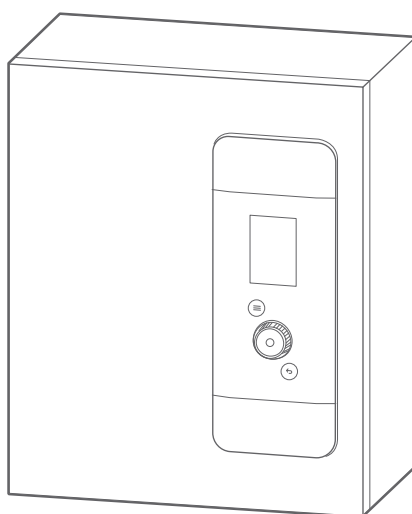




Indoor unit

UTW-SCBEC



EN

INSTALLATION MANUAL

Fujitsu Airstage Monobloc Comfort

Monobloc 1 service air/water heat pump

Indoor Unit



■ 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.

The heat pump is designed to be installed at an altitude not exceeding 2,000 m.

■ 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).

Use glycol/water mix if the minimum flow temperature is set below 10°C..

Use glycol/water mix if the outdoor hydronic circuit is subject to a frost risk.

For the outdoor hydronic circuit, use an insulation which is suitable for outdoor use and is UV/moisture-resistant (usage temperature -20 to +70 °C).

Mandatory: Use glycol or anti-freeze valves to protect the unit.

If you are using a glycol/water mix, arrange for an annual check on the quality of the glycol. Use monopropylene glycol only. The recommended concentration is 40 % max. (30 % minimum).

Never use monoethylene glycol.

Do not use anti-freeze valves if glycol water is used and vice versa.

- **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.



■ 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* (see tables on page 3).

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.

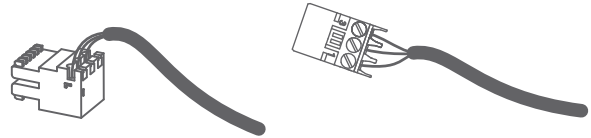
• Cable glands

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
PG11	3.5 to 10	3.8	2.6
PG16	7 to 14	4.3	2.6
PG21	13 to 18	5	4

• Connecting to controller boards

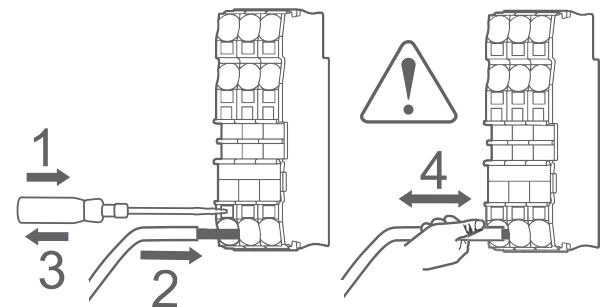
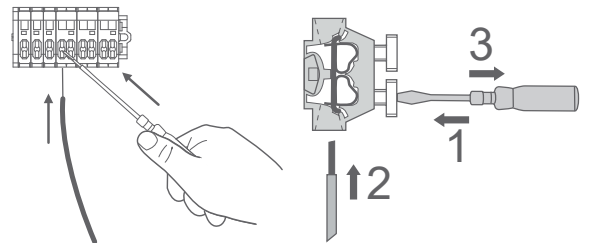
- Remove the corresponding connector and make the connection.



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





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.

► Lexicon

LV - Low Voltage: power connection

SELV - Safety Extra Low Voltage: electrical connection of probes.

OU - Outdoor Unit

IU - Indoor Unit

Indoor Unit (IU)

► 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

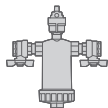
• 1 package:

IU - Indoor Unit

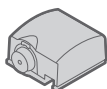
• Accessories supplied:



Manometer



Sediment trap



Flow temperature sensor

Return temperature sensor

x2

■ Package pairing table

Heat pump Model	Outdoor unit Reference	Code	Indoor Unit Reference	Code
Fujitsu Airstage Monobloc Comfort 5	WPEG050KRF	750918	UTW-SCBEC	024320
Fujitsu Airstage Monobloc Comfort 8	WPEG080KRF	750919		
Fujitsu Airstage Monobloc Comfort 10	WPEG100KRF	750920		

► Optional accessories

- **6kW Electrical back-up kit** (Code UTW-HB6CXQ)
- **Boiler connection kit** (Code UTW-KBCXQ)
- **Room Thermostat**
 - Thermostat **225** (Code UTW-C225XQ)
 - Thermostat **228** (Code UTW-C228XQ)
- **Outdoor sensor** (Code UTW-KESXQ).
- **Extension regulation kit** (Code UTW-KREXQ)
- **1 decoupled zone kit** (Code UTW-KZC1XQ)
- **2 decoupled zones kit** (Code UTW-KZC2XQ)
- **3 decoupled zones kit** (Code UTW-KZC3XQ)
- **DHW kit** (Code UTW-KDWCXQ)
- **Cooling kit** (Code UTW-KCDXQ)

► Specification

Electrical characteristics		
Electrical voltage (50 Hz)	V	230
Maximum current	A	2
Maximum power absorption	W	300
Battery	-	No
Hydronic circuit		
Maximum operating pressure	MPa (bar)	0.3 (3)
Miscellaneous		
Weight	Kg	10
Control unit installation temperature	°C	+5 / +30
Radio characteristics		
Frequency bands	MHz	2400 to 2483.5
Zigbee maximum power	dBm	10.90
Wifi maximum power	dBm	13.80

Heat pump return sensor
Heat pump start sensor
DHW Sensor (option)
QAC2030 NTC outdoor sensor (optional)

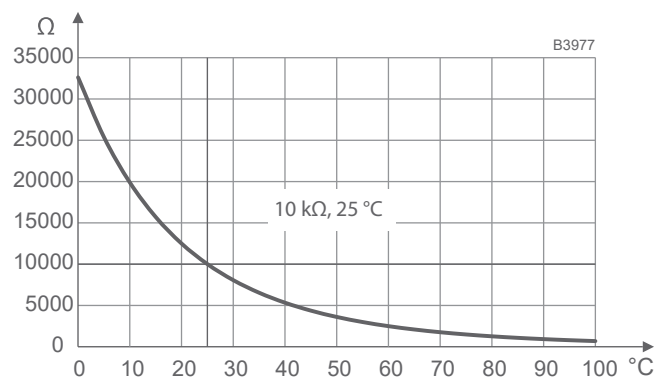


fig. 1 - Ohmic sensor values

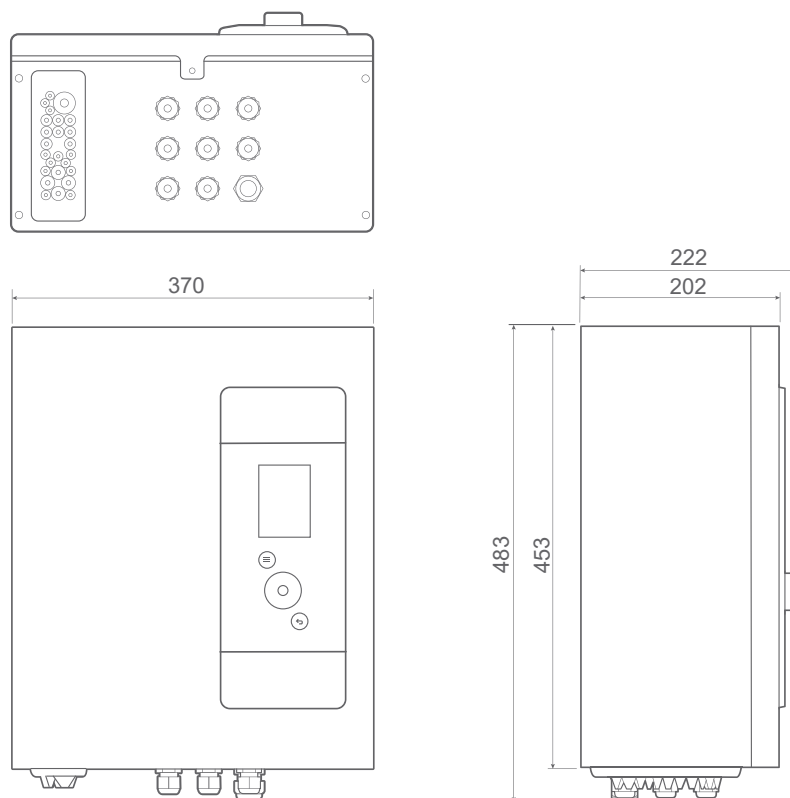


fig. 2 - Dimensions in mm

► Operating principle

- The indoor unit is equipped with a controller that allows for the production of:
- 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 is automatically managed by activating 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

- As heating backup (either electrical backup or boiler connection) is not mandatory, it is necessary in this case to guarantee a minimum water volume in the installation.
- Anti-legionella cycle for domestic hot water.
- Frost protection: The Hydraulic 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

Installation

Installation precautions

- Choose the location of the outdoor unit and the indoor unit after discussion with the customer.
- The location of the indoor unit should allow for easy connection to all elements of the heating system.
- The room in which the appliance operates must comply with the prevailing regulations.
- To facilitate maintenance and to allow access to the various components, we recommend that you provide sufficient space all around the indoor unit.

Installation

Securely fix the casing to a flat and sturdy wall using the template provided. Make sure the casing is level (use 3 wall plugs suitable for the material of the supporting wall).



Use the template.

Weight of the indoor unit = 10Kg



To remove the front panel, disconnect the connector.

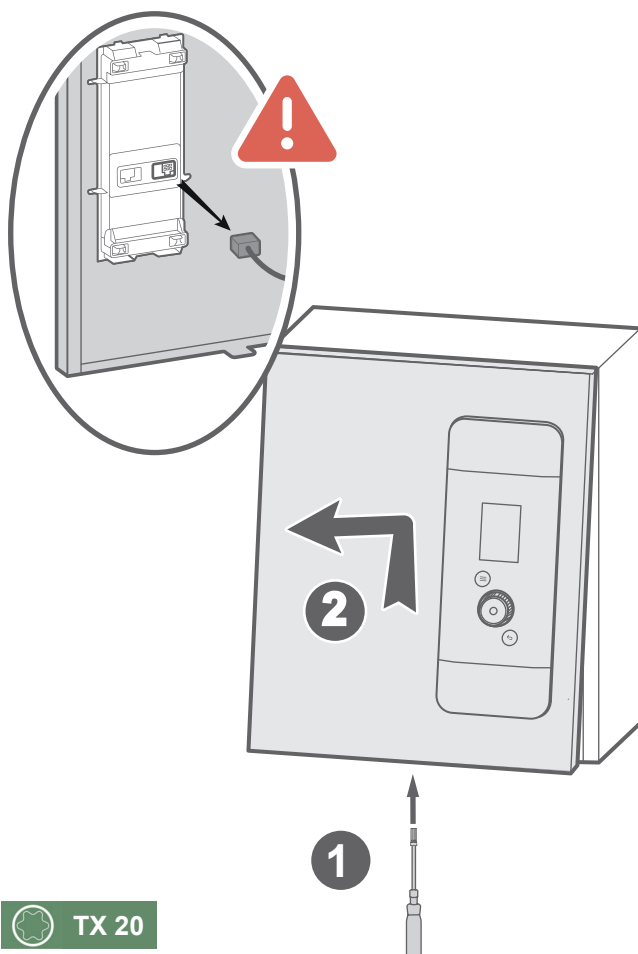


fig. 3 - Front cover opening

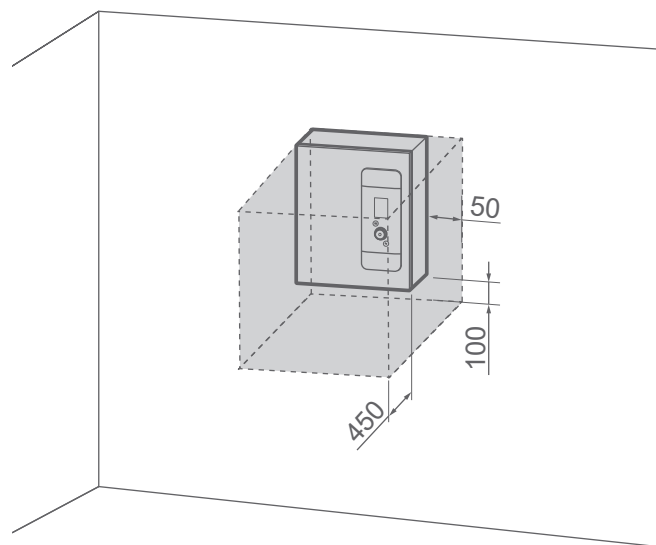
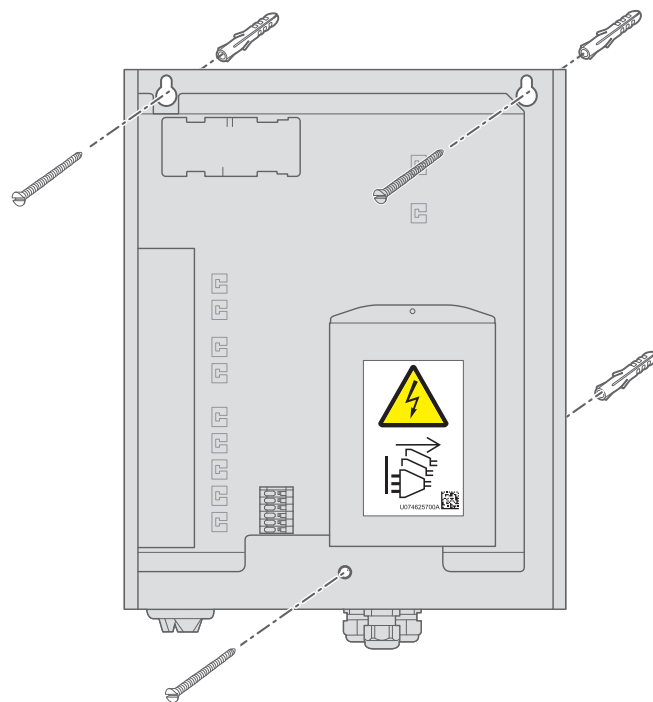


fig. 4 - Minimum installation clearances



3 screws (not provided)

fig. 5 - Coffret fixing

Hydronic connections



See page 41

► Flushing the installation

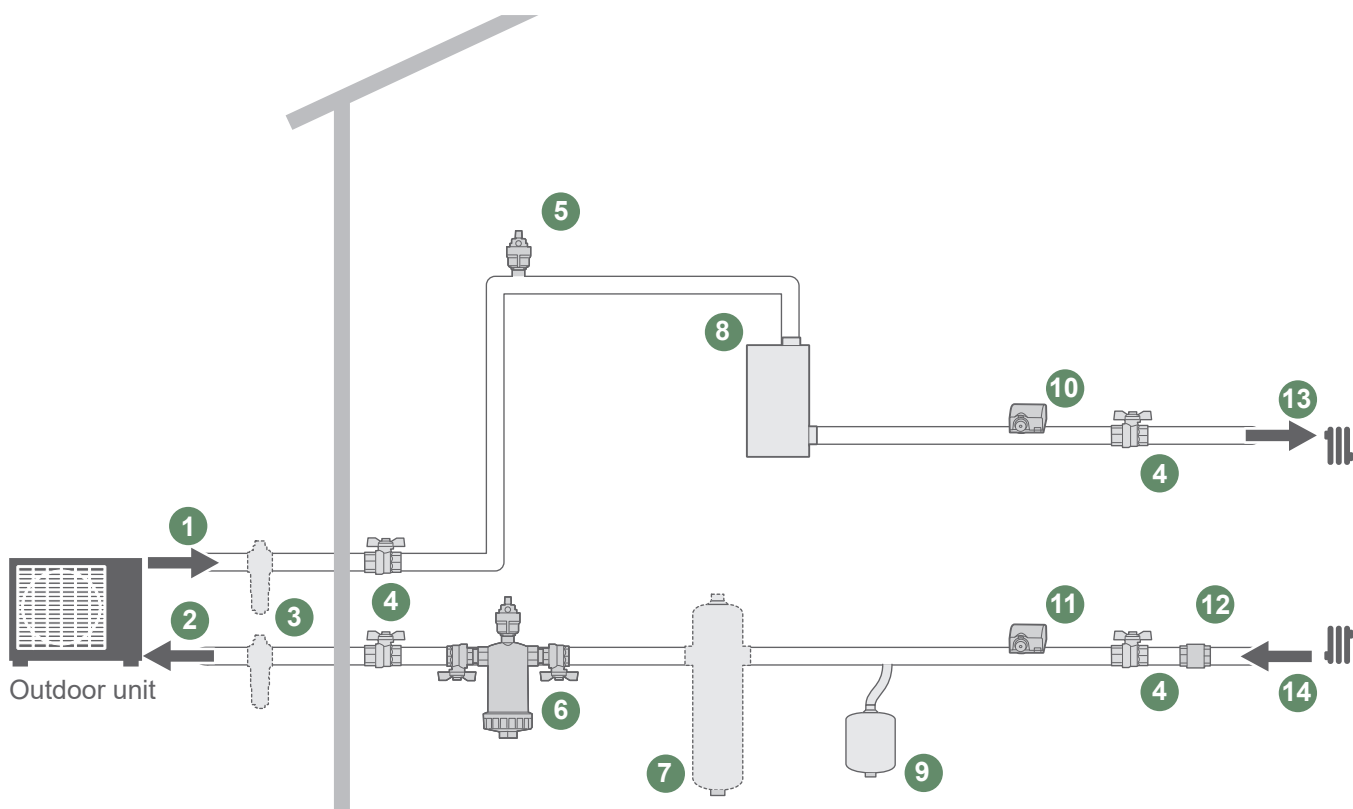


Before connecting the hydraulic unit to the installation, rinse the heating system correctly to eliminate the particles that could compromise the correct operation of the appliance.

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



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



- 1 - Outdoor unit - Departure connection
- 2 - Outdoor unit - Return connection
- 3 - Anti-freeze valves
- 4 - 1" MM shut-off valves (optional)
- 5 - Air vent

- 6 - 1" MM sludge pot
- 7 - Buffer tank (optional)
- 8 - Electrical backup kit (optional)
- 9 - Expansion vessel (optional)
- 10 - Departure temperature sensor

- 11 - Return temperature sensor
- 12 - Non-return valves
- 13 - Heating supply (1 circuit)
- 14 - Heating return (1 circuit)

(according to model and accessory)

fig. 6 - Raccordements

► Outdoor Unit



Mandatory: Install the sediment trap on the outdoor unit return in the recommended direction.



Install antifreeze valves (optional / not supplied) on the hydraulic circuit in the recommended direction.

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

Preferably use flexible hoses to avoid transmitting noise and vibrations to the building.

■ Piping

Tightening torque:

Ø	Tightening torque:
1/2"	25 Nm
3/4"	35 Nm
1"	45 Nm
1-1/4"	60 Nm

Use a holding wrench.

Check the correct connection of the expansion system.

Check the expansion vessel pressure and the safety valve is calibrated.



The installation of control valves (other than those present in our configurations) that reduce or stop the flow is prohibited.

• Flow requirements:

- Calculate the pipe diameters according to hydraulic circuit flows and lengths.
- Complying with the flow range ensures the appliance operates correctly. To that effect, the heat pump is equipped with a flow controller to ensure a sufficient minimum flow inside the exchanger. If the flow is too low, the appliance will switch to safe mode.

If the installation includes thermostatic valves (underfloor heating system or radiator), it is mandatory to install a bypass or keep a hydraulic loop without valve at a sufficient distance from the heat pump to ensure a minimum flow (see "Minimum flow rate of the hydraulic circuit", OU manual).

► Volume of the heating system

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).**



Mandatory: Respect the minimum water volume in the free circulation loop.

▼ WITH electrical back-up or boiler connection

→ 24L for model 5kW.

→ 40L for models 8 and 10kW.

▼ WITHOUT electrical back-up or boiler connection

→ 48L for model 5kW.

→ 80L for models 8 and 10kW.

► Filling and bleeding the installation

Check the pipe fixings and the tightness of the connections.

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

Proceed to fill the installation.

During filling, do not operate the circulator, open all the bleeders to evacuate the air contained in the pipes.

Close the drain 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** stage, and once the machine has started, bleed the hydraulic unit again.



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

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 is detailed [page 40](#).

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.

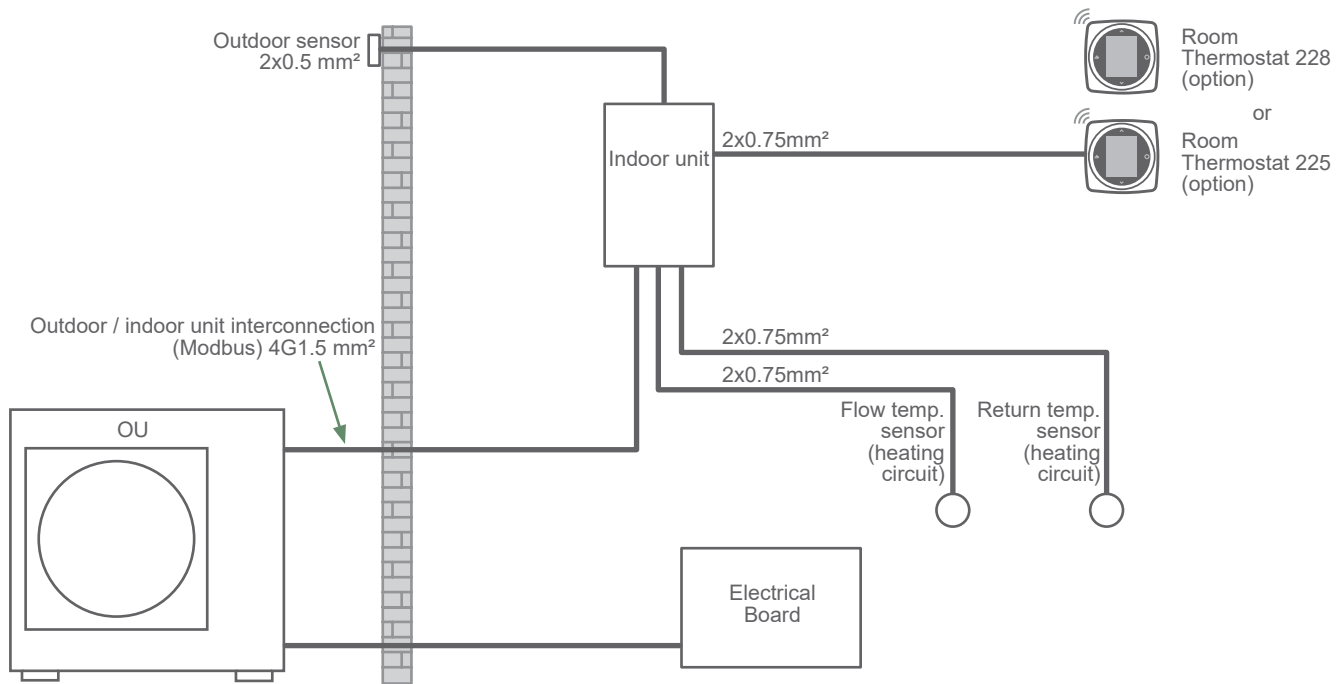


fig. 7 - Overall layout of electrical connections for a simple installation (1 heating circuit)

► Cable dimensions

■ Outdoor unit Power Supply (OU)

(* See Outdoor unit Installation manual)

■ Interconnection between indoor and outdoor unit

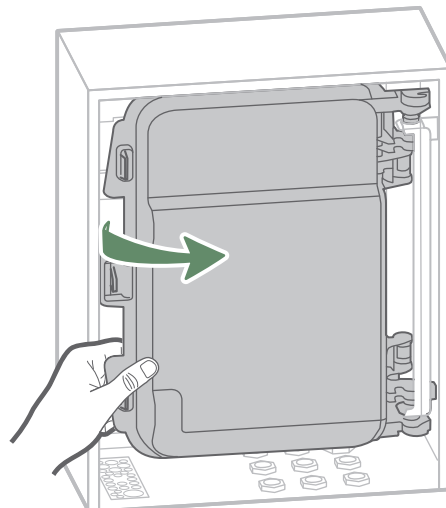
The indoor unit communicates with the outdoor unit via a 4G1.5 mm² cable (phase, neutral, earth, Com).

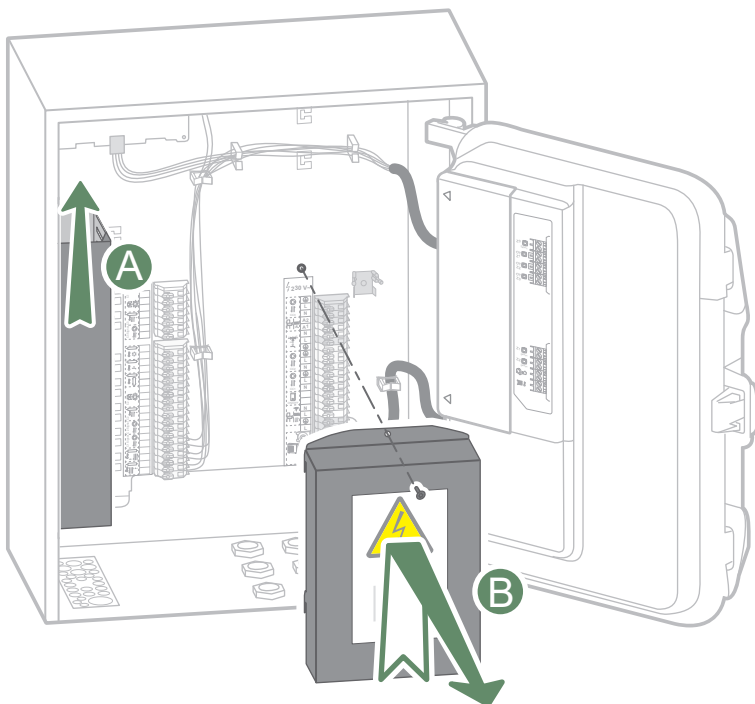
► Indoor unit

Access the connection terminals:

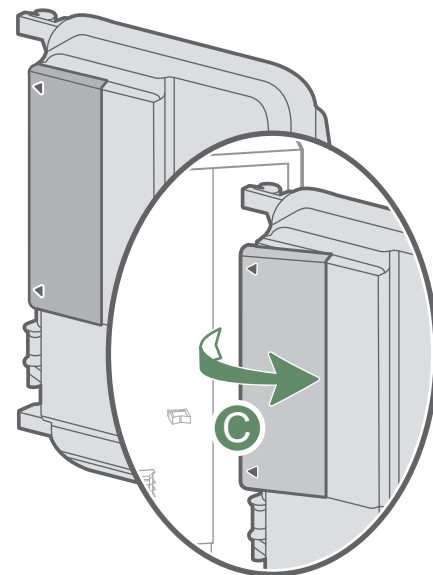
- Remove the front panel.
- Unclip and rotate the electrical box.
- Make the connections.

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





24V and 230V terminals



Sensor terminals

➔ **A, B and C** : Make sure to replace the protective covers after the intervention.

fig. 8 - Access to the terminals

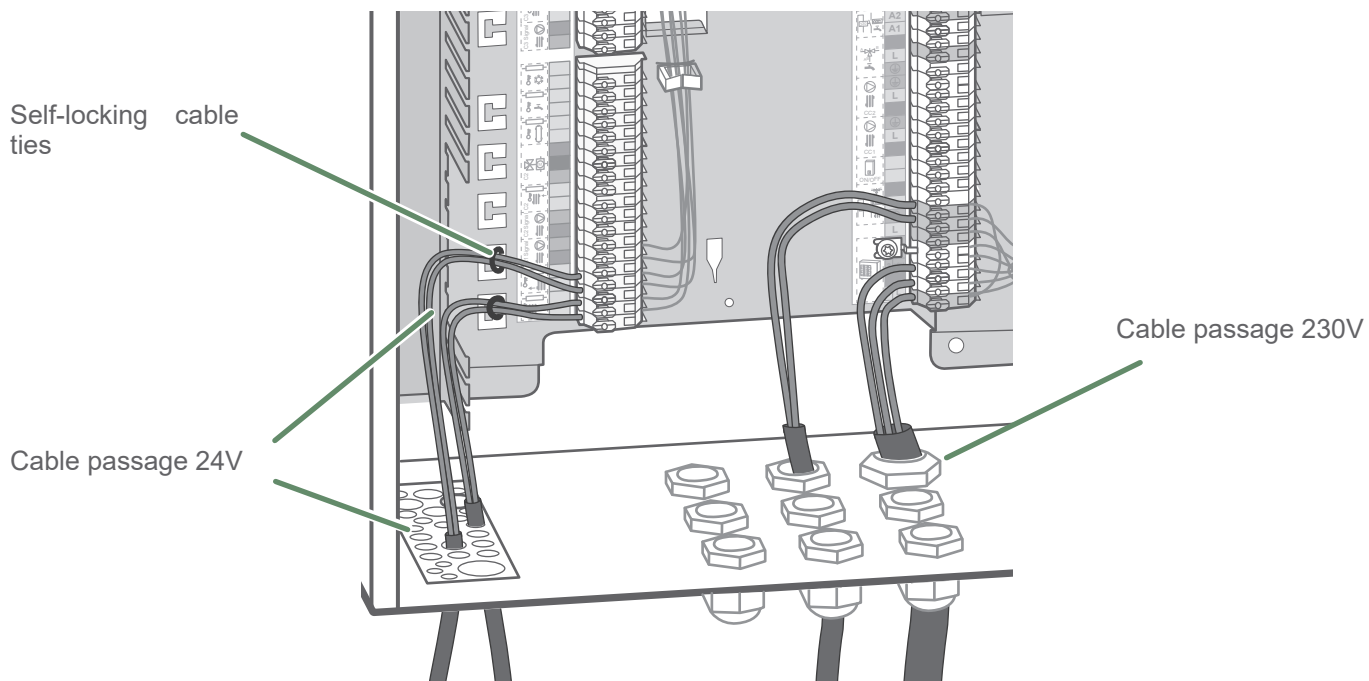


fig. 9 - Cable passage

► Electrical connections

▼ Flow and return temperature probes

- Connect the flow sensor **521** and the return sensor **520** to the 24V terminal block.

▼ Interconnection IU ↔ OU

- Respect the correspondence between the markings on the terminals of the indoor and outdoor units when connecting the interconnection cables **417**.



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

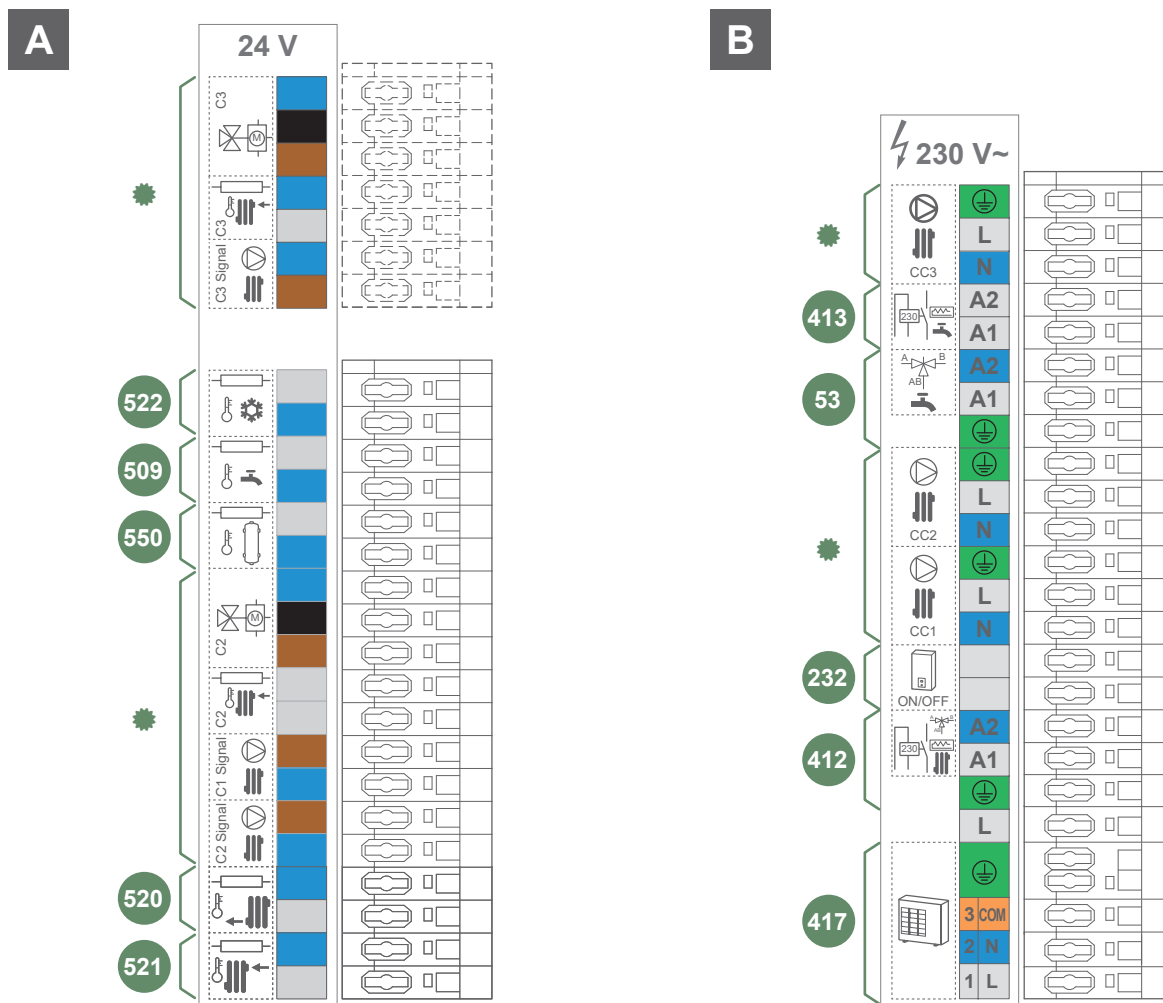


fig. 10 - Connection to the 24V and 230V terminals

► Options

▼ Boiler connection

- On the 230V terminal block: Connect the boiler control **232** and the boiler backup valve **412**

▼ 1, 2 or 3 decoupled zones

- Refer to the instructions provided with the relevant kit **✱**.

▼ Electrical back-up

- Independent power supply.
- On the 230V terminal block: Connect the heating backup relay **412**.

▼ Cooling

- On the 24V terminal block: Connect the cooling sensor **522**.

▼ Domestic hot water

- Please refer to the instructions supplied with the kit.
- On the 230V terminal block: Connect the DHW backup relay **413** and the directional valve **53**
- On the 24V terminal block: Connect the DHW sensor **509**.

▼ Buffer tank

- On the 24V terminal block: Connect the buffer tank sensor **550**.

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.

▼ Room thermostat

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

"Connect" thermostat - 24V_{DC} power supply (wired power / wireless communication) ①.

Thermostat (Z1 / Z2 / Z3) (wired power / wired communication) ②.

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.

③ Connect the outdoor sensor to the **Sensors terminal**.

▼ 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 Connector**.

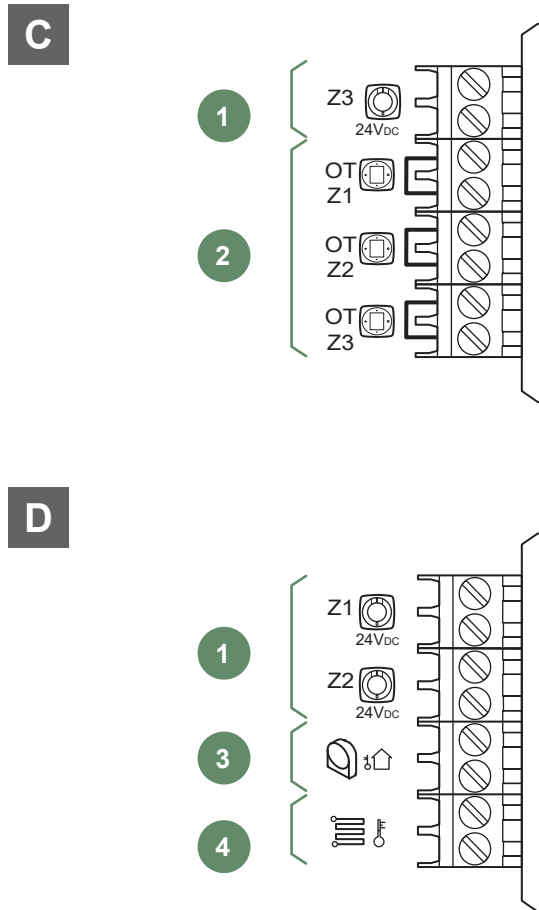
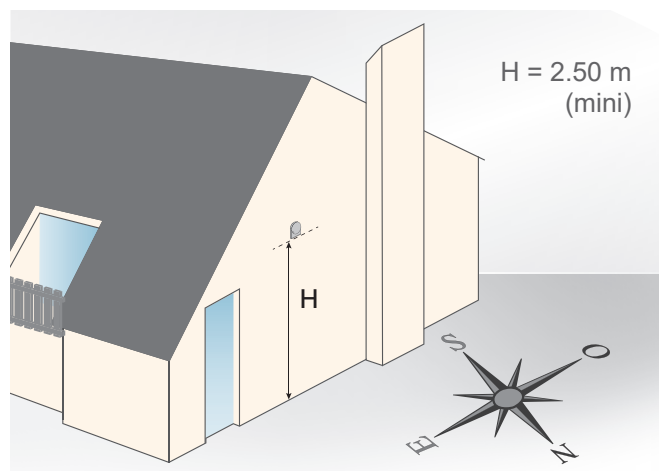


fig. 11 - Sensors connections



▼ 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** **5**.
- 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

- 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.

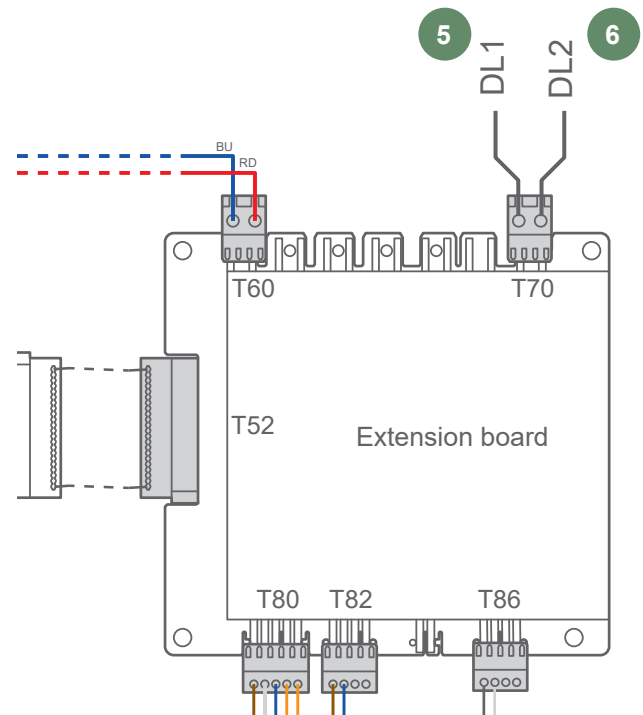
Load shedding or peak shaving

- Connect the load-shedding device to input **DL2** of the **connector T70** **6**.
- 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** **5** **6**.
- 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".

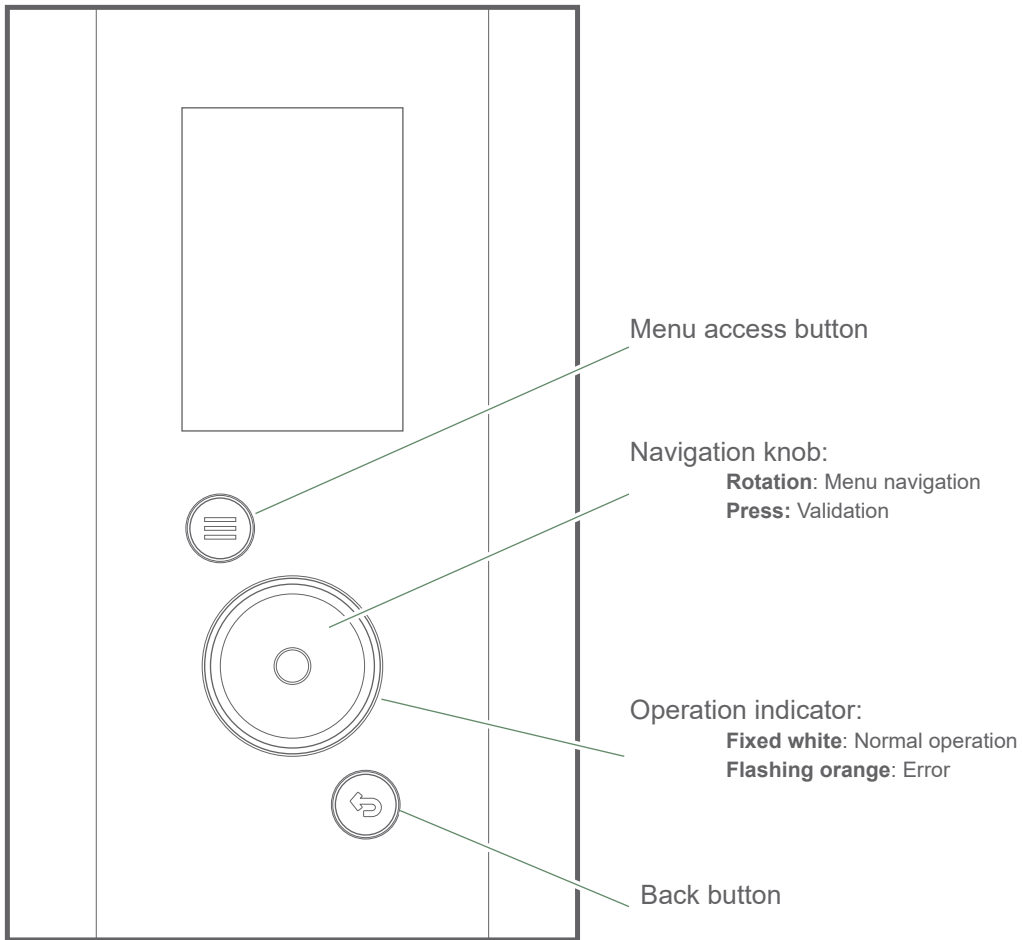
- Connect the external control box to the input **DL2** of the **connector T70** **6**.
- In the menu Installed Options, set "*External input 1: Type of functions*" to "Switch to cooling".
- Heating/cooling mode by default:
 - 0V on DL2 = heating mode.
 - 230V on DL2 = cooling mode.
- Demand management 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

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

- 5** 43°C Flow temperature setpoint

Operation :

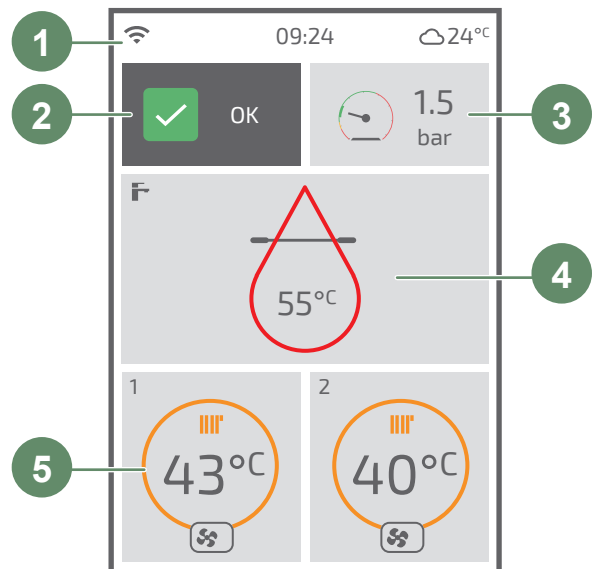
-  (Orange) Heating
-  (Blue) Cooling
-  (Grey) Off / Frost protection

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: <u>20°C</u>	Max: <u>50°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>

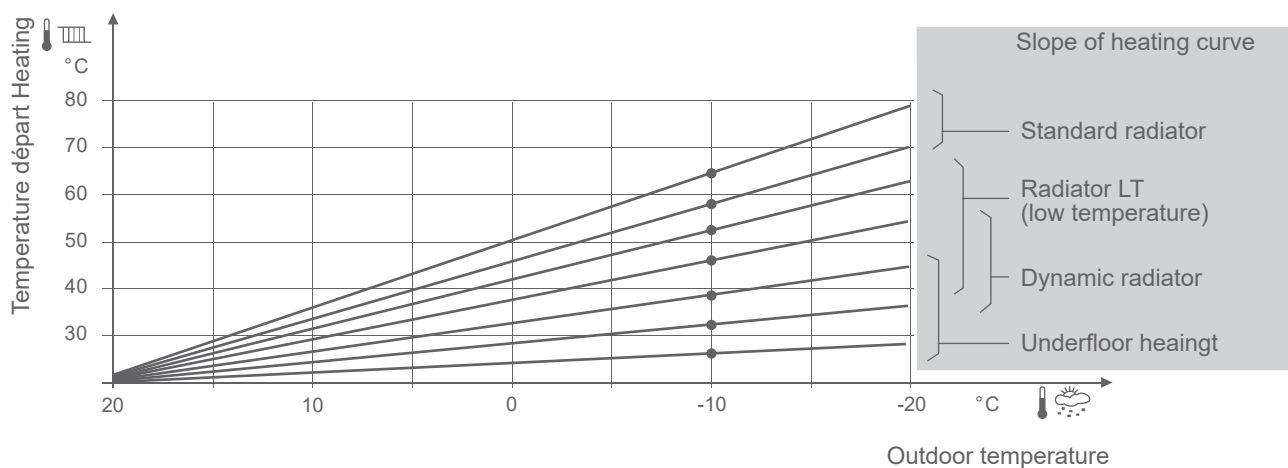


fig. 12 - Slope of heating curve

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.

■ WITH heating boost (electrical back-up or boiler connection):



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

■ WITHOUT heating boost (electrical back-up or boiler connection):



Even if the commissioning is done in cold weather, it is the indoor unit that preheats the hydraulic circuit.



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
Hot Water Option	No
Electrical heater	6kW
Number of circuits	1
Circuit X: Name	Circuit 1
Circuit X:Emitters type	Radiators
Circuit X: Comfort delivered	Heating

► Bleeding the hydraulic circuit

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.)

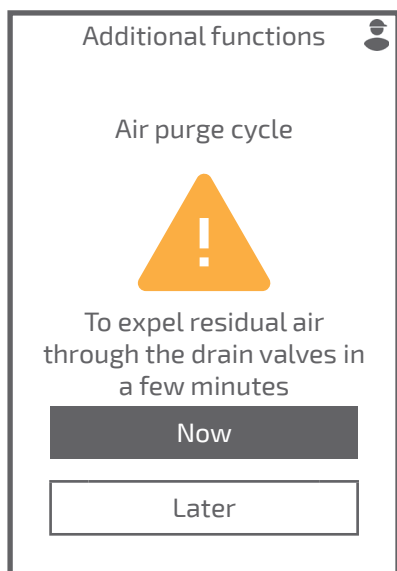
- Open all system drains to evacuate air from the pipes.
- Close the bleed valves and add water until the hydraulic circuit pressure reaches 1.5 bar.

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.

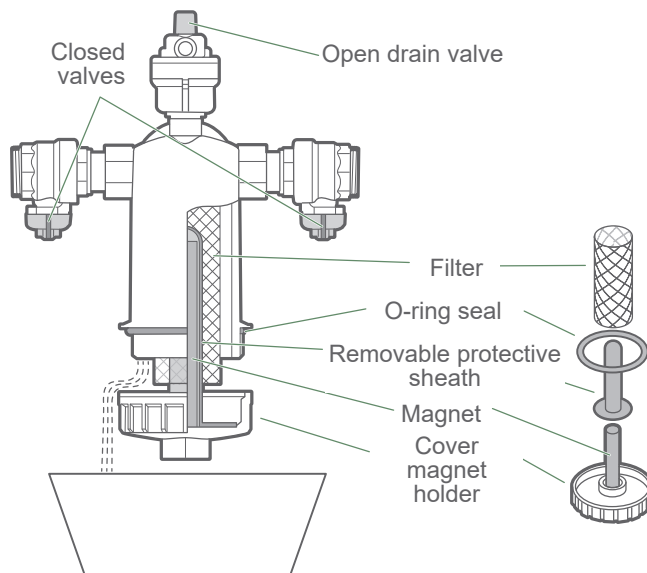
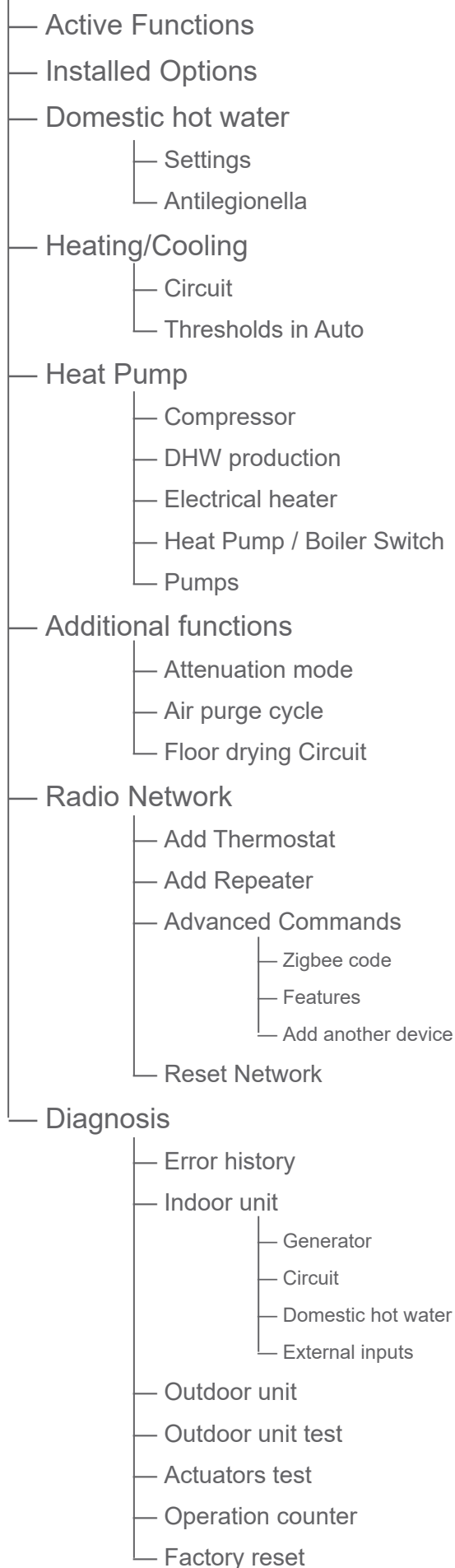


fig. 13 - Sludge pot cleaning

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.

The values shown on the screens are given as examples and 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 / 3 :**

Off / Heating / Cooling / Auto

- **Emergency mode :**

Enabled / Inactive

Active Functions	
Domestic hot water	<u>Off</u>
Circuit 1	<u>Off</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*.

- **Outdoor Unit Model:**
XX kW
- **Hot Water Option :**
Yes / No
- **DHW electrical heater:**
None / 0.1 kW ... 10.0 kW
- **Electrical heater :**
None / 6kW / Backup boiler
- **Number of circuits :**
1 / 2 / 3
- **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
- **Decoupling :**
No / Yes
- **Pump X Type :**
PWM / On/Off
- **Outside temperature :**
(Information depending on outside sensor location)
From Outdoor Unit / From remote sensor
- **Safety input :**
➔ To be adjusted with a underfloor heating safety device
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 :**
Compressor Allowed / Compressor Forbidden

Installed Options 	
Outdoor Unit Model	XX kW
Hot Water Option	<u>Yes</u>
DHW electrical heater	<u>None</u>
Electrical heater	<u>6kW</u>
Number of circuits	<u>1</u>
Circuit X: Name	<u>Circuit 1</u>
Circuit X:Emitters type	<u>Radiators</u>
Circuit X: Comfort delivered	<u>Heating</u>
Decoupling	<u>No</u>
Pump X Type	<u>PWM</u>
Outside temperature	From Outdoor Unit
Safety input	<u>Normally Open</u>
External input X: Type of functions	<u>Noe</u>
External input X: Switching settings	<u>230V</u>
If power shedding order	<u>230V</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 :

45°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

Schedule (+ Off-peak hours)

Comfort temperature

55°C

Eco temperature

40°C

Eco/Comfort schedule

View

Max. temperature

65°C

Hysteresis

7°C

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

Actif

Time of cycle

Thursday to 04:15

Temperature

60°C

► Heating / Cooling

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

- **Flow setpoint limits :**
 Min : 20°C ... 30°C
 Max : 30°C ... 55°C ... 80°C
- **Temperature control :** (View  Weather compensation)
 Weather compensation / Smart Adapt
- **Flow temp at -10°C outside:**
 Flow temp at 20°C outside... 35°C... 80°C
- **Flow temp at 20°C outside:**
 10°C ... 20°C... Flow temp at -10°C outside
- **Room temperature influence :**
 10 % ... 50 % ... 90 %

Circuit 1 Heating	
Flow setpoint limits :	
Min : <u>20°C</u>	Max : <u>50°C</u>
Temperature control	
Weather compensation	
Flow temp at -10°C outside	
	<u>35°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 :** (View  Weather compensation)
 Weather compensation / Smart Adapt // On room thermostat
- **Flow temp at 25°C outside:**
 Flow temp at 35°C outside ... 20°C... 35°C
- **Flow temp at 35°C outside :**
 6°C ... 16°C... Flow temp at 25°C outside
- **Room temperature influence :**
 10 % ... 50 % ... 90 %

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>
Room temperature influence	
	<u>50 %</u>

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

- **Switch to heating at :**
 15°C ... 20°C
- **Switch to cooling at :**
 Inactive / 21°C ... 30°C

Heating / Cooling Thresholds in Auto	
Switch to heating at	
	<u>19°C</u>
Switch to cooling at	
	<u>24°C</u>
Outside temperature	
	°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	8 min
Overrun	30 s

Heat Pump

DHW production

- **Max. DHW charging time :**

90 min ... 120 min ... 180 min

- **Back to Heating/Cooling:**

10 min ... 90 min ... 120 min

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

Heat Pump

Electrical heater

- **Outside temperature threshold :**

Always allowed / -15°C ... 2°C ... 10°C

- **Switching threshold :**

0°C min ... 100°C min ... 500°C min

Heat Pump Electrical heater	
Outside temperature threshold	2 °C
Switching threshold	100°C min

- **Heat Pump min time**
5 min ... 30 min ... 60 min
➔ Minimum heat pump operating time.
- **HP locked if outside temp < :**
-15°C ... 10°C / Always allowed
➔ Switch from heat pump => boiler (if the outside temperature is below the setpoint).
- **Switching threshold:**
0°C.min ... 100°C.min ... 500°C.min
➔ Is used to switch to boiler mode when the heat pump is unable to reach the setpoint after a given time.

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

- **Outdoor unit Pump speed :**
20 % ... 100 %
- **Circuit 1 Pump speed :**
70 % ... 100 %
- **Circuit 2 Pump speed :**
70 % ... 100 %
- **Circuit 3 Pump speed :**
70 % ... 100 %

Heat Pump Pumps
Outdoor unit Pump speed
100 %
Circuit 1 Pump speed
100 %
Circuit 2 Pump speed
100 %
Circuit 3 Pump speed
100 %

► Additional functions

- **Compressor limitation :**
Enabled / Inactive
- **Max allowed speed :**
10 % ... 50 % ... 95 %
- **Active as :**
Outside T° > -15 °C ... 7°C ... 10 °C
- **Period 1 / 2 / 3 :**
Set period

Attenuation mode
Compressor limitation
<u>Enabled</u>
Max allowed speed
50 %
Active as
Outside T° > <u>-7 °C</u>
Period 1
from <u>22:00</u> to <u>07:00</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 / Shock 7d + Progressive 18d / Progressive 18d / Shock 7d

- **Flow temperature :**

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

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*.

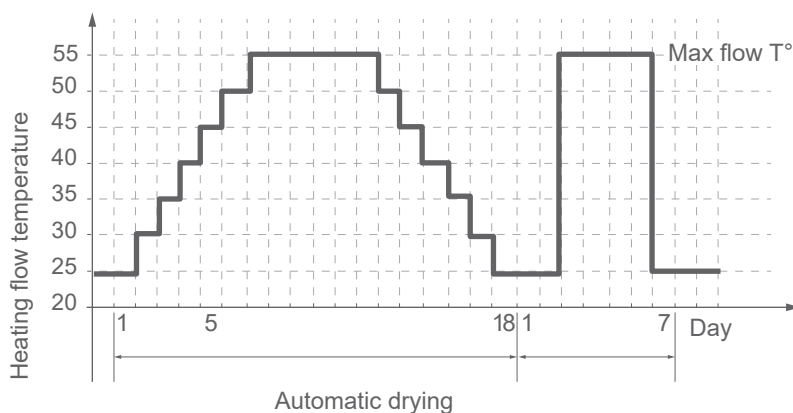


Drying

Manual for 25 days

Flow temperature

25°C



► Radio Network

Radio Network

Add Thermostat

→ Please refer to the room sensor installation manual.

Add Thermostat 

Add in Circuit 1

Opened network
Put the device to be added in
network search mode

(89 sec. remaining)

Radio Network

Add Repeater

Install repeater halfway between device and Thermostat

→ Please refer the Repeater installation manual.

Radio Network 

Add Repeater

Opened network
Put the device to be added in
network search mode

(89 sec. remaining)

Radio Network

Advanced Commands

Features

Provides status and technical information on the radio network.

Radio Network Features 

Status

JOINED NETWORK

PAN ID

0x3717

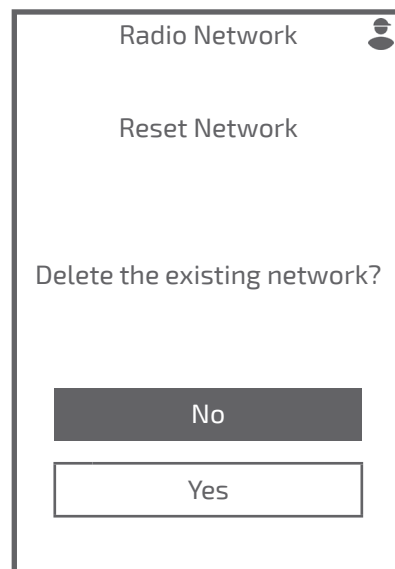
Extended PAN ID

0x46259B0E7

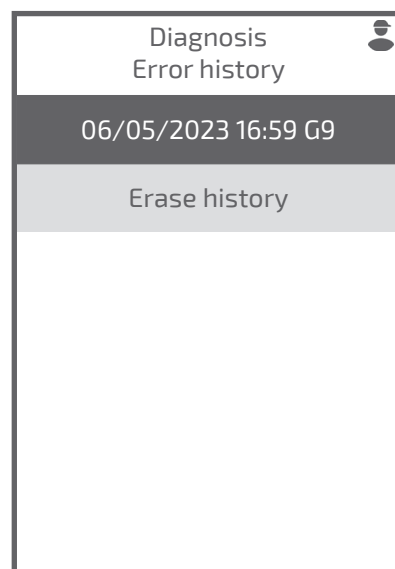
Node short ID

0xXX

Reset cancels all pairings.



► Diagnosis



Diagnosis	Indoor unit
	Outdoor unit
	Operation counters
	Serial numbers

Displays the status of various functions and actuators.

Diagnosis 
Error history
Indoor unit
Outdoor unit
Outdoor unit test
Actuators test
Operation counters
Serial numbers
Factory reset

Diagnosis	Outdoor unit test
-----------	-------------------

- **Mode :**
Heating / Cooling
- **Compressor modulation :**
Off / 7 % ... 100 %
- **Directional valve :**
DHW position / Middle position / Heating position
- **Outdoor Unit Pump :**
Off / 20 % ... 100 %

Diagnosis 
Outdoor unit test
Mode
<u>Heating</u>
Compressor modulation
<u>Off</u>
Directional valve
<u>DHW position</u>
Outdoor Unit Pump
80 %
OU pump flow rate
0 L/min
Flow temperature

Return temperature

Exchanger temperature
0°C
Tank temperature

- **Outdoor Unit Pump :**
Off / 20 % ... 100 %
- **Circuit 1 pump :**
Off / 70 % ... 100 %
- **Electrical heater :**
Off / On
- **Circuit 2 Pump speed :**
Off / 70 % ... 100 %
- **Circuit 3 Pump speed :**
Off / 70 % ... 100 %
- **Mixing valve Circuit 2 :**
Closed / Open 10 % ... 100 %
- **Mixing valve Circuit 3 :**
Closed / Open 10 % ... 100 %
- **DHW electrical heater:**
Off / On
- **Directional valve :**
Heating / Domestic hot water / Middle position



Don't forget to set the parameters to **Off** after testing.

Diagnosis Actuators test	
Outdoor Unit Pump	
	<u>Off</u>
OU pump flow rate	0 L/min
Circuit 1 pump	<u>Off</u>
Electrical heater	<u>Off</u>
Flow temperature	---
Return temperature	---
Circuit 2 Pump speed	<u>Off</u>
Circuit 3 Pump speed	<u>Off</u>
Mixing valve Circuit 2	<u>Closed</u>
Mixing valve Circuit 3	<u>Closed</u>
DHW electrical heater	<u>Off</u>
Directional valve	<u>Heating</u>
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



A series of horizontal dotted lines spanning the width of the page, providing a guide for handwriting practice.

Fault Diagnosis

► Indoor unit errors

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.
G1	Outdoor temperature sensor faulty..	Loss of connection between controller and outdoor unit	Check wiring between T26 and interface board.
G2	External safety input.	External safety trip	-
G6.XX	Outdoor unit error.	See details in "Outdoor unit errors"	-
G7	Flow temperature sensor faulty.	Short circuit. Probe disconnected or cut. Faulty probe. Other fault	Check sensor wiring. Replace sensor.
G8	Return temperature sensor faulty.		
G9	Water pressure sensor faulty.		
G11	Water pressure too low.	Lack of water in the circuit.	Add water to the circuit.
G12	Water pressure too high.	Too much water in the circuit.	Drain water slightly from the circuit.
G14	System circulator faulty.	Lack of water in the circuit. Circulator undervoltage	Top up water supply. Check system circulator supply.
G15.XX	System circulator faulty.	System circulator faulty	Check circulator wiring. Replace circulator.
G16	Directional valve faulty.	Directional valve faulty.	Check valve wiring. Replace valve.
G18	Circuit 2 temperature sensor faulty.	Short circuit. Sensor disconnected or cut. Faulty sensor. Other fault.	Check sensor wiring. Replace sensor.
G22	DHW temperature sensor faulty.		
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 outdoor unit.	Check wiring between T26 and interface board.
G30	Zone 1 room thermostat communication lost.	Wiring problem between room sensor and control.	Check wiring.
G31	Zone 2 room thermostat communication lost.		
G32	Zone 3 room thermostat communication lost..		
G45	Loss of remote outdoor temperature sensor.	Short circuit. Probe disconnected or cut. Faulty probe. Other fault.	Check sensor wiring. Replace sensor.
G46	System circulator communication lost.	Short circuit. Circulator disconnected. Circulator defective.	Check circulator wiring (communication and power supply). Replace circulator.



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.



► Outdoor unit error

→ Additional error codes (G6.XX) visible on display

→ and/or error codes on interface board (indoor unit).

x N: Indicator flashes N times.

Display	Error code	Carte Interface		Error label
Error Code (G6.XX)		Green LED	Red LED	
0	11	x 1	x 1	Serial communication error after operation.
1		x 1	x 1	Serial communication error during operation.
-	23	x 2	x 3	Different combination of indoor and outdoor unit.
22	32	x 3	x 2	Command error UART communication.
-	62	x 6	x 2	Outdoor unit communication error.
-	65	x 6	x 5	IPM error.
5	71	x 7	x 1	Discharge temperature sensor error.
6	72	x 7	x 2	Compressor temperature sensor error.
7	73	x 7	x 3	Heat exchanger temperature sensor error (intermediate).
8		x 7	x 3	Exchanger temperature sensor error (output).
9	74	x 7	x 4	Outdoor temperature sensor error.
12	78	x 7	x 8	Expansion valve temperature sensor error.
25	79	x 7	x 9	Outdoor unit water temperature sensor error.
13	84	x 8	x 4	Current sensor error.
14	86	x 8	x 6	High-pressure sensor error.
		x 8	x 6	Pressure switch sensor error
15	94	x 9	x 4	Trigger detection.
16	95	x 9	x 5	Detection of compressor rotor position error.
17	97	x 9	x 7	Outdoor unit fan error.
24	9B	x 9	x 11	Circulator error.
18	A1	x 10	x 1	Discharge temperature protection.
19	A3	x 10	x 3	Compressor temperature protection.
20	A5	x 10	x 5	Abnormal low pressure.
27	AE	x 10	x 14	Hydraulic flow error.

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

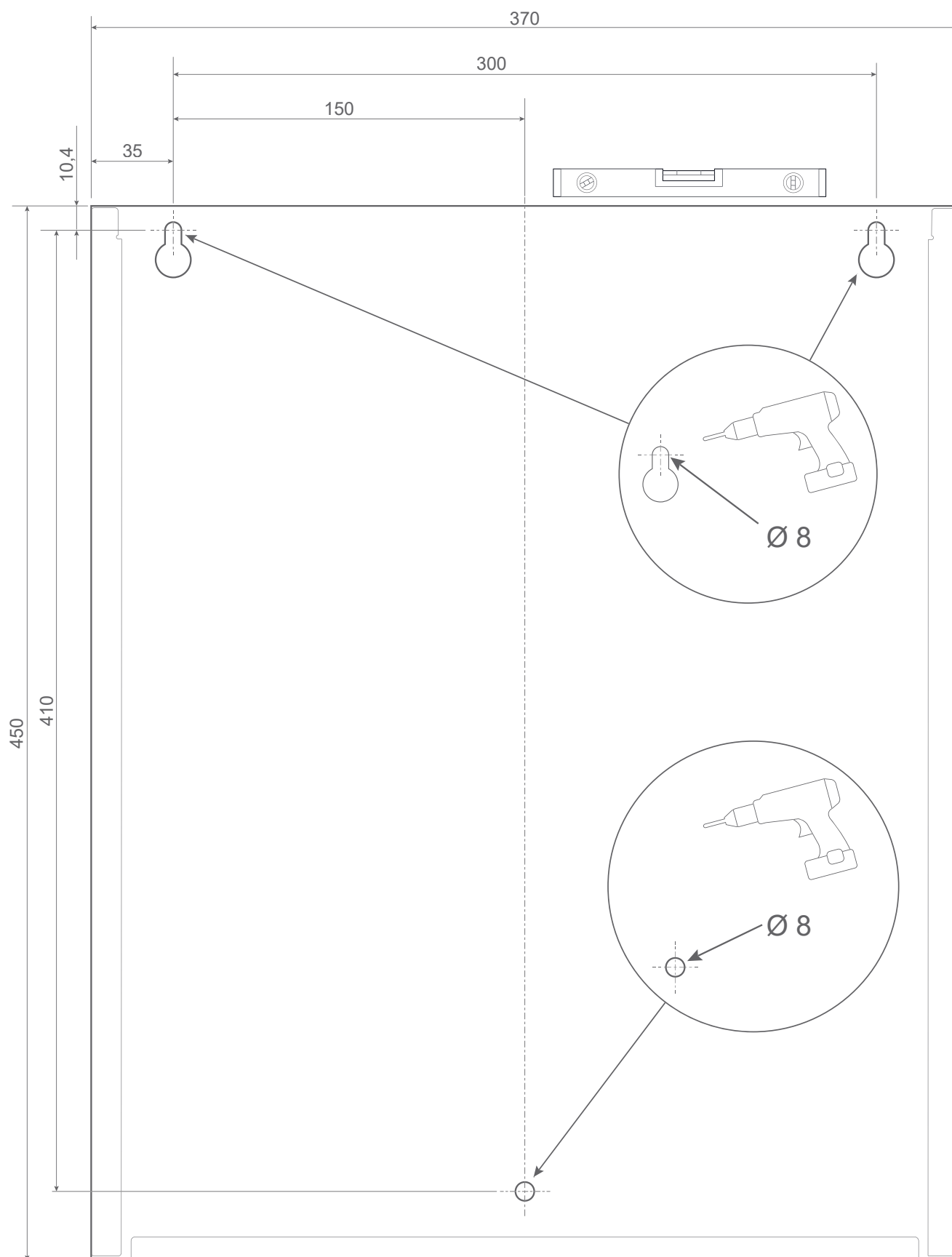


Preventive maintenance operations

	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 the glycol concentration in the heating circuit (if concerned)		
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)		

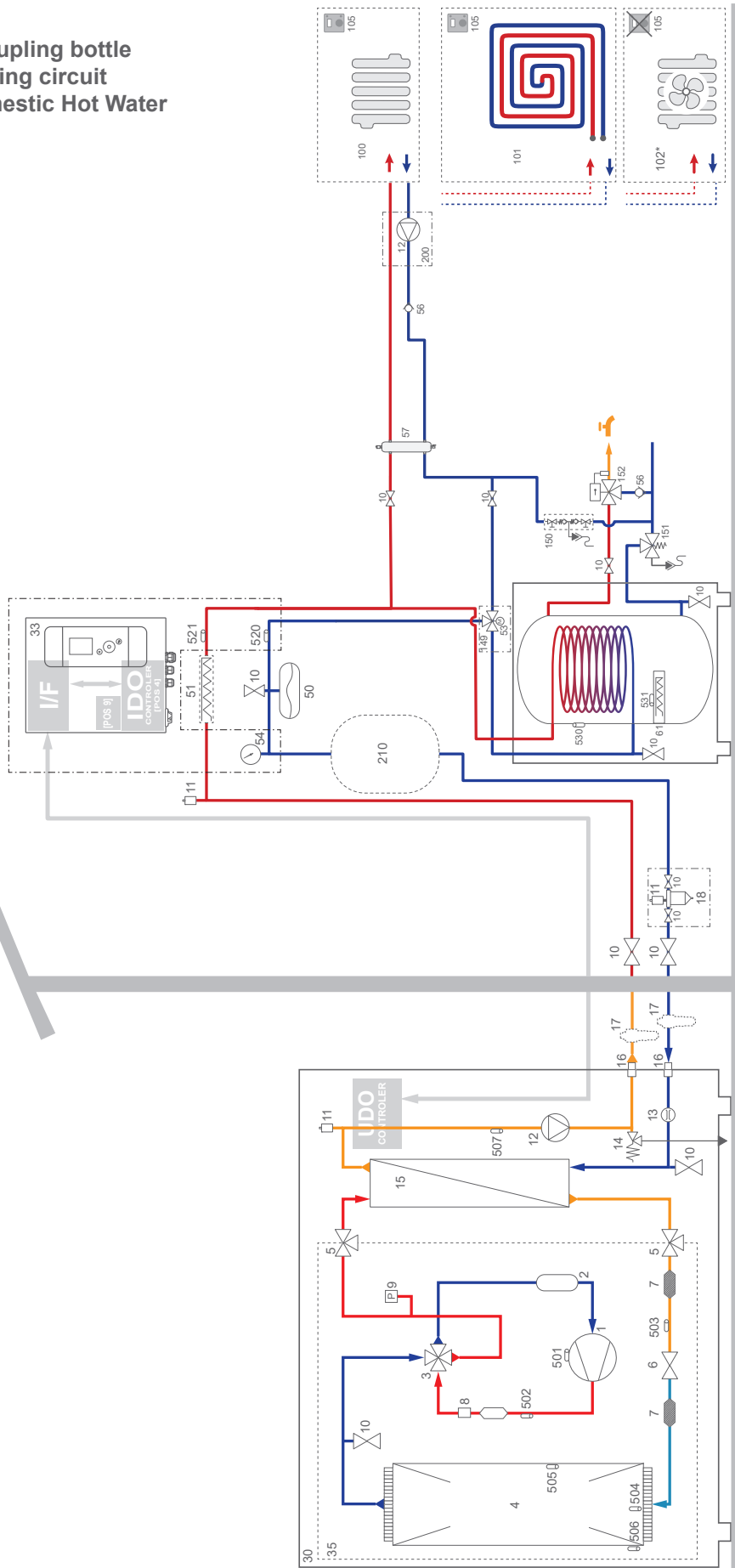
	OK	Non-compliant
Tests and readings		
Heating electrical backup operating tests		
DHW electrical backup operating tests (if present)		
Circulating pump operating tests		
Mixing valve operating tests (if 2 heating circuits)		
Directional valve operating tests (if ECS)		
Boiler connection operating tests (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		

► Installation template



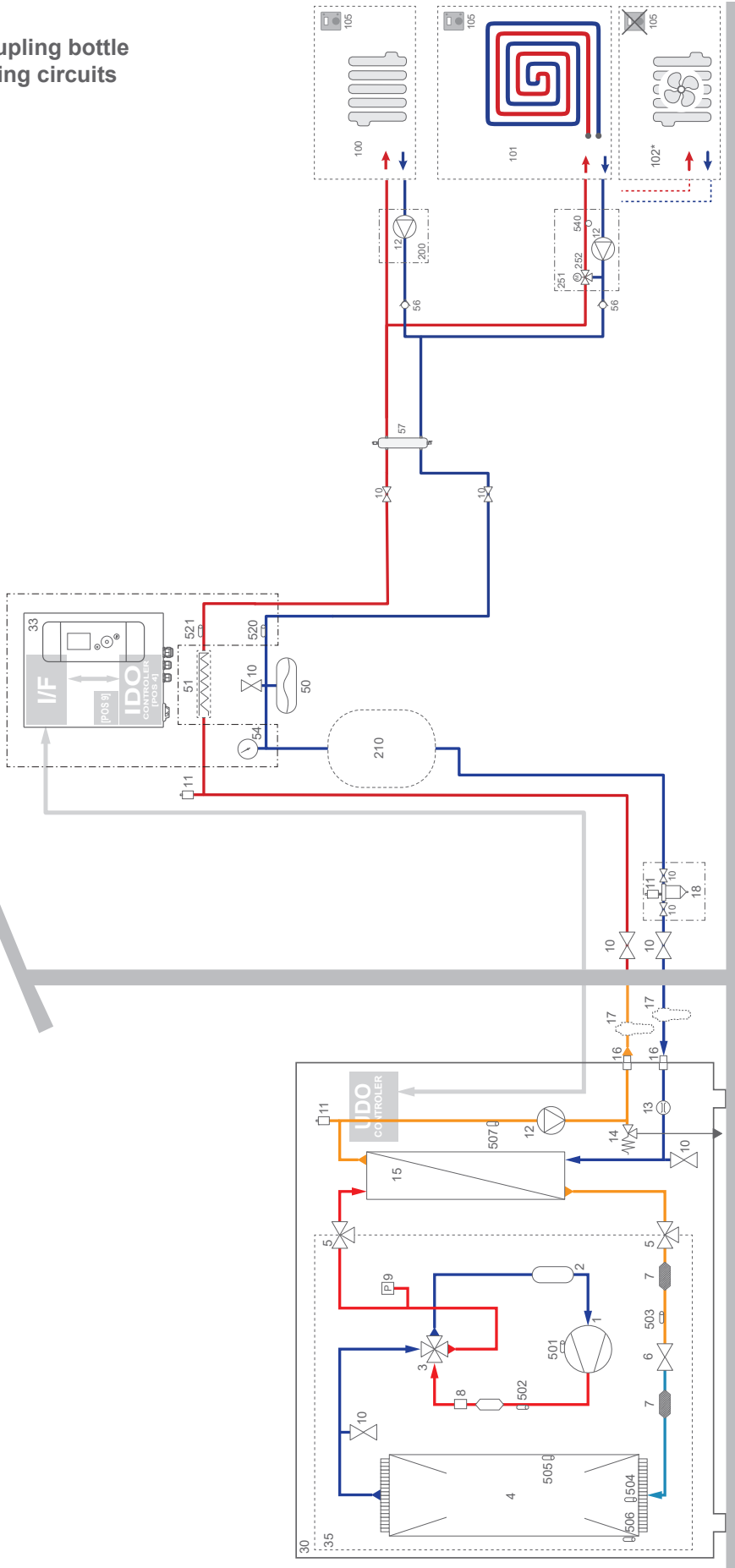
► Basic hydraulic layout

- Decoupling bottle
- 1 heating circuit
- + Domestic Hot Water



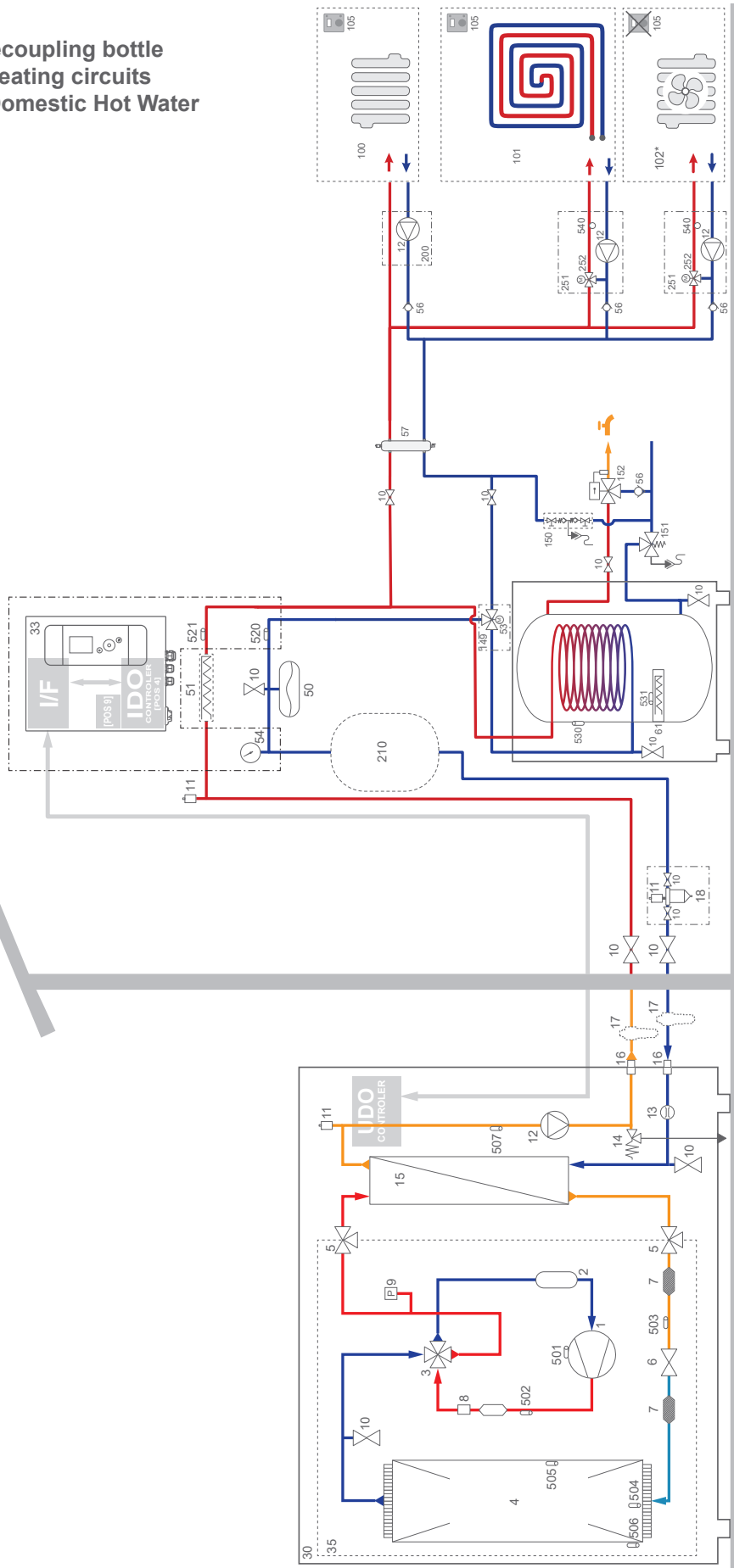
- | | | | |
|---------------------------------|---------------------------------|---|---|
| 1 - Compressor | 14 - Safety valve | 56 - Non return valve | 502 - Discharge temp. thermistor |
| 2 - Battery | 15 - Heat exchanger (Condensor) | 57 - Decoupling bottle | 503 - Inlet expansion valve temp. thermistor |
| 3 - 4-way valve | 16 - Connection | 100 - Radiator | 504 - Inlet heat exchanger temp. thermistor (refrigerant heat exchanger) |
| 4 - Heat exchanger (Evaporator) | 17 - Antifreeze valve | 101 - Underfloor heating system | 505 - Middle heat exchanger temp. thermistor (refrigerant heat exchanger) |
| 5 - 3-way valve | 18 - Sediment trap | 102 - Dynamic radiator (fan-convector) | 506 - Outlet heat exchanger temp. thermistor (refrigerant heat exchanger) |
| 6 - Reducer (Expansion valve) | 30 - Outdoor unit | 105 - Room thermostat or room sensor (zone 1) | 507 - Flow temp. Thermistor (hydraulic heat exchanger) |
| 7 - Filter | 33 - Control Box | 149 - DHW kit | 520 - Return temp. sensor (heating circuit) |
| 8 - Pressure sensor (On/Off) | 35 - Refrigerant unit | 150 - Shut-off | 521 - Flow temp. sensor (heating circuit) |
| 9 - Pressure sensor (Value) | 50 - Expansion vessel | 151 - Safety valve | 530 - DHW temp. sensor |
| 10 - Valve | 51 - Electrical backup | 152 - Thermostatic mixer valve | 531 - DHW electrical backup thermal safety |
| 11 - Drain valve | 52 - Decoupling bottle | 200 - Direct heating circuit kit | |
| 12 - Circulation pump | 53 - Directional valve | 210 - Buffer tank | |
| 13 - Flowmeter | 54 - Manometer | 501 - Compressor temp. thermistor | |

■ Decoupling bottle
2 heating circuits



- | | | |
|---------------------------------|---|---|
| 1 - Compressor | 54 - Manometer | 502 - Discharge temp. thermistor |
| 2 - Battery | 56 - Non return valve | 503 - Inlet expansion valve temp. thermistor |
| 3 - 4-way valve | 57 - Decoupling bottle | 504 - Inlet heat exchanger temp. thermistor (refrigerant heat exchanger) |
| 4 - Heat exchanger (Evaporator) | 100 - Radiator | 505 - Middle heat exchanger temp. thermistor (refrigerant heat exchanger) |
| 5 - 3-way valve | 101 - Underfloor heating system | 506 - Outlet heat exchanger temp. thermistor (refrigerant heat exchanger) |
| 6 - Reducer (Expansion valve) | 102 - Dynamic radiator (fan-convector) | 507 - Flow temp. Thermistor (hydraulic heat exchanger) |
| 7 - Filter | 105 - Room thermostat or room sensor (zone 1) | 520 - Return temp. sensor (heating circuit) |
| 8 - Pressure sensor (On/Off) | 200 - Direct heating circuit kit | 521 - Flow temp. sensor (heating circuit) |
| 9 - Pressure sensor (Value) | 210 - Buffer tank | 540 - Flow temp. sensor (Mixed heating circuit) |
| 10 - Valve | 251 - Mixed heating circuit kit | |
| 11 - Drain valve | 252 - Mixing valve | |
| 12 - Circulation pump | 501 - Compressor temp. thermistor | |

- Decoupling bottle
- 3 heating circuits
- + Domestic Hot Water



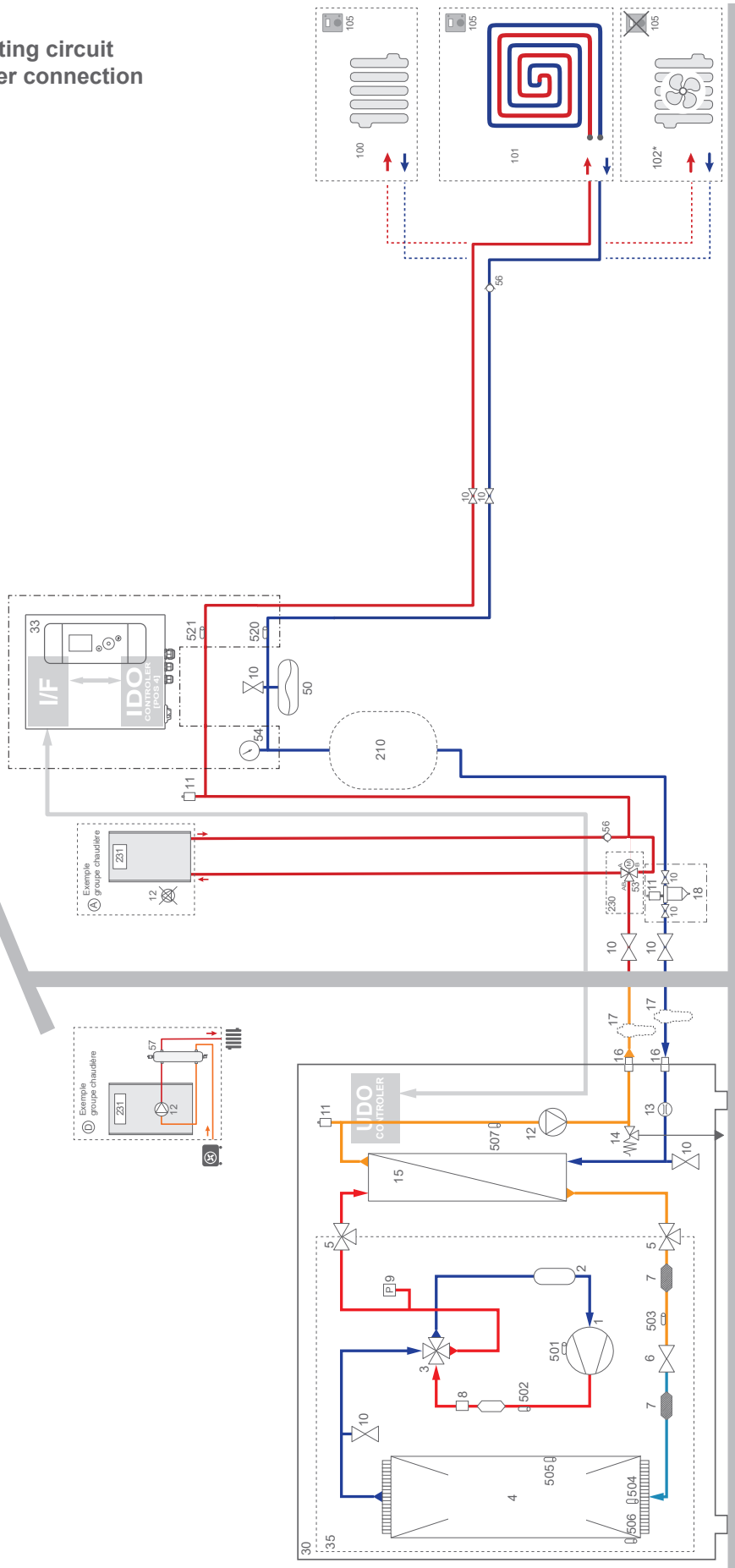
- 1 - Compressor
- 2 - Battery
- 3 - 4-way valve
- 4 - Heat exchanger (Evaporator)
- 5 - 3-way valve
- 6 - Reducer (Expansion valve)
- 7 - Filter
- 8 - Pressure sensor (On/Off)
- 9 - Pressure sensor (Value)
- 10 - Valve
- 11 - Drain valve
- 12 - Circulation pump
- 13 - Flowmeter
- 14 - Safety valve

- 15 - Heat exchanger (Condensor)
- 16 - Connection
- 17 - Antifreeze valve
- 18 - Sediment trap
- 30 - Outdoor unit
- 33 - Control Box
- 35 - Refrigerant unit
- 50 - Expansion vessel
- 51 - Electrical backup
- 53 - Directional valve
- 54 - Manometer
- 56 - Non return valve
- 57 - Decoupling bottle
- 100 - Radiator

- 101 - Underfloor heating system
- 102 - Dynamic radiator (fan-convector)
- 105 - Room thermostat or room sensor (zone 1)
- 149 - DHW kit
- 150 - Shut-off
- 151 - Safety valve
- 152 - Thermostatic mixer valve
- 200 - Direct heating circuit kit
- 210 - Buffer tank
- 251 - Mixed heating circuit kit
- 252 - Mixing valve
- 501 - Compressor temp. thermistor
- 502 - Discharge temp. thermistor
- 503 - Inlet expansion valve temp. thermistor

- 504 - Inlet heat exchanger temp. thermistor (refrigerant heat exchanger)
- 505 - Middle heat exchanger temp. thermistor (refrigerant heat exchanger)
- 506 - Outlet heat exchanger temp. thermistor (refrigerant heat exchanger)
- 507 - Flow temp. Thermistor (hydraulic heat exchanger)
- 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)

■ 1 heating circuit
+ Boiler connection



1 - Compressor

2 - Battery

3 - 4-way valve

4 - Heat exchanger (Evaporator)

5 - 3-way valve

6 - Reducer (Expansion valve)

7 - Filter

8 - Pressure sensor (On/Off)

9 - Pressure sensor (Value)

10 - Valve

11 - Drain valve

12 - Circulation pump

13 - Flowmeter

14 - Safety valve

15 - Heat exchanger (Condensor)

16 - Connection

17 - Antifreeze valve

18 - Sediment trap

30 - Outdoor unit

33 - Control Box

35 - Refrigerant unit

50 - Expansion vessel

51 - Electrical backup

53 - Directional valve

54 - Manometer

56 - Non return valve

100 - Radiator

101 - Underfloor heating system

102 - Dynamic radiator (fan-convector)

105 - Room thermostat or room sensor (zone 1)

210 - Buffer tank

230 - Boiler relief

231 - Boiler thermostat

501 - Compressor temp. thermistor

502 - Discharge temp. thermistor

503 - Inlet expansion valve temp. thermistor

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

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

506 - Outlet heat exchanger temp. thermistor (refrigerant heat exchanger)

507 - Flow temp. Thermistor (hydraulic heat exchanger)

520 - Return temp. sensor (heating circuit)

521 - Flow temp. sensor (heating circuit)

► Electrical cabling plan

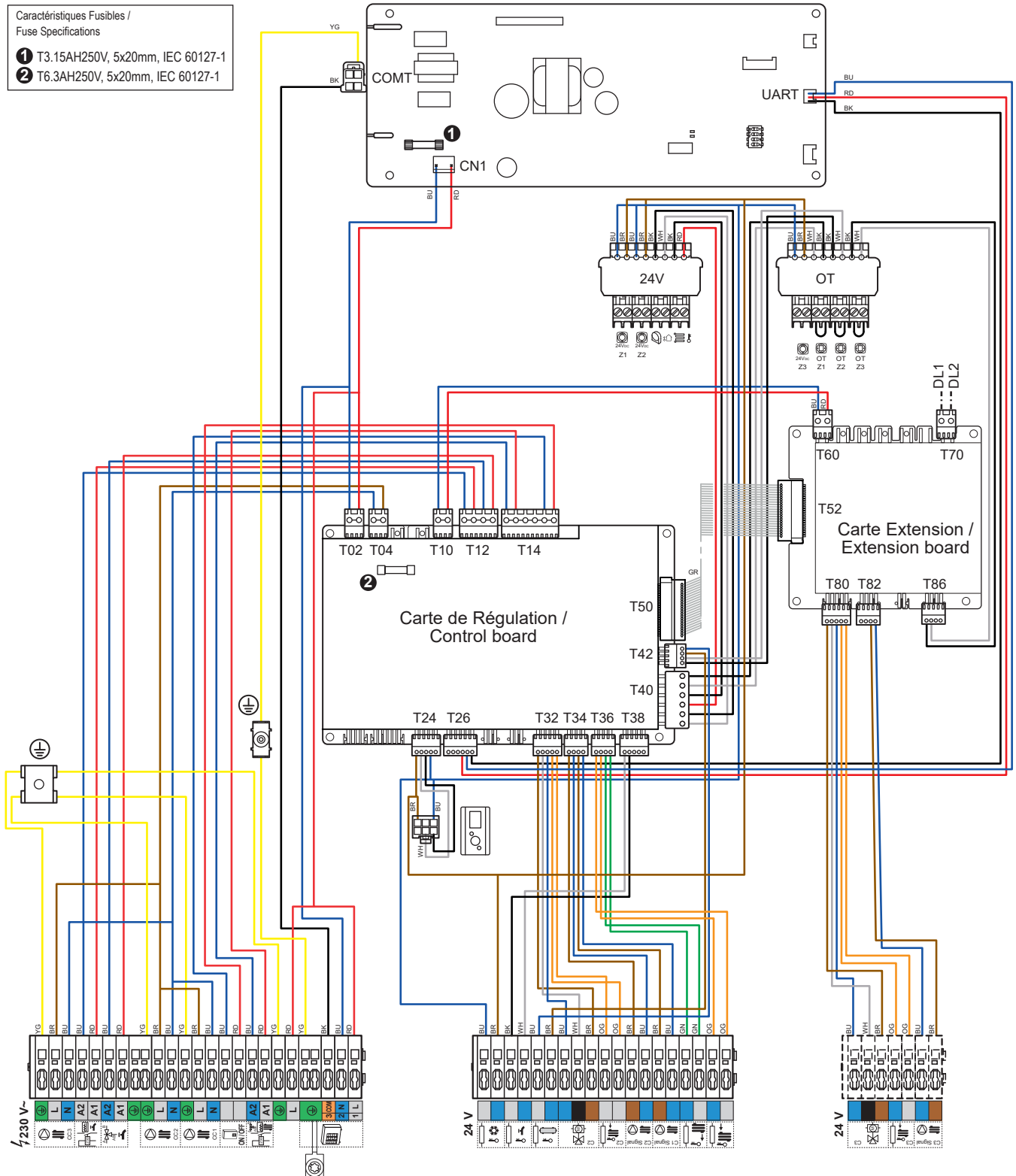


fig. 14 - Indoor unit electrical wiring (excluding installer connections)

✓ Start-up procedure

Before powering on the indoor unit:

- Check the electric wiring.
- Check the hydraulic 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.		
Hydraulic checks (see <i>page 21</i>).		
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 ~).		
Protection by rated circuit breaker.		
Cable section.		
Earth connection.		
Power supply and protection.		
Electrical checks Indoor unit (see <i>page 12</i>).		
Power supply (230V ~).		
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	Non conforme
Quick start Procedure (see "page 21 and page 23).		
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 hydraulic 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.		
Checks on the Indoor Unit		
After 15 minutes of operation.		
Delta T° primary water.		
Operation of heating, boiler backup, etc.		
Room control (see page 21)		
Settings, maintenance, checks.		
Program the heating periods.		
Adjust the setpoints for the heating circuits if different from the default values.		
Setpoint display.		
Explanations of use.		



The heat pump is ready for operation!

► Commissioning data sheet

Installation site		Installer		
Outdoor unit	Serial n°	Indoor unit	Serial n°	
	Model		Model	
Refrigerant type		Refrigerant charge kg		
Controls		Outdoor unit operating voltages and currents		
Compliance with installation distances		L/N	V	
Correct condensates drainage				
Electrical connections/tightening of connections		L/T	V	
		Icomp	A	
Hydraulic network on Hydraulic module				
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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Keymark Certification:

- 012-C700208 - FUJITSU Airstage Monobloc Comfort 5
- 012-C700209 - FUJITSU Airstage Monobloc Comfort 8
- 012-C700210 - FUJITSU Airstage Monobloc Comfort 10



are in conformity with the relevant Union harmonized directives and regulations:

- Low Voltage Directive (LVD) - 2014/35/EU
- Machinery Regulation - (EU) 2023/1230
- ElectroMagnetic Compliance (EMC) Directive - 2014/30/EU
- Commission Regulation / Directives - (EU) 811/2013
- Energy labelling - 2017/1369 - Ecodesign - 2009/125/EC
- RoHS Directive - 2011/65/EU - (EU) 2015/863

Wi-Fi® is a trademark or registered trademark of Wi-Fi Alliance.

Commissioning date:

Address of your heating installer or customer service.

FUJITSU

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