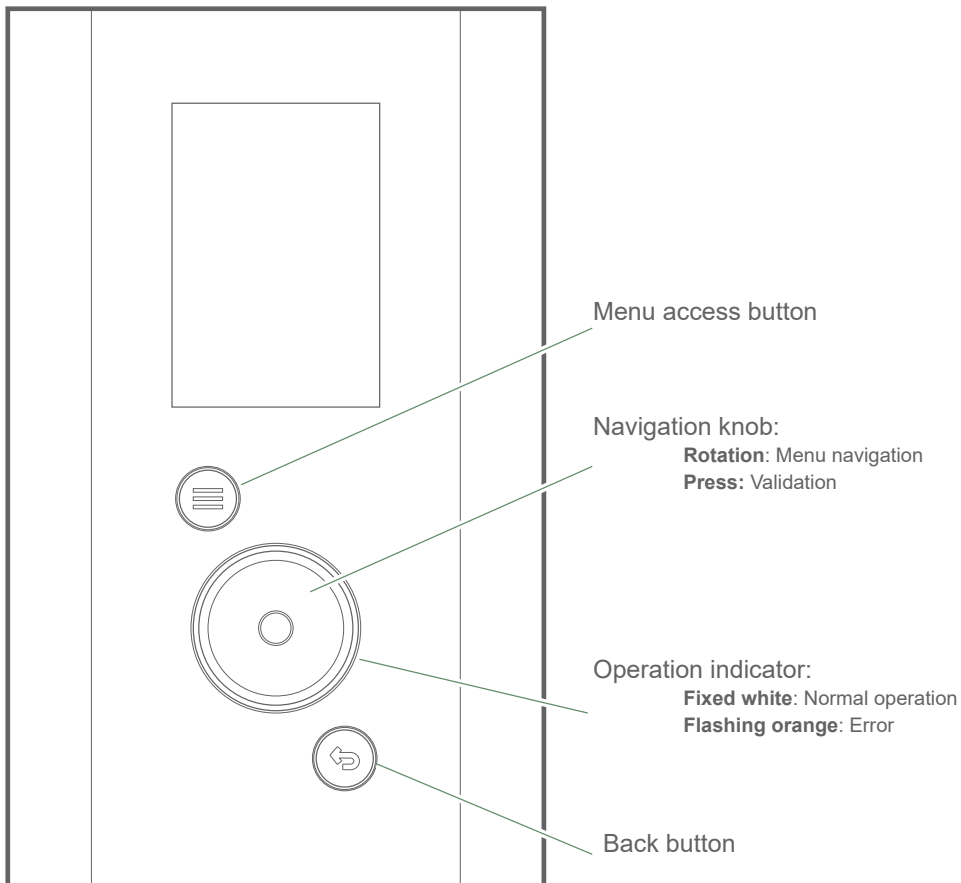
- Connect the external control box to the input **DL2 of the connector T70**.
- In the menu Installed Options, set "*External input 1: Type of functions*" to "Switch to cooling".
- Heating/cooling mode by default:
 - 0V on DL2 = heating mode.
 - 230V on DL2 = cooling mode.
- Demand management by circuit mode: via room thermostat input(s).



Do not connect the ON/OFF thermostat to the External control setting.

Controller Interface

► User Interface



► Display Description

- 1  Connectivity
-  Attenuation mode
-  Planned absence
-  Emergency mode
-  Outdoor temperature
-  Installer Menu

- 2  Normal operation
-  Warning
-  Error

- 3  Pressure indicator

- 4  55°C DHW setpoint
-  Remaining hot water

-  55°C DHW on
-  55°C Heating in progress
-  (Grey) Off / Frost protection

- 5  43°C Flow temperature setpoint

Operation :

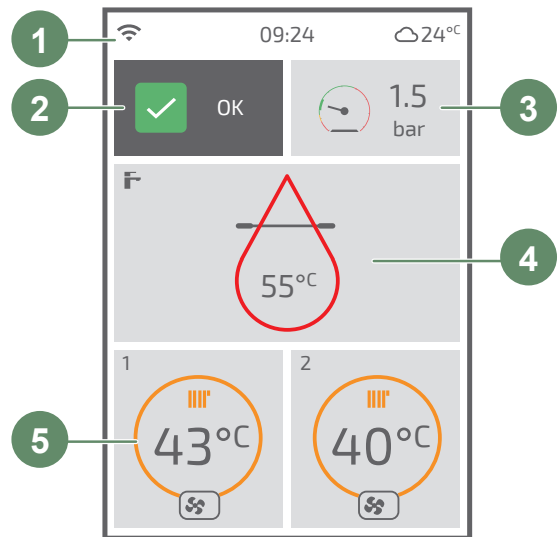
-  (Orange) Heating
-  (Blue) Cooling
-  (Grey) Off / Frost protection

Mode :

-  Heating
-  Cooling
-  Absence
-  Floor drying

Product by :

-  Heat pump
-  Electric backupvcv
-  Heat pump + Electric backup
-  Heat pump + Boiler
-  Boiler



Flow setpoint

► WITH room thermostat

Heat pump operation is controlled by the room thermostat.

The circuit water temperature setpoint is calculated by the thermostat and then communicated to the Heat pump.



Settings on thermostat

Heating settings

- Mode choice.
- Set room setpoints.
- Time programming setting

► WITHOUT room thermostat

The Heat pump's operation is subject to the temperature control.

The heating circuit water temperature setpoint is adjusted according to the outdoor temperature.

If there are thermostatic valves on the installation, these must be fully open or set higher than the normal temperature setpoint..

▼ Setting

Flow temperature setpoint setting

This setting is made directly via the interface.

Heating / Cool	Circuit 1	Heating
----------------	-----------	---------

Circuit 1
Heating


Flow setpoint limits
 Min: 12°C Max: 50°C

Temperature control
 Weather compensation

Flow temp at -10°C outside

40°C

Flow temp at 20°C outside

20°C

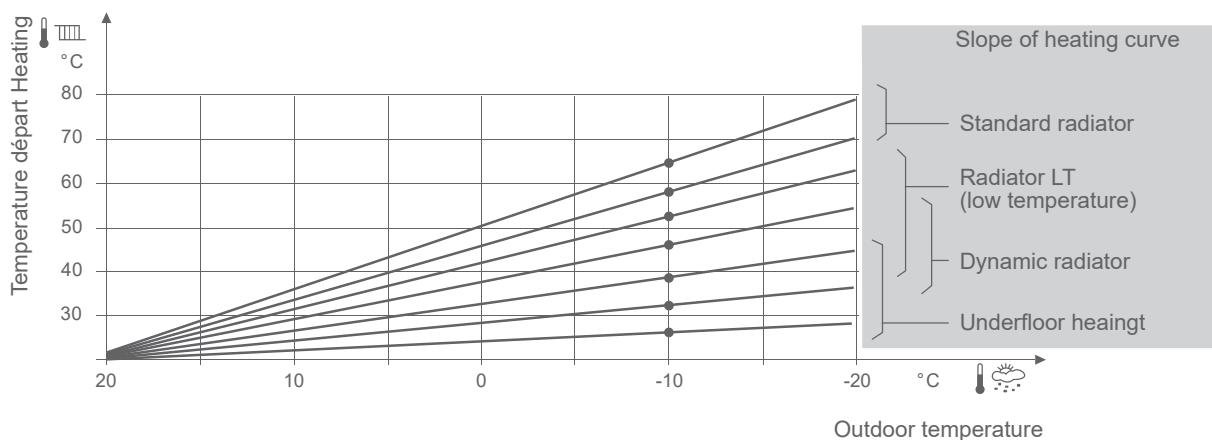


fig. 18 - Slope of heating curve

Commissioning

► Pre-commissioning checks

• Hydronic circuit

- Make sure the system has been flushed.
- Check water flow direction and that all valves are open.
- Carry out a tightness check on the entire system.

• Electrical circuit

- Check that the phase-neutral polarity of the power supply is correct.
- Check that all equipment is connected to the correct terminals

► First commissioning

Switch on the system's main circuit breaker. When commissioning for the first time (or in winter), to allow the compressor to warm up, switch on the system's main circuit breaker (Outdoor unit power supply) a few hours before testing. During commissioning, each time the main circuit breaker is switched off and then on again, the outdoor unit will take approximately 4 minutes to start up, even if the control is in heating mode.



If commissioning takes place in cold weather (hydraulic temperature below 17°C), the electric backup is used alone to preheat the hydronic circuit (no use of the UE).



When first used, a slight odor of hot plastic may occur.

► Easy Start

Choose language, set date and time.

Answer questions from Easy Start.

Easy Start	Easy Start
Outdoor unit model	XX kW
Electrical heater	3kW
Number of circuits	1
Circuit X: Name	Circuit 1
Circuit X: Emitters type	Radiator
Circuit X: Comfort delivered	Heating

► Hydronic unit purging

When first switched on, the circulator and directional valve start up to automatically purge the system (heating and sanitary circuits).

The user interface displays the remaining purge time. Never interrupt this cycle (During the purge cycle, the circulator alternates between operating and stopping phases lasting 5 seconds (5 s on, 5 s off...). The valve alternates every 30 seconds between the heating and sanitary circuits.)

- Open all system drains to evacuate air from the pipes.
- Close the bleed valves and add water until the hydronic circuit pressure reaches 1 bar.

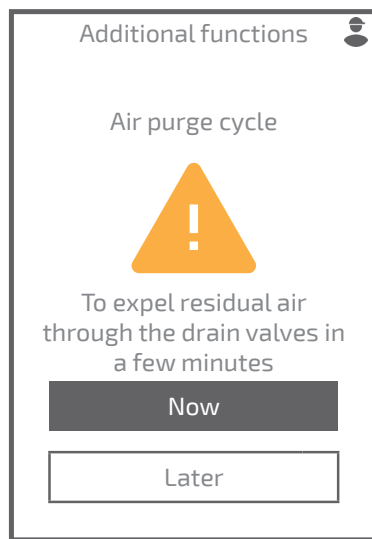
The exact filling pressure depends on the height of the system.

- Check for leaks.

To start a new automatic purge cycle:

Additional Functions

Air purge cycle



► Sludge pot cleaning

Immediately after commissioning, clean the sludge pot filter (remove any waste from the installation: gaskets, filings, filings, etc.).



Before starting work, check that the working environment is safe. Carry out maintenance operations with the unit switched off and the system cooled to room temperature.

- Close both valves. Open steam trap.
- Carefully unscrew cover.
- Water begins to drain gradually. Ensure that this water is collected in an appropriately sized container.
- When the water stops flowing, remove the magnet cover completely.
- Pull out the filter sheath to remove any ferrous particles.
- Clean with water and rinse thoroughly under the tap to remove all impurities.
- Check the condition of the O-ring and replace it if damaged.
- Reassemble in reverse order.



Make sure there are no signs of leakage before recommissioning.

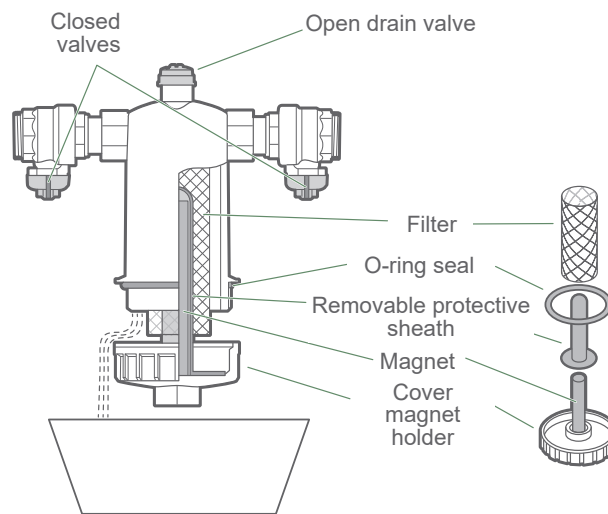
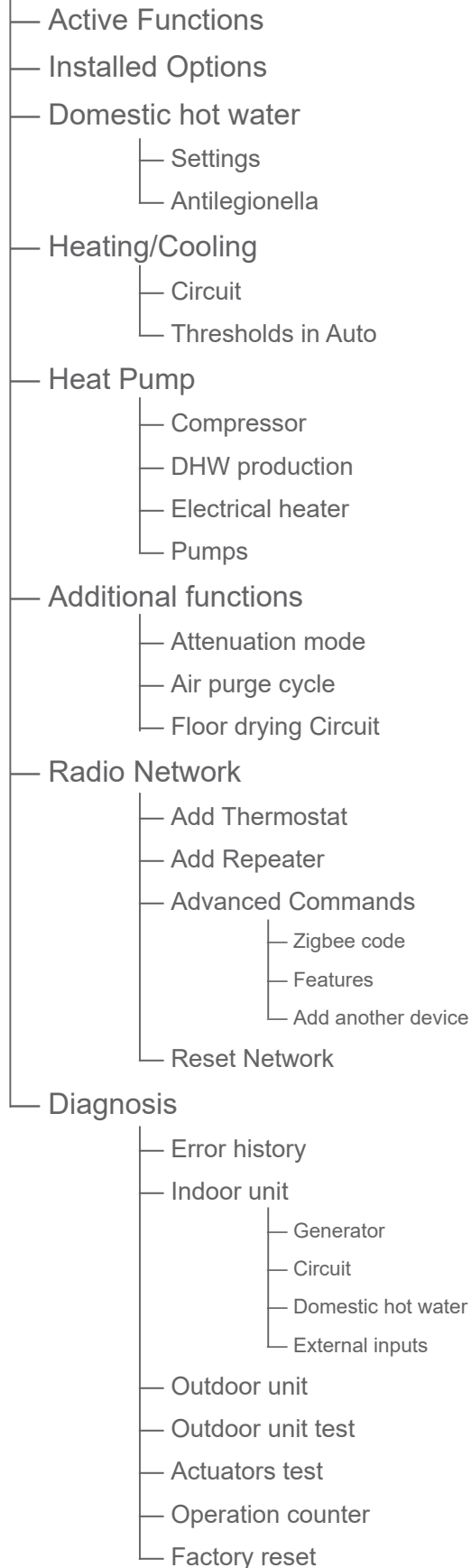


fig. 19 - Sediment trap cleaning

Controller menu

► Menu structure

Installer menu



Some settings (or menus) may not appear. They depend on the system configuration (depending on option)



Default settings are underlined in the explanations.
Values shown on screens are not contractual.

► Active Functions

Active Functions

The *Active Functions* page provides information on services in operation and allows you to modify their status..

- *Domestic hot water:*

On / Off

- *Circuit 1 / 2:*

On / Off / Heating/Cooling / Auto

- *Emergency mode:*

Enabled / Inactive

Active Functions	
Domestic hot water	<u>Off</u>
Circuit 1	<u>Auto</u>
Circuit 2	<u>Heating</u>
Emergency mode	<u>Inactive</u>

► Installed Options

Installed Options

The installed options are set during commissioning. However, these can be modified from the *Installed Options* menu.

- **Outdoor unit model:**
XX kW
- **Electrical heater:**
None / 3kW / 3kW + 3kW / 2 x 3kW / 3 x 3kW / Boiler connection
- **Number of circuits:**
1 / 2
- **Decoupling :**
Yes / No
- **Circuit X: Name:**
Circuit 1 / Day / Night / Ground floor / Floor / Living rooms / Bedrooms
- **Circuit X: Emitters type:**
Radiators / Floor / Ceiling / Fan convector
- **Circuit X: Comfort delivered:**
Heating / Heating and Cooling
- **Outside temperature:**
(Information depending on outside sensor location)
From Outdoor unit / From remote sensor
- **Safety input:**
Normally Open / Normally Closed
- **External input 1: Type of functions:**
None / Off-peak hours / PhotoVoltaics / Smart Grid
- **External input 1: Switching settings:**
0V / 230V
- **External input 2: Type of functions:**
None / Power shedding / Cooling switch / Smart Grid
- **External input 2: Switching settings:**
0V / 230V
- **If power shedding order/ Power shedding:**
Compressor Allowed / Compressor Forbidden

Installed Options 	
Outdoor unit model	<u>XX kW</u>
Electrical heater	<u>9kW</u>
Number of circuits	<u>1</u>
Decoupling	<u>No</u>
Circuit X: Name	<u>Circuit 1</u>
Circuit X: Emitters type	<u>Radiator</u>
Circuit X: Comfort delivered	<u>Heating</u>
Outside temperature	<u>From outdoor unit</u>
Safety input	<u>Normally Open</u>
External input X: Type of functions	<u>None</u>
External input X: Switching settings	<u>230V</u>
If power shedding order/ Power shedding	<u>Compressor Allowed</u>

► Domestic hot water

Domestic hot water

Settings

- Heating mode :

Permanent comfort: provides maximum comfort by ensuring a large hot water at all times.

Schedule (+ Off-peak hours): provides maximum savings while ensuring sanitary and heating comfort.

- Comfort temperature :

40°C ... 55°C ... Max. temperature

- Eco temperature :

15°C ... 40°C ... 55°C ... Comfort temperature

- Eco/Comfort schedule :

View

Set period

- Max. temperature :

45°C ... 65°C

- Hysteresis :

1°C ... 7°C ... 15°C

Domestic hot water Settings 	
Heating mode	
<u>Schedule (+ Off-peak hours)</u>	
Comfort temperature	<u>55°C</u>
Eco temperature	<u>40°C</u>
Eco/Comfort schedule	<u>View</u>
Max. temperature	<u>65°C</u>
Hysteresis	<u>7°C</u>

Domestic hot water

Antilegionella

- Weekly protection :

Enabled / Inactive

- Time of cycle :

Set day and time

- Temperature :

55°C ... 60°C ... 65°C

Domestic hot water Antilegionella 	
Weekly protection	
<u>Inactive</u>	
Time of cycle	<u>Thursday</u> to <u>04:15</u>
Temperature	<u>60°C</u>

► Heating/Cooling

Heating/Cooling	Circuit 1	Heating
-----------------	-----------	---------

- **Flow setpoint limits:**
 Min : 20°C ... 30°C
 Max : 30°C ... 55°C ... 80°C
- **Temperature control:** (See  *Flow setpoint*)
 Weather compensation / Smart Adapt
- **Flow temp at -10°C outside:**
 Flow temp at 20°C outside ... 40°C ... 80°C
- **Flow temp at 20°C outside:**
 10°C ... 20°C ... Flow temp at -10°C outside
- **Room temperature influence:**
 10% ... 50% ... 100%

Circuit 1 Heating
Flow setpoint limits :
Min: <u>20°C</u> Max: <u>55°C</u>
Temperature control
Weather compensation
Flow temp at -10°C outside
<u>40°C</u>
Flow temp at 20°C outside
<u>20°C</u>
Room temperature influence
<u>50%</u>

Heating/Cooling	Circuit 1	Cooling
-----------------	-----------	---------

- **Flow setpoint limits:**
 Min : 7°C ... 18°C ... 35°C
 Temperature control: (See  *Flow setpoint*)
 Weather compensation / Smart Adapt
- **Flow temp at 25°C outside:**
 Flow temp at 35°C outside ... 20°C ... 35°C
- **Flow temp at 35°C outside:**
 7°C ... 16°C ... Flow temp at 25°C outside

Circuit 1 Cooling
Flow setpoint limits :
Min: <u>18°C</u>
Temperature control
Weather compensation
Flow temp at 25°C outside
<u>20°C</u>
Flow temp at 35°C outside
<u>16°C</u>

Heating/Cooling	Thresholds in Auto
-----------------	--------------------

- **Switch to heating at:**
 15°C ... 19°C ... 20°C
- **Cooling switch at:**
 Inactive / 21°C ... 24°C ... 30°C

Heating/Cooling Thresholds in Auto
Switch to heating at
<u>19°C</u>
Cooling switch at
<u>24°C</u>
Outside temperature
26°C selected for Auto

► Heat Pump

Heat Pump

Compressor

- **Minimum off time:**

3 min ... 8 min ... 20 min

- **Overrun:**

10 s ... 30 s ... 600 s

Heat Pump Compressor	
Minimum off time	<u>8 min</u>
Overrun	<u>30 s</u>

Heat Pump

DHW production

- **Max. DHW charging time :**

Back to Heating/Cooling ... 120 min ... 180 min

- **Back to Heating/Cooling :**

10 min ... 90 min ... Max. DHW charging time

Heat Pump DHW production	
Max. DHW charging time	<u>120 min</u>
Back to Heating/Cooling	<u>90 min</u>

Heat Pump

Electrical heater

- **Outside temperature threshold:**

Always allowed / -15°C ... 10°C

- **Switching threshold:**

0°C min ... 100°C min ... 500°C min

Heat Pump Electrical heater	
Outside temperature threshold	<u>Always allowed</u>
Switching threshold	<u>100 °C min</u>

- **Heat Pump min time**
5 min ... 30 min ... 60 min
→ Minimum heat pump operating time.
- **HP locked if outside temp < :**
-15°C ... -2°C ... 10°C / Always allowed
→ Switches from heat pump to boiler (if the outdoor temperature is below the set threshold).
- **Boiler enabled if outside temp < :**
-15°C ... 2°C / Always allowed
→ Switches from heat pump to boiler (if the outdoor temperature is below the set threshold).
- **Switching threshold :**
0°C.min ... 100°C.min ... 500°C.min
→ Allows switching to boiler mode when the heat pump fails to reach the setpoint after a given time.

Heat Pump Heat Pump / Boiler Switch	
Heat Pump min time	<u>30 min</u>
HP locked if outside temp <	<u>-2°C</u>
Boiler enabled if outside temp <	<u>2°C</u>
Switching threshold	<u>100°C.min</u>

- **Outdoor unit Pump speed**
40 % ... 100 %
- **System Pump speed:**
10 % ... 100 %
- **Circuit 2 Pump speed:**
10 % ... 100 %

Heat Pump Pumps	
Outdoor unit Pump speed	<u>100 %</u>
System Pump speed	<u>100 %</u>
Circuit 2 Pump speed	<u>100 %</u>

► Additional functions

- **Compressor limitation:**
Enabled / Inactive
- **Max allowed speed:**
10% ... 60% ... 95%
- **Active as:**
Outside > -15 °C ... 5°C ... 10 °C
- **Period 1 / 2 / 3:**
Set period

Attenuation mode	
Compressor limitation	<u>Enabled</u>
Max allowed speed	<u>60 %</u>
Enabled as	Outside > <u>5 °C</u>
Period 1	<u>00:00</u> to <u>12:00</u>

The air purge cycle takes approximately 4 minutes.

Never interrupt this cycle.

(During the purge cycle, the circulator alternates between operating and stopping phases lasting 5 seconds (5 s on, 5 s off...).

The valve alternates every 30 seconds between the heating and sanitary circuits.)

Open all system drains to evacuate air from the pipes.



Air purge cycle



To expel residual air through the drain valves in a few minutes

Now

Later

- Drying:

Off / Manual for 25 days / Progressive 18d + Shock 7d

- Flow temperature setpoint:

20°C ... 25°C ... Max flow setpoint limits

Observe the building manufacturer's standards and instructions!
Correct operation of this function is only possible with a correctly installed system (hydraulics, electricity and settings)!

The function can be interrupted early by setting to *Off*.

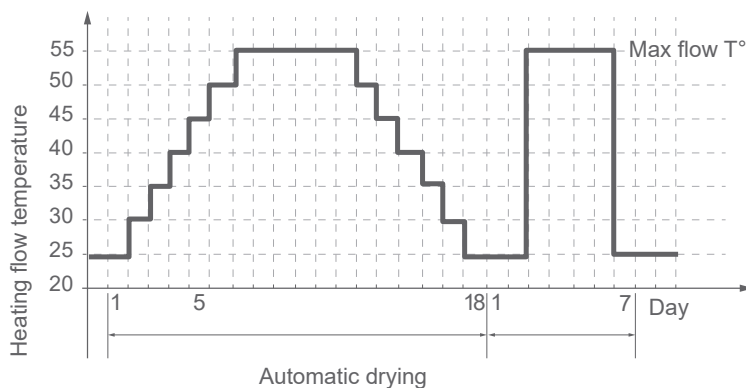


Drying

Off

Flow temperature setpoint

25°C

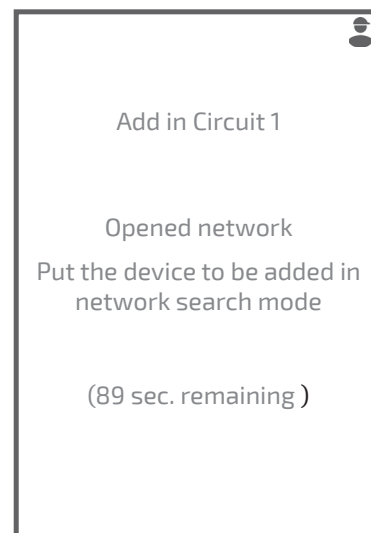


► Radio Network

Radio Network

Add thermostat

→ Please refer to the room sensor installation manual.

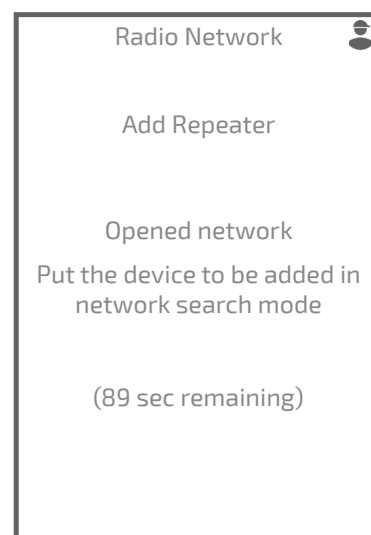


Radio Network

Add Repeater

Install repeater halfway between device and Thermostat

→ Please refer the Repeater installation manual.

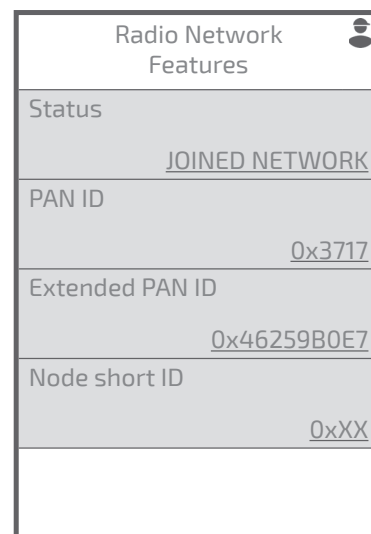


Radio Network

Commandes Avancées

Features

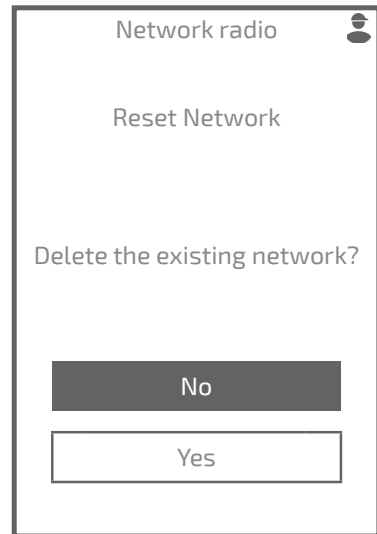
Provides status and technical information on the radio network.



Radio Network

Reset Network

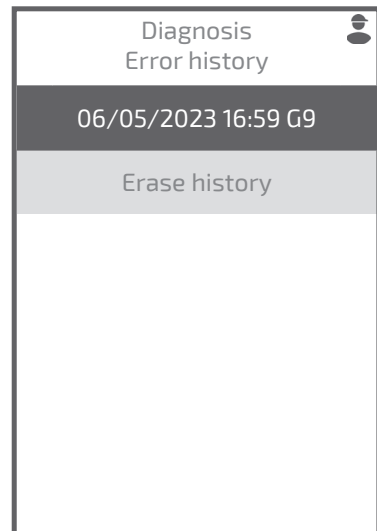
Reset cancels all pairings.



► Diagnosis

Diagnosis

Error history



Diagnosis	Indoor unit
	Outdoor unit
	Operation counters

Displays the status of various functions and actuators.

Diagnosis 
Error history
Indoor unit
Outdoor unit
Test outdoor unit
Actuators test
Operation counters
Factory reset

Diagnosis	Test outdoor unit
-----------	-------------------

- **Mode:**
Heating / Froid
- **Compressor modulation:**
Off / 100%

Diagnosis 
Test outdoor unit
Mode
<u>Heating</u>
Compressor modulation
<u>100%</u>
OU pump flow rate
0 L/min
Flow temperature

Return temperature

Exchanger temperature
0°C

- **System pump outdoor unit:**
Off / 10% ...100%
- **System pump:**
Off / 10% ...100%
- **Electrical heater:**
Off / On
- **Circuit 2 Pump speed:**
Off / 10% ...100%
- **Mixing valve circuit 2:**
Closed / Open 10% ...100%
- **DHW electrical heater:**
Off / On
- **Directional valve:**
Heating / Domestic hot water / Middle position

Diagnosis 	
Test outdoor unit	
System pump outdoor unit	Off
OU pump flow rate	0 L/min
System pump système	Off
Electrical heater	Off
Flow temperature	---
Return temperature	---
Circuit 2 Pump speed	Off
Mixing valve circuit 2	Closed
DHW electrical heater	Off
Directional valve	Heating
Tank temperature	0°C

The factory settings stored in the controller override and cancel any custom programs.
Customized settings are lost.

Back to Easy Start.

Diagnosis 

Factory reset

Warning!
Return to
the default factory
configuration?

No

Yes



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Fault Diagnostist



Before performing any maintenance, make sure that all power supplies have been isolated.

Stored energy: after cutting off the power supplies, wait for 10 minutes before accessing the internal parts of the equipment.

When the Heat pump is not powered up, frost protection is not guaranteed.



Errors in the indoor unit

Error codes	Description	Probable causes	Proposed actions
10	Communication error with controller board.	Loss of connection between controller and display	Check wiring between T24 and display.
13	Communication error with room thermostat.	Loss of connection between display and room thermostat 225/228.	Check wiring or battery of the thermostat. Check the thermostat's radio range.
G1	Outdoor temperature sensor fault.	Loss of connection between controller board and outdoor unit	Check wiring between T26 of controller board and interface board.
G2	External safety input.	External safety trip	Check the external safety device. Check the safety device's activation direction.
G6.XX	Outdoor unit error.	See details in "Outdoor unit errors"	-
G7	Flow temperature sensor fault.	Short circuit. Sensor disconnected or cut. Fault sensor. Other fault	Check sensor wiring. Replace sensor. Check the sensor's resistance value.
G8	Return temperature sensor fault.		
G9	Water pressure sensor fault.		
G11	Water pressure too low.	Lack of water in the circuit. Expansion vessel fault.	Add water to the circuit. Check the expansion vessel pressure.
G12	Water pressure too high.	Too much water in the circuit.	Drain water slightly from the circuit.
G13	Water pressure low.	Lack of water in the circuit.	Add water to the circuit.
G14	System circulating pump fault.	Lack of water in the circuit. Circulating pump undervoltage	Check hydronic pressure. Check system circulating pump supply.
G15.XX	System circulating pump fault.	See details in "Pump errors"	Check circulating pump wiring. Replace circulating pump.
G16	DHW directional valve fault.	Directional valve fault.	Check valve wiring. Replace valve.
G17	Indoor unit flow too low	Thermostatic valves closed. Clogging. Hydraulic module pump fault.	Check the opening of the system valves. Check the hydraulic module pump.
G18	Circuit 2 temperature sensor fault.	Short circuit. Sensor disconnected or cut. Fault sensor. Expansion board connection. Other fault.	Check sensor wiring. Replace sensor. Check the expansion board wiring.
G19	Indoor unit flow too low	Thermostatic valves closed. Clogging. Hydraulic module pump fault.	Check the opening of the system valves. Bleed the air. Check the hydraulic module pump.
G20	Indoor unit flow too low		
G21	Indoor unit flow too low		
G22	DHW temperature sensor fault.	Short circuit. Sensor disconnected or cut. Fault sensor. Other fault.	Check sensor wiring. Replace sensor.

<i>Error codes</i>	<i>Description</i>	<i>Probable causes</i>	<i>Proposed actions</i>
G25	Outdoor unit water flow too low	Clogging. Outdoor unit pump fault. Outdoor unit pump speed too low. OU/IU isolation valves closed.	Check the opening of isolation valves. Bleed the air. Check the outdoor unit pump. Check the flow rate of the outdoor unit pump.
G26	Indoor unit flow too low	DHW tank clogging. Hydraulic module pump fault.	Bleed the air. Check the hydraulic module pump.
G27	Abnormally long anti-legionella cycles	Anti-legionella temperature setpoint not reached.	Check ECS backup wiring.
G29	Outdoor unit communication lost.	Loss of connection between controller board and outdoor unit. Outdoor unit fault.	Check wiring between T26 and interface board. Check that the outdoor unit's electronic boards (see OU manual).
G30	Zone 1 room thermostat communication lost.	Wiring problem between room thermostat and controller board.	Check wiring.
G31	Zone 2 room thermostat communication lost.		
G32	Zone 3 room thermostat communication lost.		
G33	HMI communication lost.	Loss of connection between controller board and user interface.	Check the wiring between input T24 of the control board and the user interface.
G34	HMI communication lost.		
G35	HMI communication lost.		
G45	Loss of remote outdoor temperature sensor.	Short circuit. Sensor disconnected or cut. Sensor fault. Other fault.	Check sensor wiring. Check the sensor ohmic value. Replace sensor.
G46	System circulating pump communication lost.	Short circuit. Circulating pump disconnected. Circulating pump defective.	Check circulating pump wiring (communication and power supply). Replace circulating pump.
G54	Circuit 3 temperature sensor fault	Short circuit. Sensor disconnected or cut. Sensor fault. Extension board connection. Other fault.	Check sensor wiring. Replace sensor. Check the extension board wiring.
G65	Relay configuration	Two actuators use the same relay on the control board (e.g., DHW backup and boiler backup).	Check the configured options ("Installed Options" menu).

► Pump errors

<i>Error</i>	<i>Designation</i>
0	Motor fault
1	Driver fault
2	Overcurrent
3	Blocked rotor
4	Loss of synchronization
5	Overload motor
6	Overvoltage
7	Fast undervoltage
8	Over speed

<i>Error</i>	<i>Designation</i>
9	Turbine mode
10	Slow undervoltage
12	Over temperature motor
14	Over temperature module
15	Over temperature components
16	Generator operation
17	Dry running
18	Overload motor
19	Over temperature motor

► Outdoor unit errors

■ Additional error codes (G6.XX) visible on display and/or error codes on interface board (indoor unit).

x N: Indicator flashes N times.

<i>Display</i>	<i>Interface board</i>		<i>Error label</i>
<i>Error Code (G6.XX)</i>	<i>Green LED</i>	<i>Red LED</i>	
0	x 1	x 1	Serial forward transmission error immediately after operation
1	x 1	x 1	Serial forward transmission error during operation
28	x 2	x 3	Wrong combination between indoor unit and outdoor unit
22	x 3	x 2	Communication error in indoor unit
29	x 6	x 1	Outdoor unit power supply abnormal error
30	x 6	x 2	Outdoor unit PCB error
-	x 6	x 3	Inverter PCB error
31	x 6	x 5	IPM error
5	x 7	x 1	Discharge temp. sensor error
6	x 7	x 2	Compressor temp. sensor error
8	x 7	x 3	Outdoor unit Heat Ex. Liquid temp. sensor error
9	x 7	x 4	Outdoor temp. sensor error
12	x 7	x 8	Electric expansion valve sensor error
25	x 7	x 9	Flow temp. sensor error
13	x 8	x 4	Current sensor error
14	x 8	x 6	Pressure switch tripped
32	x 8	x 6	High pressure sensor error
33	x 8	x 6	Low pressure sensor error
34	x 8	x 6	Pressure switch sensor error
15	x 9	x 4	Trip detection
16	x 9	x 5	Compressor motor control error
17	x 9	x 7	Outdoor unit fan motor 1 error
24	x 9	x 11	Circulation pump error
18	x 10	x 1	Discharge temp. error
19	x 10	x 3	Compressor temp. error
35	x 10	x 4	Outdoor unit differential pressure shortage error
20	x 10	x 5	Low pressure error
27	x 10	x 14	Low water flow error
36	x 10	x 11	Inverter temperature too high



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Installation maintenance



Before performing any maintenance, make sure that all power supplies have been isolated.

Stored energy: after cutting off the power supplies, wait for 10 minutes before accessing the internal parts of the equipment.

When the Heat pump is not powered up, frost protection is not guaranteed



Preventive maintenance operations

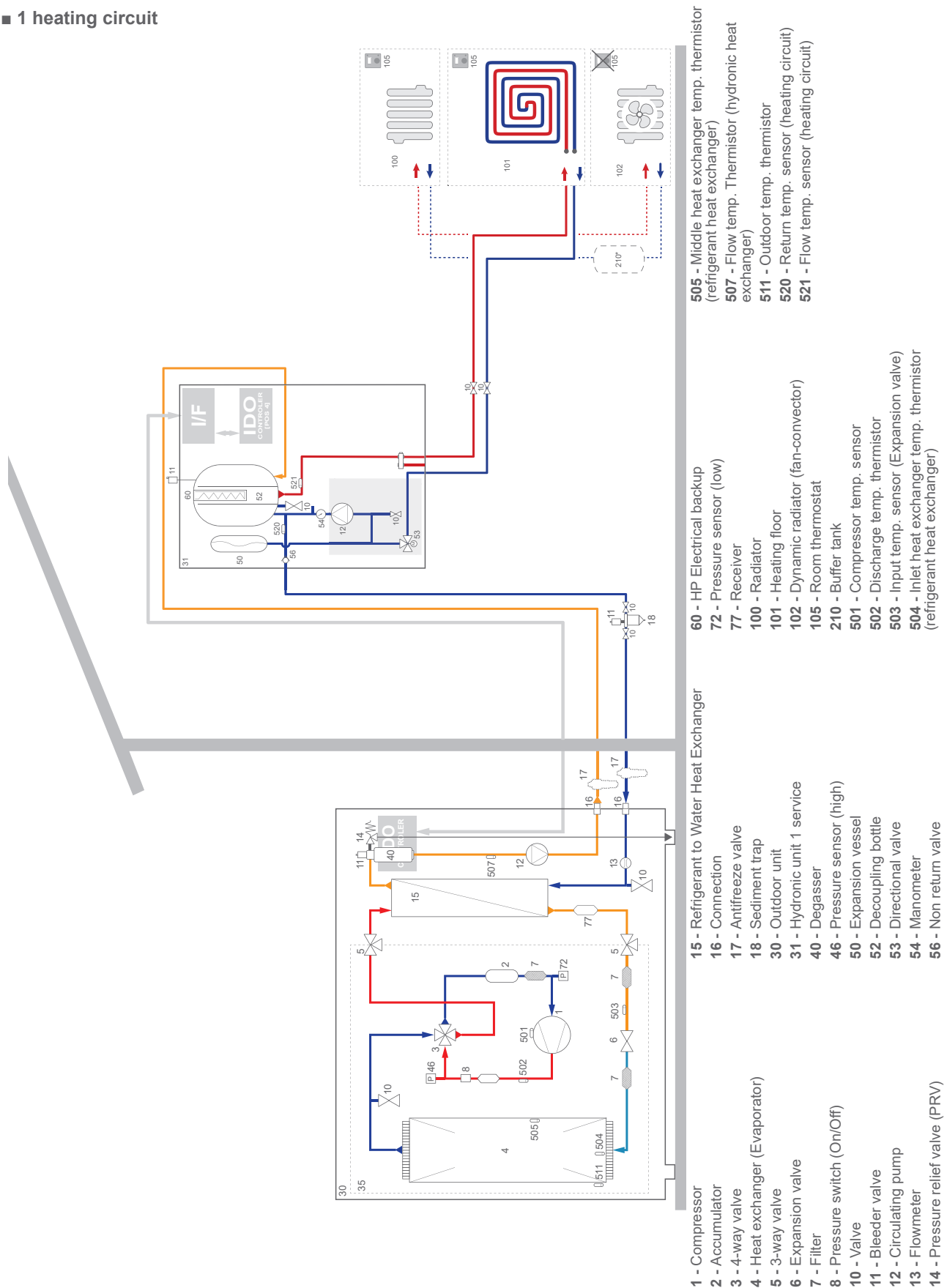
	OK	Non-compliant
General Checks		
Clearance around the outdoor unit		
Presence of floor or wall support		
Fixing the support to the ground (if caught in the wind)		
Condensate drainage under the outdoor unit		
Absence of corrosion impacting stability		
Condition of the fins (crushed to straighten)		
Removal of foreign bodies (leaves, moss, dust, etc.)		
Cleaning the battery		
Fixing the fan to its support		
Free rotation of the fan (no friction)		
Electrical Checks		
Presence and compliance of electrical protections (see manual)		
Checking the electrical connections and tightening (terminal blocks, terminals, connectors)		
Earth connection		
Testing differential protection		
Fixing the cables in the grommets		
Refrigeration Checks		
Checking the apparent tightness (traces of oil)		
Checking tightness with leak detector (according to regulations)		
Checking the presence and condition of the heat insulation		
Hydraulic Checks		
Checking the presence and condition of the filling disconnecter		
Checking the presence and condition of the insulation		
Sealing of connections		
Checking the trap(s)		
Operating safety valve(s)		
Cleaning filter and sediment trap if present		
Measuring the pH of heating water (neutral)		
Checking the water quality of the heating and DHW circuit (absence of sludge and scale)		
Checking the expansion tank pressure (measured when empty of water)		
Checking the anti-freeze valve elements (according to the manufacturer's recommendations / if equipped)		
Checking and adjusting the DHW thermostatic mixer (if equipped)		
Maintenance of the DHW tank if hard water is present (if equipped)		
Checking the ACI anode supply voltage (if equipped)		
Checking and adjusting the pressure of the heating circuit (depending on the installation)		

	OK	Non-compliant
Tests and readings		
Heating electrical backup operating tests		
DHW electrical backup operating tests (if present)		
Circulating pump operating tests		
Mixing valve operating tests (if 2 heating circuits)		
Directional valve operating tests (if ECS)		
Boiler connection operating tests (if relief kit)		
Thermal safety operating tests (floor heating/cooling)		
Checking the appliance's sensors (consistency of values, visual appearance)		
Absorbed intensity(s) (conformity of the value according to model)		
Supply voltages (conformity of value depending on model)		
Readings and checks of Overheating T° between 0 and 5°C		
Readings and checks of subcooling T° between 5 and 10°C		
Readings and checks of Delta T° on the air between 5 and 10°C		
Readings and checks of Delta T° on the water between 4 and 8°C		

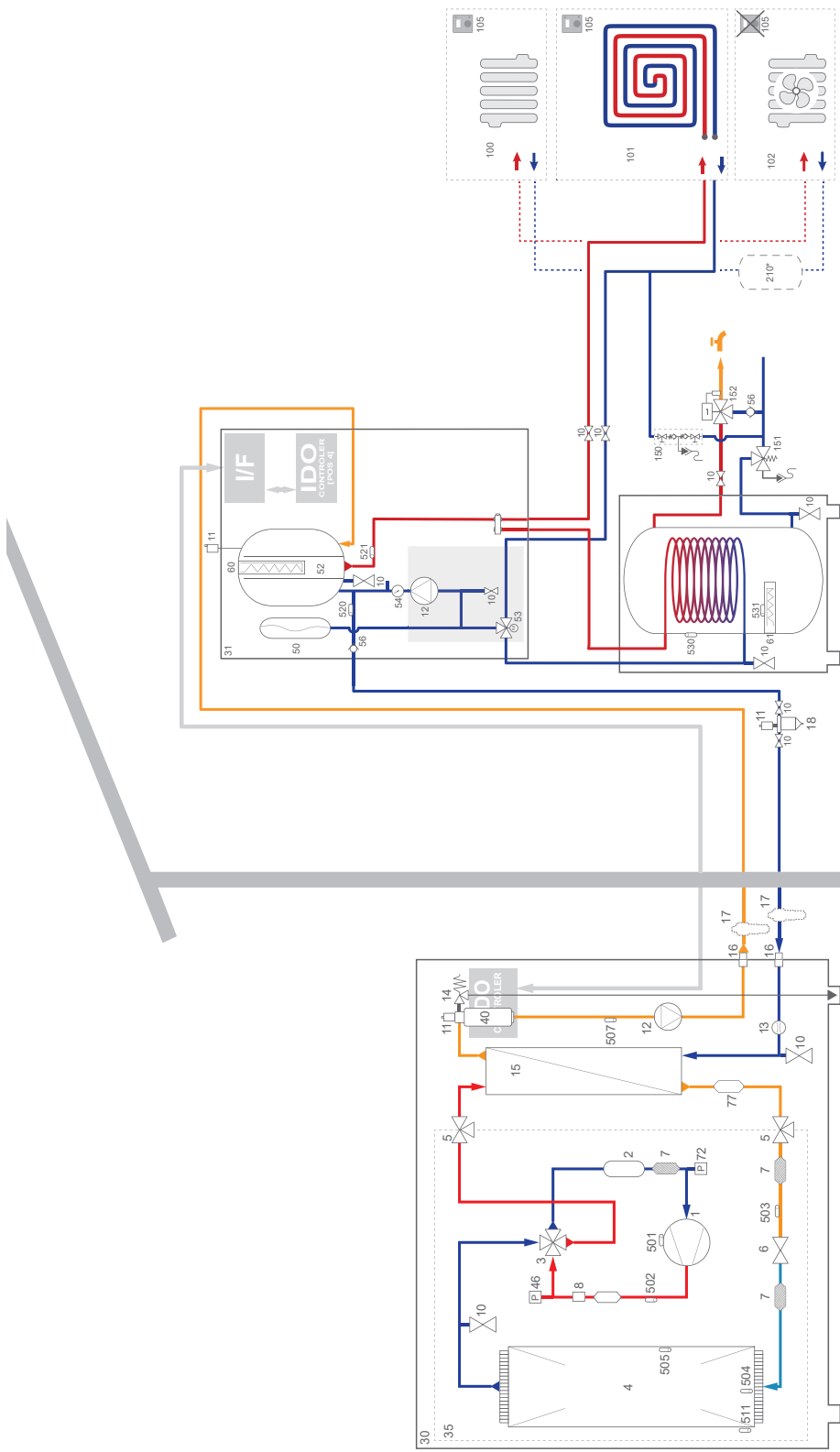
Appendices

► Basic hydronic layout

■ 1 heating circuit

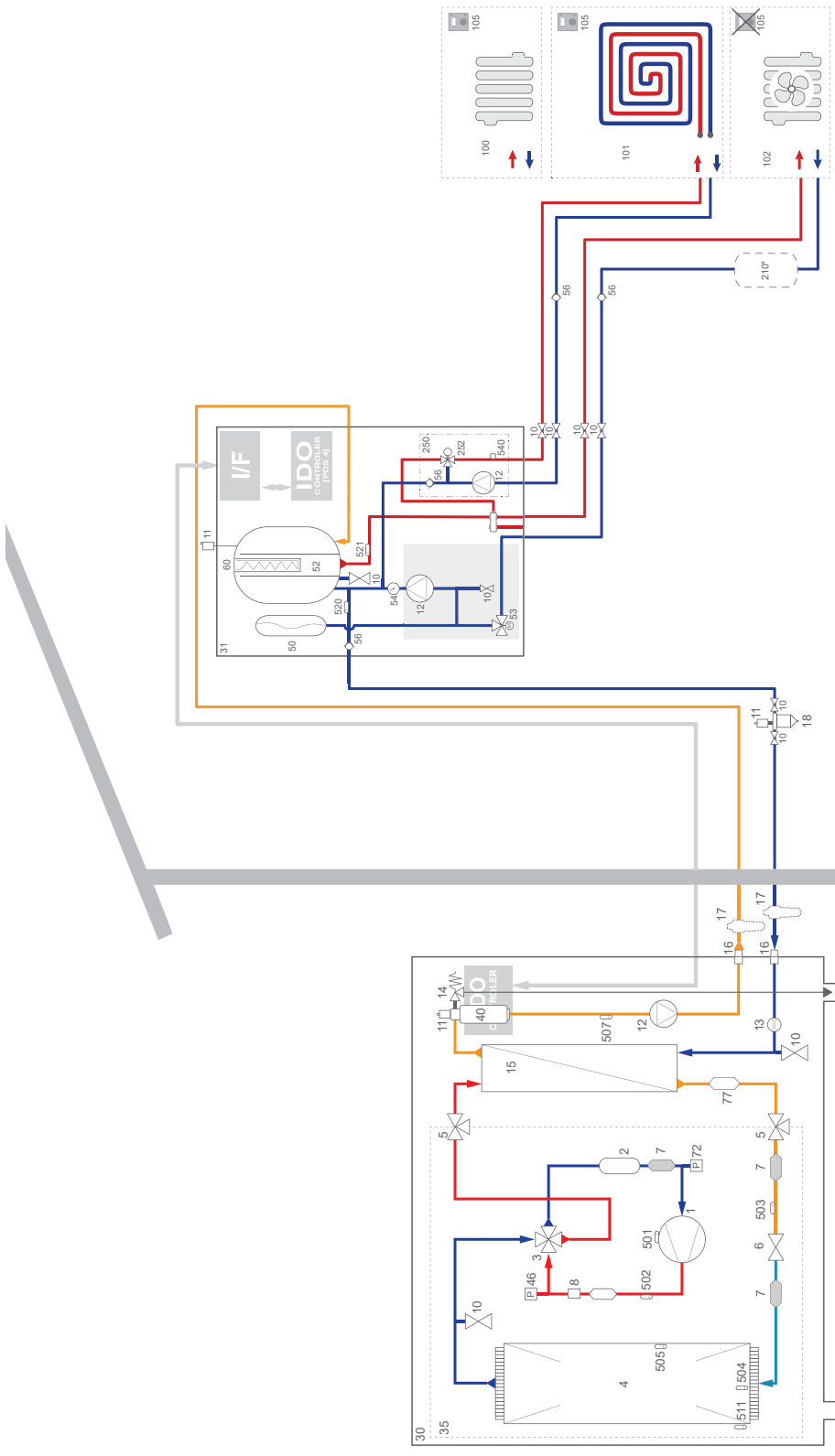


■ 1 heating circuit with DHW



- | | | |
|----------------------------------|--|---|
| 1 - Compressor | 60 - HP Electrical backup | 502 - Discharge temp. thermistor |
| 2 - Accumulator | 61 - DHW Electrical backup | 503 - Input temp. sensor (Expansion valve) |
| 3 - 4-way valve | 72 - Pressure sensor (low) | 504 - Inlet heat exchanger temp. thermistor (refrigerant heat exchanger) |
| 4 - Heat exchanger (Evaporator) | 77 - Receiver | 505 - Middle heat exchanger temp. thermistor (refrigerant heat exchanger) |
| 5 - 3-way valve | 100 - Radiator | 507 - Flow temp. Thermistor (hydronic heat exchanger) |
| 6 - Expansion valve | 101 - Heating floor | 511 - Outdoor temp. thermistor |
| 7 - Filter | 102 - Dynamic radiator (fan-convector) | 520 - Return temp. sensor (heating circuit) |
| 8 - Pressure switch (On/Off) | 105 - Room thermostat | 521 - Flow temp. sensor (heating circuit) |
| 10 - Valve | 150 - Shut-off | 530 - DHW temp. sensor |
| 11 - Bleeder valve | 151 - Safety valve | 531 - DHW electrical backup thermal safety |
| 12 - Circulating pump | 152 - Thermostatic mixer valve | |
| 13 - Flowmeter | 210 - Buffer tank | |
| 14 - Pressure relief valve (PRV) | 501 - Compressor temp. sensor | |

■ 2 heating circuits



1 - Compressor

2 - Accumulator

3 - 4-way valve

4 - Heat exchanger (Evaporator)

5 - 3-way valve

6 - Expansion valve

7 - Filter

8 - Pressure switch (On/Off)

10 - Valve

11 - Bleeder valve

12 - Circulating pump

13 - Flowmeter

14 - Pressure relief valve (PRV)

15 - Refrigerant to Water Heat Exchanger

16 - Connection

17 - Antifreeze valve

18 - Sediment trap

30 - Outdoor unit

31 - Hydronic unit 1 service

40 - Degasser

46 - Pressure sensor (high)

50 - Expansion vessel

52 - Decoupling bottle

53 - Directional valve

54 - Manometer

56 - Non return valve

60 - HP Electrical backup

72 - Pressure sensor (low)

77 - Receiver

100 - Radiator

101 - Heating floor

102 - Dynamic radiator (fan-convector)

105 - Room thermostat

200 - Direct heating circuit kit

210 - Buffer tank

250 - 2 circuits kit

252 - Mixing valve

501 - Compressor temp. sensor

502 - Discharge temp. thermistor

503 - Input temp. sensor (Expansion valve)

504 - Inlet heat exchanger temp. thermistor (refrigerant heat exchanger)

505 - Middle heat exchanger temp. thermistor (refrigerant heat exchanger)

507 - Flow temp. Thermistor (hydraulic heat exchanger)

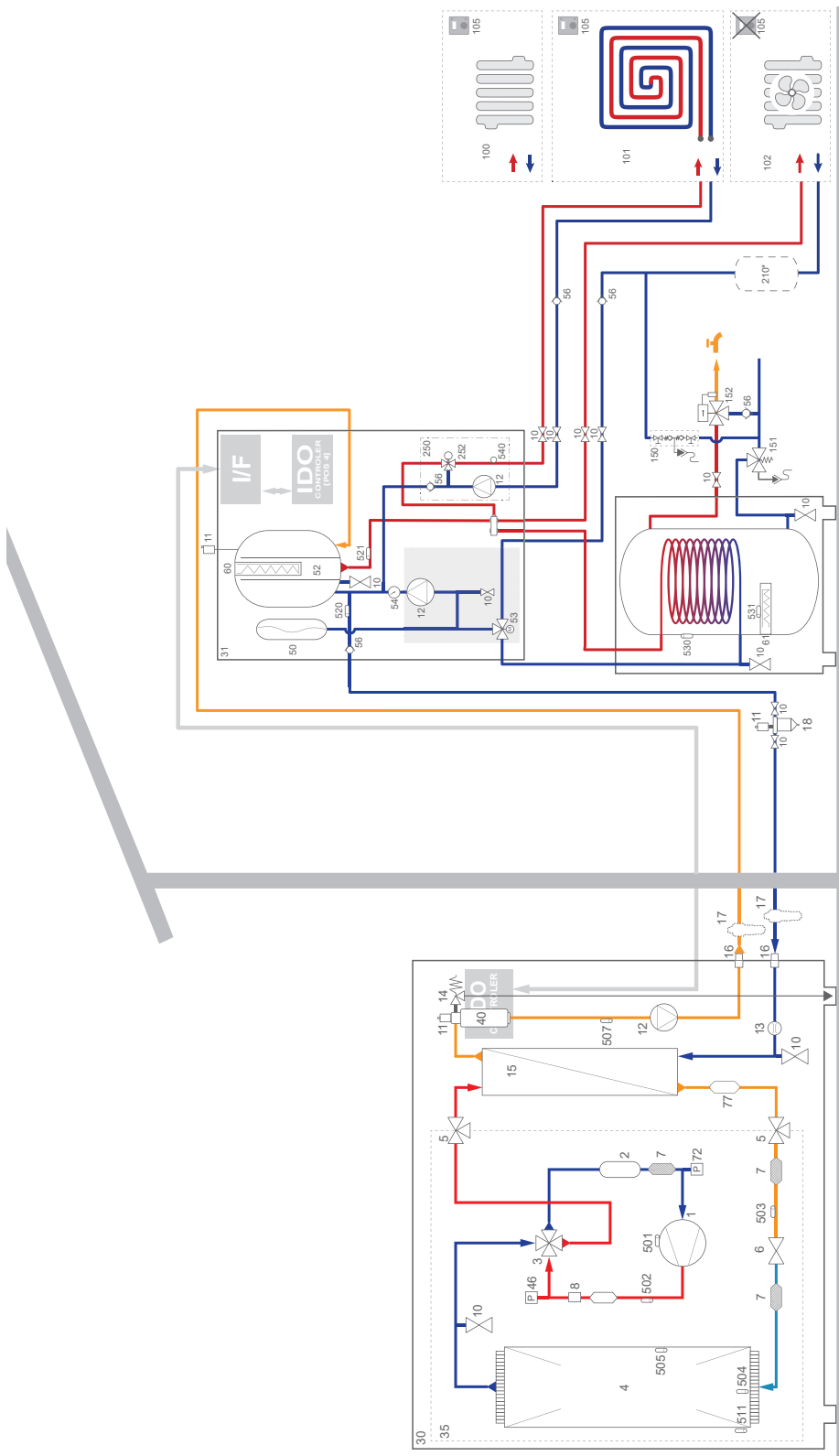
511 - Outdoor temp. thermistor

520 - Return temp. sensor (heating circuit)

521 - Flow temp. sensor (heating circuit)

540 - Flow temp. sensor (Mixed heating circuit)

■ 2 heating circuits with DHW



1 - Compressor
2 - Accumulator
3 - 4-way valve
4 - Heat exchanger (Evaporator)
5 - 3-way valve
6 - Expansion valve
7 - Filter
8 - Pressure switch (On/Off)
10 - Valve
11 - Bleeder valve
12 - Circulating pump
13 - Flowmeter
14 - Pressure relief valve (PRV)
15 - Refrigerant to Water Heat Exchanger

16 - Connection
17 - Antifreeze valve
18 - Sediment trap
30 - Outdoor unit
31 - Hydronic unit 1 service
40 - Degasser
46 - Pressure sensor (high)
50 - Expansion vessel
52 - Decoupling bottle
53 - Directional valve
54 - Manometer
56 - Non return valve
60 - HP Electrical backup
61 - DHW Electrical backup

72 - Pressure sensor (low)
77 - Receiver
100 - Radiator
101 - Heating floor
102 - Dynamic radiator (fan-convactor)
105 - Room thermostat
150 - Shut-off
151 - Safety valve
152 - Thermostatic mixer valve
200 - Direct heating circuit kit
210 - Buffer tank
250 - 2 circuits kit
252 - Mixing valve
501 - Compressor temp. sensor

502 - Discharge temp. thermistor
503 - Input temp. sensor (Expansion valve)
504 - Inlet heat exchanger temp. thermistor (refrigerant heat exchanger)
505 - Middle heat exchanger temp. thermistor (refrigerant heat exchanger)
507 - Flow temp. Thermistor (hydronic heat exchanger)
511 - Outdoor temp. thermistor
520 - Return temp. sensor (heating circuit)
521 - Flow temp. sensor (heating circuit)
530 - DHW temp. sensor
531 - DHW electrical backup thermal safety
540 - Flow temp. sensor (Mixed heating circuit)

► Electrical cabling plan

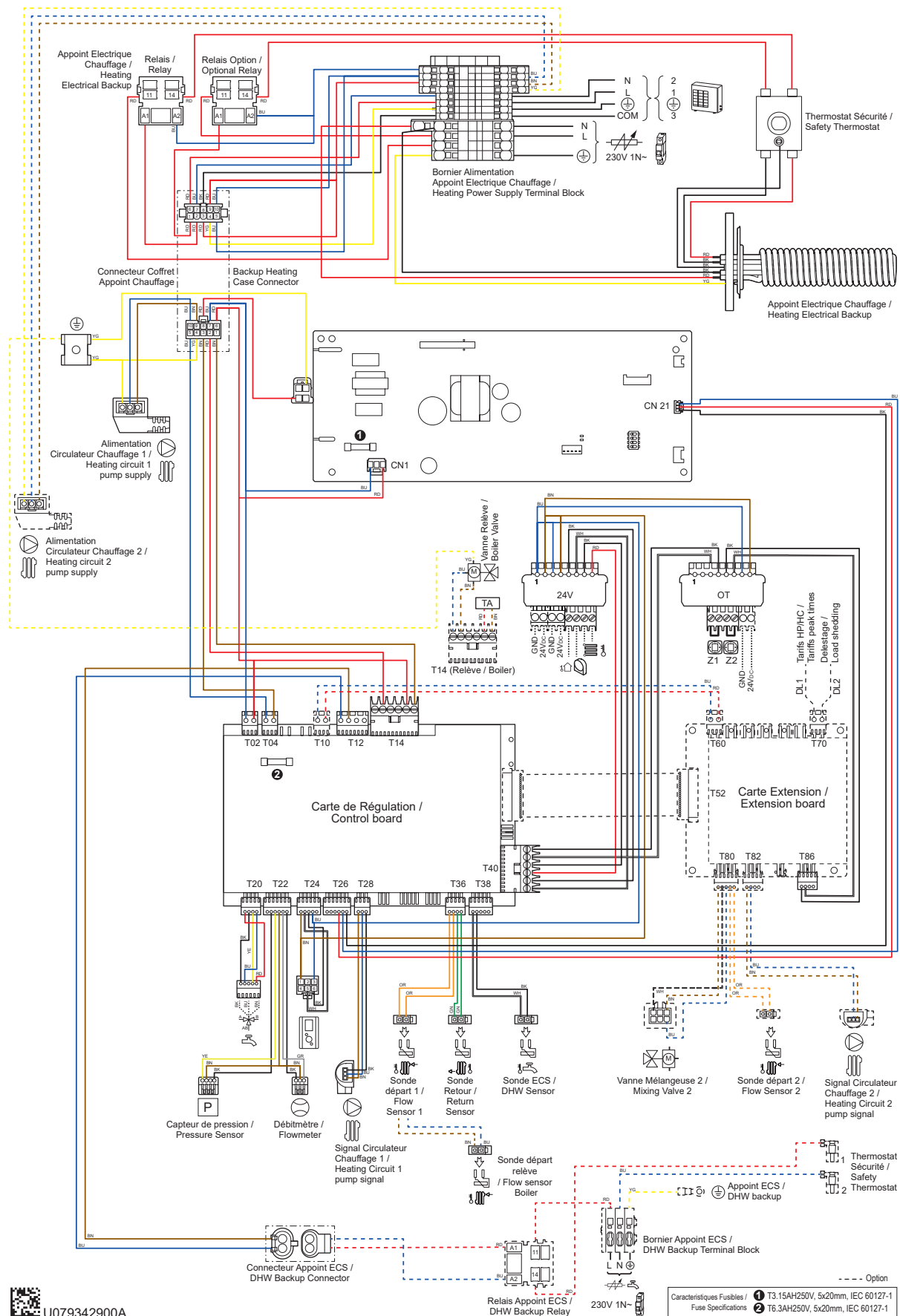


fig. 20 - Electrical wiring hydronic unit - Single phase model

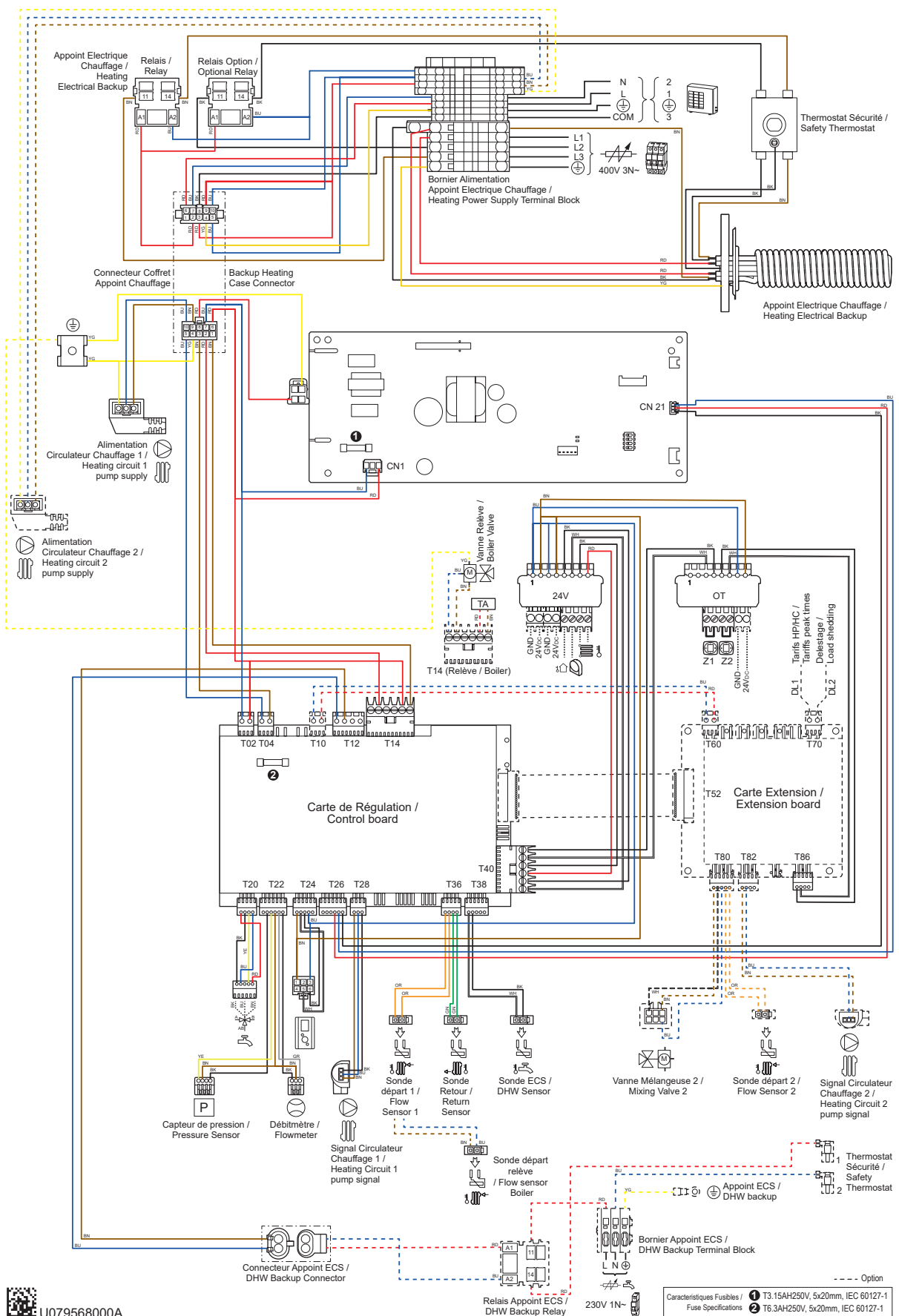


fig. 21 - Electrical wiring hydronic unit - 3-phase model

✓ Start-up procedure

Before powering up the hydronic unit:

- Check the electric wiring.
- Check the hydronic circuit pressure (1 to 2 bars), and ensure that the Heat pump and the rest of the installation has been bled.

► Start-up check-list

▼ Before starting-up

	OK	Not compliant
Outdoor unit visual checks (see outdoor unit installation manual).		
Position and attachments, condensate evacuation.		
Compliance with distances from obstacles.		
Hydronic unit hydronic checks (see section "Installing the hydronic unit", page 11).		
Connections of pipes, filter valve, flaps and pumps (heating circuit, DHW).		
Installation water volume (expansion tank capacity adapted ?).		
No leaks.		
Primary and gas release network pressure.		
Outdoor unit electrical checks (see outdoor unit installation manual).		
Main power supply (230V 1N~ or 400V 3N~).		
Protection by rated circuit breaker.		
Cable section.		
Earth connection.		
Hydronic unit electrical checks (see section "Electrical connections", page 14).		
Connection to outdoor unit.		
Sensors connection (positioning and connections).		
Distribution valve connections (boiler and DHW) and circulation pump.		
Power supply and protection for electric backup.		

▼ Starting-up

	OK	Not compliant
Quick start Procedure (see chapter "⚙️ Commissioning", page 23 and § "🏠 Controller menu", page 25).		
Switch on the system's main circuit breaker (Outdoor unit power supply) 6 hours before testing => Preheat compressor.		
Initialize for a few seconds => Easy Start.		
Heating circulator operation.		
Outdoor unit starts after 4 minutes.		
Configure time, date and CC time programs, if different from default values.		
Configure hydronic circuit.		
Adjust max. flow setpoint.		
Outdoor unit checks		
Operation of fan(s), compressor.		
Current measurement.		
After several minutes measure the difference in air temperature.		
Check condensation and evaporation pressure/temperature.		
Hydronic unit checks		
After 15 minutes of operation, measure the delta T° primary water.		
Operation of heating, boiler backup, etc.		
Room control (see chapter "⚙️ Commissioning", page 23)		
Settings, maintenance, checks.		
Program the heating periods.		
Adjust the setpoints for the heating circuits if different from the default values.		
Setpoint display.		
Explications d'utilisation		



The Heat pump is ready for operation!

► Commissioning data sheet

Installation site		Installer		
Outdoor unit	Serial n°			
	Model			
Hydronic unit	Serial n°			
	Model			
Refrigerant type		Refrigerant charge kg		
Controls		Outdoor unit operating voltages and currents		
Compliance with installation distances		L/N or L1/N	V	
Correct condensates drainage		L2/N	V	
Electrical connections/tightening of connections		L3/N	V	
		L/T or L1/T	V	
		L2/T	V	
		L3/T	V	
		Icomp	A	
Hydronic network on hydronic unit				
Secondary network	Underfloor heating	}	Circulator	Type
	LV radiators			
	Fan-convector			
Domestic hot water; storage tank type				
Estimated secondary network water volume		L		
Options & accessories				
Auxiliary power supply			Room thermostat	
DHW supply			Radio room thermostat	
Correct outdoor sensor location				
Correct room thermostat location				
2-circuits kit			Details	
Control setting				
Configuration type				
Essential settings				

Instruction for the end user



Explain the operation of the system to the user, in particular the functions of the room sensor and the programs available on the user interface.

Emphasize that underfloor heating systems have a high inertia, so settings must be made gradually. Also explain how to control the filling of the heating circuit.



End-of-life of the appliance

The dismantling and recycling of devices must be carried out by a specialized service. Under no circumstances should devices be disposed of with household waste, bulky items or landfill.

At the end of the device's life, please contact your installer or local representative to arrange for dismantling and recycling.



This unit is identified by this symbol. It means that all electrical and electronic products must not be included in household waste. A specific recycling system for this type of product has been set up in European Union countries (*), Norway, Iceland and Liechtenstein. Do not try to dismantle this product yourself. It may have damaging effects on your health or on the environment.

Reprocessing of the refrigerant, lubricant and other parts may be performed by a qualified installer in compliance with the local and national legislation in force.

This unit must be recycled by a specialised service and in no case may it be thrown away with household waste, rubble or in a landfill. Please contact your installer or local representative for more .

* Depending on the national regulations of each member state.

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Date of installation : :

Contact of your heating technician or your after-sales service.



This device is compliant with:

- the Radio Equipment Directive 2014/53/EU;
- Directive 2011/65/EU and the applicable delegated directives on the restriction of the use of certain hazardous substances in electrical and electronic equipment;
- the Ecodesign Directive 2009/125/EC and the applicable implementing regulations;

The full text of the EU Declaration of Conformity is available at the following internet address: <https://www.atlantic.fr/>