6P10 PILOT

Hydraulic pilot for heat pumps

Installation manual

6P10
78 liters - 10 hydraulic outlets
6kW electrical back-up
Ref. 753040

Made in France

CE

Manual réf. : 1898468
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SOMMAIRE

1-SAFETY

Danger resulting from improper qualifications

- Any work carried out by an unqualified person can result in damage to the installation or in physical injury.
- Do not perform maintenance on this appliance unless you are a qualified professional.
- If the appliance is malfunctioning or not working, cut the electricicty supply to the electrical components and seek advice from a qualified professional.

Danger resulting from improper use

This appliance should not be used by anyone (including children under the age of 8 years old)with reduced physical, sensory or mental capabilities, or by anyone with insufficient experience or knowledge of the appliance; unless they are being supervised by someone who is responsible for their safety and in possession of the operating instructions of the appliance, or if they have been instructed in the proper use and in the risks of operating the appliance.

Children must not play with the appliance. Cleaning and maintenance of the appliance must not be undertaken by children without supervision.

Applicable areas of use

The appliance is intended for use an appliance for the production of domestic hot water: it must be connected to a heating installation, and while complying with the instructions, connected to the drinking water network.

The intended use of the appliance includes the following points:

- Following the instructions for operating, installing and maintaining this appliance and all of its components.
- Ensuring the compliance of the appliance to all inspection and maintenance conditions which are listed in this manual.

Danger of death by electrocution

- Touching live electrical wires can cause severe bodily injury, and lead to death by electrocution. All installation and maintenance work must be carried out with the appliance switched off and by a qualified professional. Before carrying out any work on the appliance:
  - Cut-off the electricity supply.
  - Ensure that there is no possibility of the power supply becoming active again.
  - Wait at least 5 minutes for the capacitors to lose their charge.
- Do not get water on any of the control or electrical components. Always disconnect the appliance from the electricity supply before carrying out work on any of the electrical components.

Danger of death if the pressure relief valves are missing or defective

A defective pressure relief valve may prove dangerous and could lead to burns or other injuries by, for example, the pipes bursting.

The information presented in this document does not contain all of the schematic diagrams needed for a professional installation of the pressure relief valves.

- Install the necessary pressure relief valves on the circuit.
- Inform the user concerning the function and the placement of the pressure relief valves.
- Respect all applicable national and international regulations, standards and decrees.

Risk of corrosion

The appliance should be installed in an area where it is not exposed to humidity and without any risk of being splashed by water.

Risk of damage related to frost

The pilot MUST be installed in an area where it is not subject to frost or freezing.

Risk of material damage

The pilot can only work when filled with water. Never switch on the appliance if it is not completely filled with water and purged of air.

Rules and regulations (decrees, standards, laws)

Once the appliance is installed and switched on, all decrees, directives, technical rules, safety measures and standards, must be respected in their current version in effect.

The electrical supply must conform to all applicable regulations in the country of installation, as well as the NFC 15-100 standard.

- A method of disconnection ensuring a complete cut-off must be installed in the fixed piping to conform to installation regulations (do not use a movable outlet).
- Protect the appliance with a 2-pole circuit breaker with a minimum contact opening of 3mm and must be grounded.

If the electrical supply cable is damaged, it must be replaced by the manufacturer, their customer service technicians, or by a qualified professional to prevent any risk of injury or danger.

- The devices for electrical cut-off must remain accessible.
- Water and/or R290 flammable gas can flow through the discharge pipe of the pressure limiting device (safety valve). This pipe must be kept open outside the building. The end of this pipe must be placed downwards (see § Connecting the pressure relief valve).

Maintenance - Troubleshooting

Maintenance and cleaning of the pilot must be carried out at least once a year by a qualified professional.

This appliance is in compliance with the international standards concerning electrical safety CEI 60335-1, CEI 60335-2-102. The CE branding on the appliance attests to its compliance with the following directives:

- Low voltage (LV): 2014/35/UE

- Electromagnetic compatibility(CEM): 2014/125/CE

- Ecodesign concerning products related to energy: 2013-813-UE

2 -PLEASE READ IMMEDIATELY

This technical installation manual forms part of the appliance which it refers to. In order for the warranty to be valid, the instructions must be read prior to using the appliance.

The safety advice and instructions provided in this manual must be strictly respected.

Our society is not liable for any damages caused from not following the instructions provided, or improper handling, installation or use.

This technical installation manual can be modified without prior notice.

2.1 - Conservation of documents

This manual must be safeguarded and passed on to successive users for future reference.

It will be considered as evidence in case of litigation.

2.2 - Symbols used

Indicates warnings and important recommendations.

Consult the installation manual before any intervention on the product, before handling, installation, use , and maintenance.

Contains regulated substances, do not throw in the garbage. If disposing, please respect all regulations pertaining to the recovery of electric and electronic equipment.

Indicates the maximum water temperature in operation.

Heat power output produced.

PS max Maximum working pressure.

2.3 - Abbreviations and acronyms

DHW ..... Domestic Hot Water
DCW ..... Domestic Cold Water
T° ..... Temperature
HP ..... Heat pump

2.4 - Delivery terms and conditions

In general, the material is transported at the recipient's own risk.

It is important to ensure that all components have been received and that no damage has been sustained during transport upon receipt of the appliance, and before beginning the installation procedures

2.5 - Storage and transport

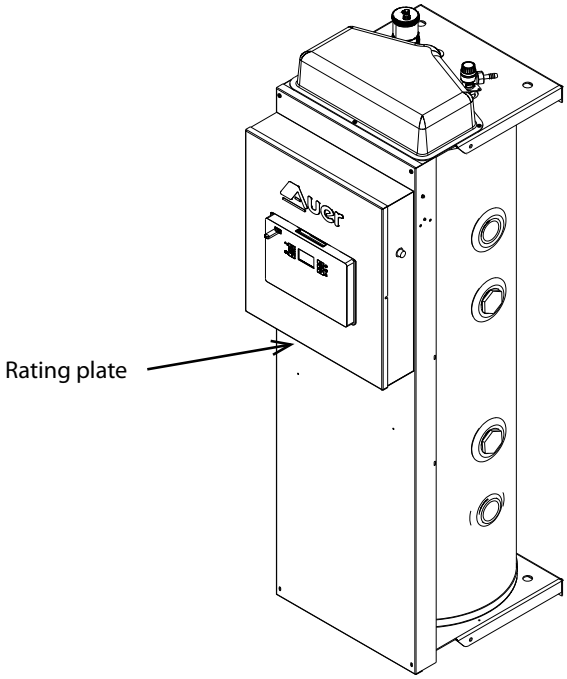
Admissible storage and transport temperatures are from -20°C to +60°C.

The **6P10 Pilot** must be stored on its original pallet. It must be transported on its pallet, empty of water, horizontally. It must remain screwed to the pallet during the transport.

2.6 - Unpacking

On reception of the **Pilot**, check the state of the packaging as well as the general state of the product.
Then, take off the plastic protection and unscrew the pilot from its pallet.
The pilot is screwed with 4 woodscrews at the bottom and at the top at plates level.

2.7 - Rating plate



2.8 - End of life of the appliance

Our products are designed and manufactured using components made of recyclable materials.

The appliance must never, in any case, be disposed of with household waste, or in a dump.

The dismantling and recycling of the appliances must be taken charge of by a qualified professional and in compliance with all local and national standards in effect.

3 - INTRODUCTION

3.1 - General information

6P10 is a hydraulic pilot which ensures working installations with high power heat pumps. Its integrated tank ensures the decoupling of the heat pumps circuits as well as the air bleeding and the evacuation of the sludges.

If the required installation power is higher than the delivered power by the heat pump, the 6kW electrical back-up or the boiler back-up can be started by the pilot.

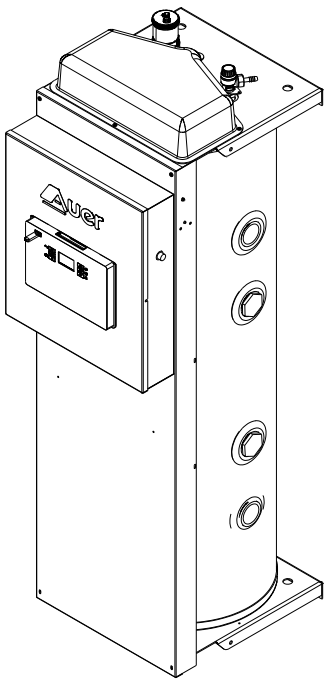
6P10 pilot is equipped with :

- One 78 liters wall tank with air bleed, pressure sensor, pilot sensor, 6kW electrical back-up, 6bars pressure relief valve and settling valve.
- One electronic control ensuring the working of the installation.

Optional distribution branches can be added (up to 2 branches) for installation including several circuits or heat pumps :

- up to 3 heat pumps and 1 distribution circuit
- up to 3 sanitary circuits and 1 heat pump
- 1 heating circuit

The distribution branches dedicated to heat pumps ensure the circulation in HRC[70] 25kW, HRC[70] 32kW or less power heat pumps. They must not be connected in the case of heat pumps which have their own circulator (HRC[70] 40kW or higher power).



3.2 - Packaging

	Weight (kg)	Number of packages	W (mm)	H (mm)	P (mm)
6P10	67	-	800	686	1600

3.3 - Accessories (included)

Each **Pilot** is delivered with (non-mounted) :

- **Exterior sensor**
  Gives the pilote the outside temperature to adapt its heating set point

- **USB memory stick**
  Allows downloading of the operating history

Ensure to keep the original delivered USB flash drive. It will facilitate your exchanges with your technical contacts.

3.4 - Accessories available as optional extras

- **Hydraulic distribution branch**

  (**Ref. 755823**)

- **Ambient temperature thermostat (TA)**
  2 wires - allows to control the temperature in the heating zone
  (**Ref. 710043**)

- **Ambient temperature thermostat radio non-chronoproportional -(TH^{Rnc})-**
  (on/off type). Wireless, programmable thermostat, transmitting through radio-frequency. Necessary when a wired connection between the Pilot and the ambient temperature thermostat is not possible
  (**Ref. 770001**)

- **DHW aquastat (for water tank connected as circuit 3)**
  For the production of domestic hot water
  (**Réf. 752202**)

- **DHW sensor (for water tanks connected as circuits 1 et 2)**
  For the production of domestic hot water
  (**Réf. 710029**)

- **Shielded bus wire - 20 m long**

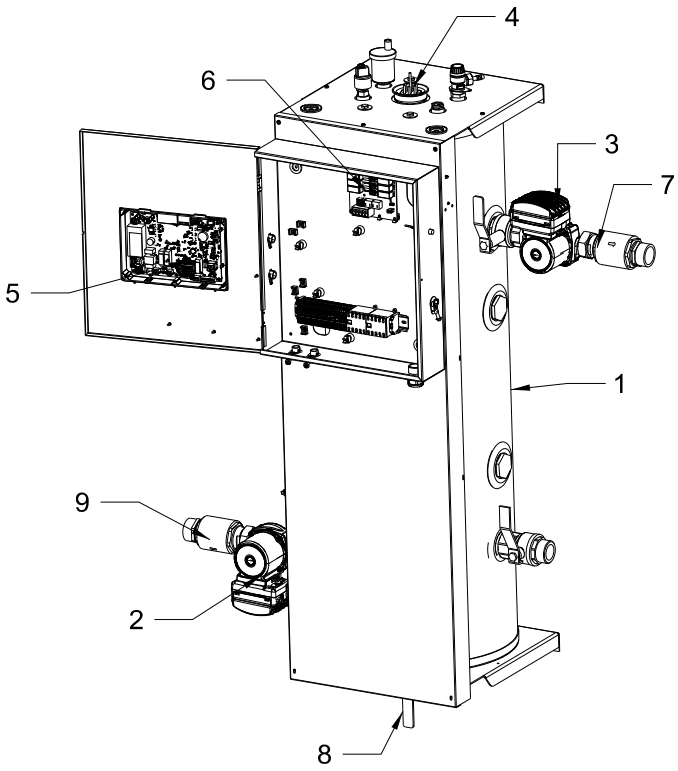
  (**Réf. 753102**)

- **Shielded bus wire - 50 m long**

  (**Réf. 754103**)

- **Additional multi-circuit box**
  For adding circuits of the same type
  (**Réf. 754104**)

3.5 - Operating principles



1. *78L buffer tank*	**5.** *Electronic control*
2. *Heat pump circulator pump (except for HRC[70] 40kW)*	**6.** *Power electronic card*
3. *Distribution circuit circulator pump*	**7.** *Distribution circuit*
4. *6kW electrical back-up*	**8.** *Drain*
	9. *Heat pump circuit*

4 - INSTALLATION

4.1 - Placement choice

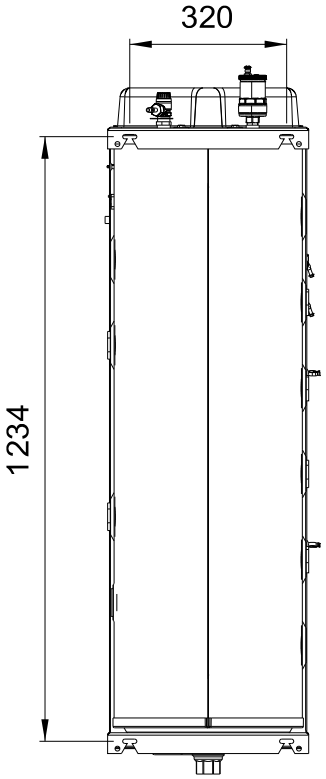
4.1.1 - Appropriate placement choice

The **Pilot** must be placed in an area which is free from frost and adverse weather conditions.
It must be placed as close as possible to the heat pump without exceeding the maximum distance.
The maximum distance depends on the diameter of piping and the number of elbows used (see «Hydraulic connection» tables).
The 2-core sheathed cable which connects the **Pilot** and the heat pump is 10m long. There is a 20m length available as an optional extra (Ref. 753102) or 50m (Ref. 754103).

The Pilot must be installed on a level and stable base which is distanced from appliances used for cooking and other heat sources.
The Pilot filled with water can be heavy, watch over the resistance of the wall stand.

4.1.2 - Fixation

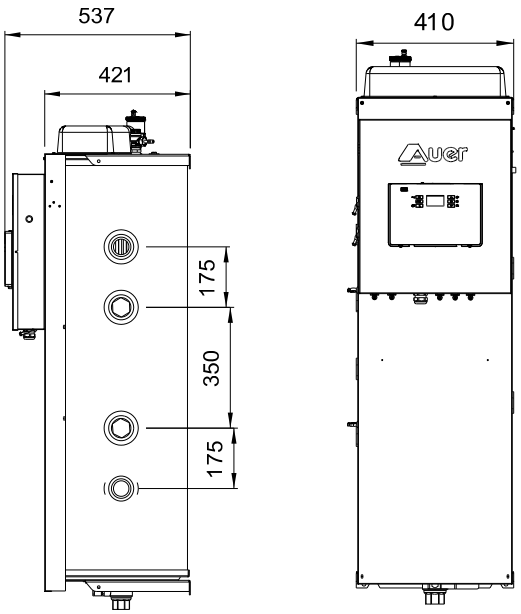
The pilot must be fixed on a resistant wall.

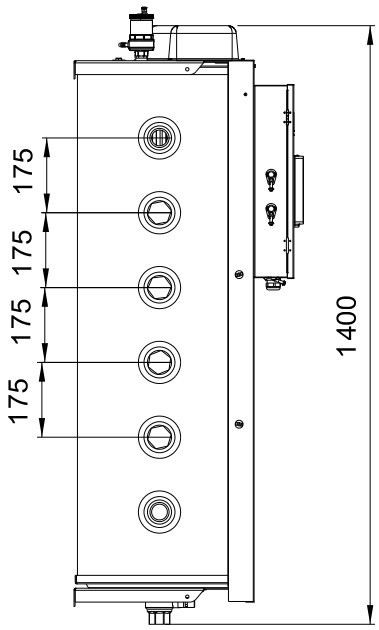


4.1.3 - Dimensions

The pilot must be placed at least 200mm above the floor or any obstacle the enable it to be drained.

It must be placed at least 400mm under the ceiling to facilitate the access to the air bleed and to the electrical back-up.





4.2 - Hydraulic installation

Consult the hydraulic schematic diagrams in the appendix.

4.2.1 - Recommendations

4.2.1.1 - Backflow prevention device

A type CB backflow prevention device may be installed. This device must be at different, non-regulated pressure zones. Check your national laws and regulations to know if this is an obligatory requirement. The backflow prevention device is designed to prevent incoming heating water from entering the drinking water circuit. It must be connected to the mains drainage system.

4.2.1.2 - Cross sections, purging of the heating circuits

A sufficient flow rate should be ensured so that the difference in temperature between the outlet and inlet points does not exceed 6°C. In an installation equipped with thermostatic mixing valves, this inspection must be done with all taps/valves open.

The output actually needed determines the water flow rate of the heating circuit and allows to calculate the dimensions of the distribution network.

Adapt the speed of the circulator pump to the hydraulic characteristics using the flow rate/pressure curve provided.

All necessary measures must be taken to ensure that the installation can be continuously purged. Automatic air purging valves should be placed at each high point of the installation, and manual air purging valves should be installed on each radiator.

4.2.1.3 - Desludging tank

Plan for a desludging tank with a suffiicient volume at a low point on the inlet of the heating circuit. This tank must be equipped with a drain so it can collect the oxides, particles, and calamines which detach from the inner walls of the heating circuit while it is in operation.

4.2.1.4 - Preparing the hydraulic circuit (rinsing)

Before placing the pilot and heat pump, it is necessary to rinse the installation with an appropriate product. This allows to eliminate all traces of soldering waste, joint filler, grease, sludge, metallic particles, etc... in the radiators, underfloor heating, etc...

4.2.1.5 - Insulation of the pipes

Insulators must be in accordance with DTU 67.1.
All the apparent pipes and accessories (circulator, expansion vessel, valve, ...) must be insulated or placed in insulated box.

4.2.1.6 - Expansion vessel

The installation must be equipped with an expansion vessel with a sufficient capacity (which depends on the static height of the installation, the blowing-up pressure of the expansion vessel and the volume of the installation)

4.2.1.7 - Frost protection

Frost protection is necessary if the pilot is switched off during the winter months (ex: secondary residence, etc...).

If the appliance is connected to an electricity supply, the heating circuit is protected from freezing. It is IMPERATIVE to drain the domestic hot water circuit however.

If the pilot is not being supplied with electricity (electrical cut-off for example), or it is defective and there is a risk of freezing, it is IMPERATIVE to completely drain the appliance (heating and hot water).

4.2.1.8 - Thermostatic valves

Thermostatic valves: these valves should prioritise rooms with higher levels of heat gain.

In an installation with both thermostatic valves and a room temperature thermostat, the radiator(s) in the room in which the thermostat is located MUST be equipped with a manual valve(s).

It is IMPERATIVE to refer to the installation instructions for the initial installation of the ambient temperature thermostat to ensure satisfactory operation.

4.2.1.9 - Treatment of the water in the heating circuit

It is MANDATORY to read the additional document concerning the quality of water used for filling the installation.This document is included with this manual as well as in the packet with the warranty information.

This document also contains information which is PERTINENT to the WARRANTY of the material.

4.2.1.9.1 - Filling water

The materials used for producing a heating circuit are of different natures. Instances of corrosion may occur through galvanic coupling in both new and existing installations.

The filling of the heating circuit must only be done with untreated water (no water softener) from the drinking water network. Water from any other source)rain-water, well-water, etc...), must be analysed and **MUST** have the following properties:

8,5	⩽	PH (acidity)	⩽	9,5
		Chlorides	⩽	60 mg / litre
		Conductivity	<	1000 µS / cm
5	⩽	TH (hardness in French °)	⩽	15

Central heating installations must be cleaned in order to eliminate debris (copper, filings, soldering waste) related to the set-up of the installation or from chemical reactions between the metals.

Futhermore, it is important to **protect the central heating installations from risks of corrosion, limescale, and microbiological development** through use of a corrosion inhibitor which is suitable for all kinds of installations (steel or cast-iron radiators, PEX underfloor heating).

PRODUCTS USED FOR HEATING WATER TREATMENT MUST BE APPROVED BY THE LOCAL OR NATIONAL PUBLIC HYGIENE AND HEALTH AUTHORITY.

4.2.1.9.2 - Treatment of the heating circuit

We recommend the use of products in the **SENTINEL** range by **GE BETZ** for preventative and curative treatment of the heating circuit.

- **For new installations : (less than 6 months old):**
  - Clean the installation with a universal cleaner to eliminate the debris from the installation (copper, fibres, soldering fluxes) Example : **SENTINEL X300**
  - Throughly rinse the installation until the water runs clear, with no traces of impurities left.
  - Protect the installation against corrosion with a corrosion inhibitor, example: **SENTINEL X100**. Or against corrosion and freezing with an inhibitor with an anti-freeze additive. Example :**SENTINEL X500**.
- **For existing installations:**
  - Desludge the installation with a desludging product to eliminate any sludge from the installation. Example: **SENTINEL X400.**
  - Throughly rinse the installation until the water runs clear, with no traces of impurities left.
  - Protect the installation against corrosion with a corrosion inhibitor, example: **SENTINEL X100**. Or against corrosion and freezing with an inhibitor with an anti-freeze additive. Example : **SENTINEL X500.**

Corrosion inhibitor :

- protects against the formation of limescale
- prevents «pinhole» type corrosion
- prevents, in new installations, the formation of sludge and the proliferation of bacteria (in low temperature networks: algae)
- prevents the formation of hydrogen
- eliminates the sound of the generators

Treatment products from other manufacturers can be used if they guarantee that the product is appropriate for all the materials used in the appliance and offers efficient resistance to corrosion. To find this information refer to their user manual.

4.2.1.10 - Installation of the DHW circuit

It is **mandatory** to refer to the technical manual provided with each water tank.

It is **mandatory** to install a safety group on the cold water inlet of each water tank.

Do not place a stop valve between the safety group and the water tank.

- The number of elbows and pressure losses will have to be minimize, focets will have to be adapted.
- Areas in which domestic water is rich in limestone (HT > 15), we advise the installation of an anti-scale device on the domestic water inlet. The hydrotimetric title has to be less than 15.
- The concentration in chlorides in DHW has to be less than 60mg/L (required quality for drinkable water intented for human consumption).

Domestic Hot Water can reach more than 60°C, (especially during the anti-legionelosis protection), it is mandatory to install a thermostatic valve on the DHW outlet to avoid any risk of burn.

4.2.1.11 - Purging the installation

The oxygen present in the air is extremely corrosive. All necessary measures must be taken to ensure that the installation can be continuously purged. Automatic air purging valves should be placed at each high point of the installation, and manual air purging valves should be installed on each radiator.

RENDERING THE WARRANTY NULL AND VOID

Any deterioration of the appliance due to inappropriate filling water, and/or corrosion in the absence of the use of treatment products, and/or improper purging of the installation, will render the warranty null and void.

4.2.1.12 - Connecting the pressure relief valve

The Heat Pump and the **Pilot** are both equipped with pressure-relief valves. The **Pilot's** pressure-relief valve is set at 3 bars.

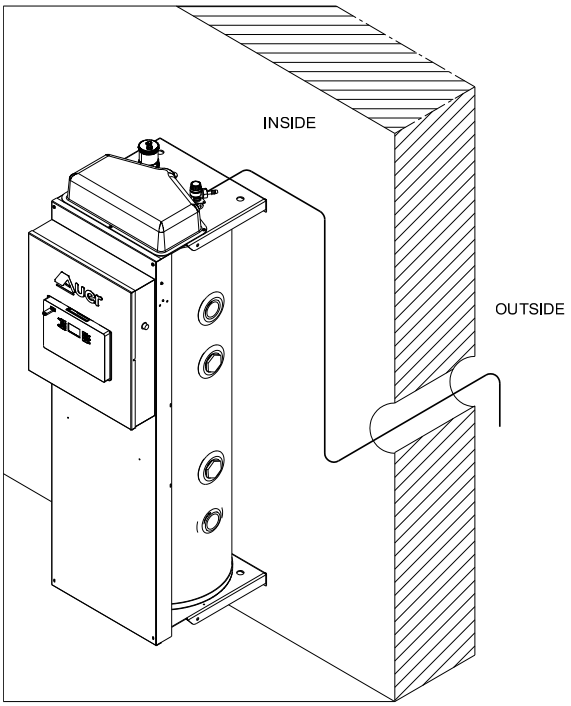
The pressure-relief valve on the Heat Pump sets the maximum acceptable pressure in the installation (2.5 bars when hot). The maximum service pressure in the Heat Pump must, consequently, be lower than 2.5 bars.

Example : If the Heat Pump is positioned 5m below the **Pilot***, the pressure reading on the* **Pilot** *would be 0.5 bars less than the real pressure of the water in the Heat Pump. In this case, the maximum service pressure for the* **Pilot** *would be 2 bars.*

Therefore it would be advisable to fill the heating circuit at an intermediary pressure (between 1 and 1.5 bars).

For safety reasons (potential presence of flammable R290 gas), drainage of the Pilot's pressure-relief valve must **MANDATORILY** be done **outside the building**. The outlet of the drainage pipe (4m length provided with the pilot) must be placed downwards in order to avoid any introduction of water inside, any risk of obstruction due to frozen water or any other pollution (see drawing).

If the provided drainage pipe is too short, it's mandatory to use a well-adapted length (can by supplied on demand). It will have to be installed as well as there will be no pinch on it, it will then ensure the drainage of the overpressure from the 3 bar safety valve outside the building.



The Pilot's pressure-relief valve drainage pipe must be properly secured until the outside of the building without any pinching zone.

WARNING
Failure to comply with this requirement concerning the evacuation of overpressure outside the building releases the heat pump manufacturer from any liability in case of incident.

4.2.1.13 - Filter on the water inlet of each heat pump (supplied)

It is **mandatory** to install the 1" 1/4 filter with incorporated 500µm filter on the water inlet pipe of each heat pump :

• Mind the flow direction of the filter. (arrow).

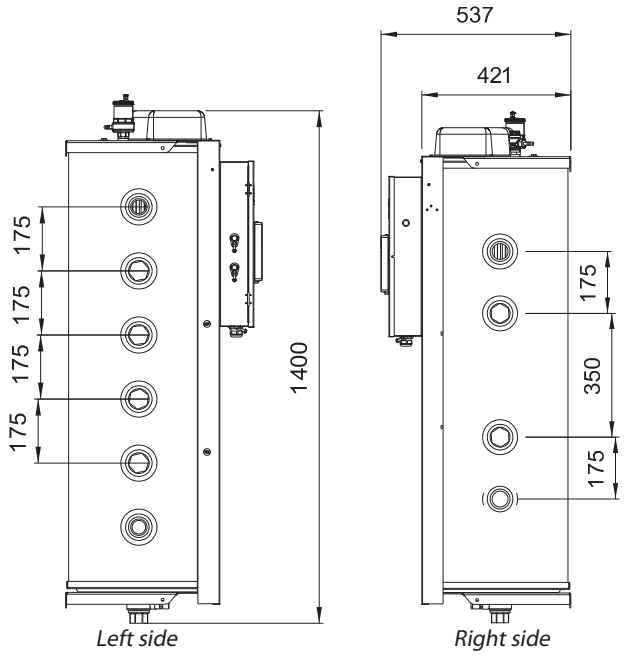
• It is mandatory ti install the 500µm filter provided with the heat pump to prevent the heat pump's exchanger from clogging.

• Before heat pump(s) hydraulic connections, you have to desludge and to rince the installation.

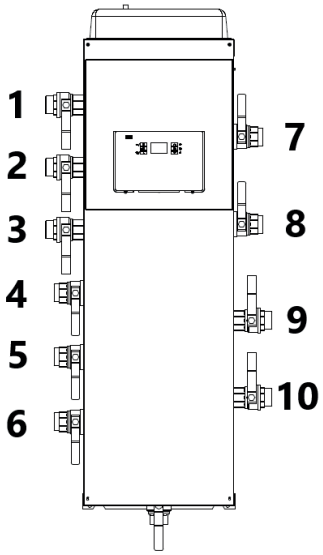
Clean the filter several times when the circulator pump of each heat pump is working for the first time. (do not forget to stop the circulator pump of each heat pump when cleaning).

• Clean the filter at least once a year.

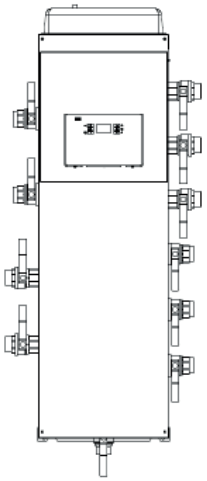
4.2.2 - Hydraulic connections



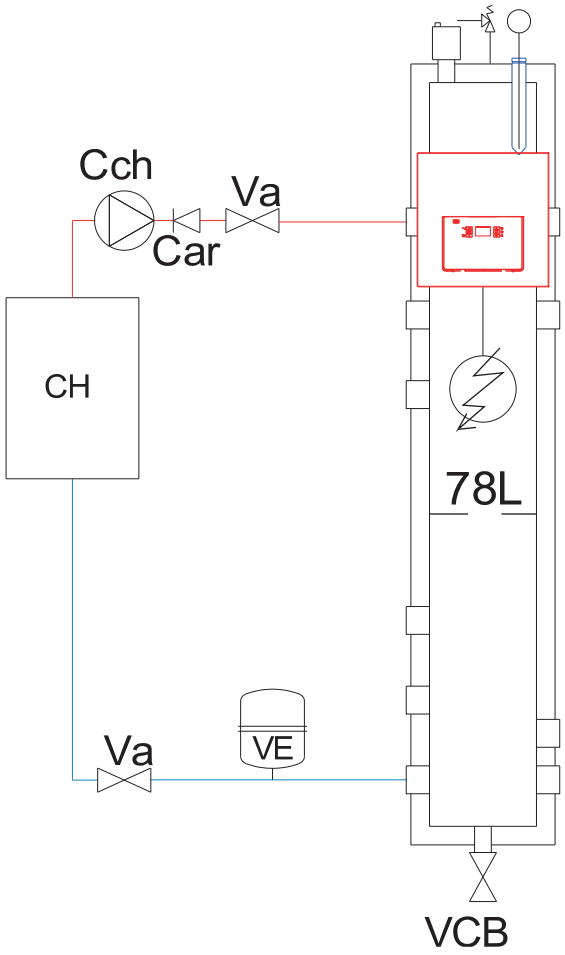
1"1/2 plumbing fittings apart from drain valve (1"1/4).



As a reminder, depending on your installation, it is possible to rotate the pilot's buffer tank to place 1 to 6 plumbing fittings on the right and 7 to 10 ones on the left :



4.2.2.1 - Back-up boiler connection



CAR	**:**	*Check valve*
Cch	**:**	*Boiler circulator pump (controlled by the boiler)*
CH	**:**	*Boiler*
Sch	**:**	*Boiler pressure relief valve*
VA	**:**	*Stop valve*
VCB	**:**	*Desludging valve*
VE	**:**	*Expansion vessel*

4.2.2.2 - Distribution circuits connection (DHW/heating)

4.2.2.2.1 - Hydraulic circuits sizing between HRC[70] pilot and water tanks primary coils

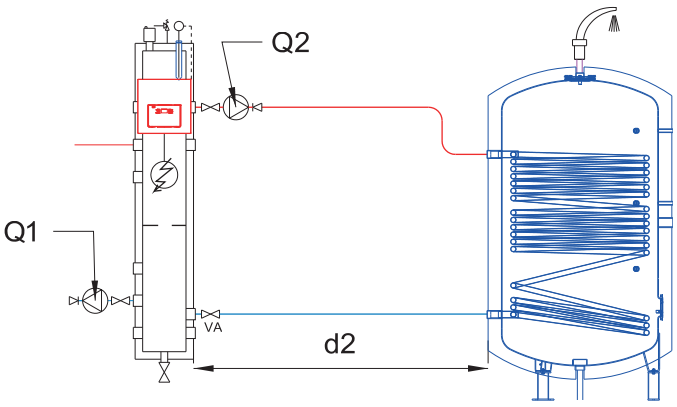
Water tanks are characterized by their sanitary capacity, their exchange surface (power) and their insulation (thermic losses).

Ballon sanitaire litre	Réf. AUER	Surface échangeur m^2	Qprimaire m^3/h	Perte de charge à Qprimaire mCE	Puissance* à Qprimaire kW	Pertes à l'arrêt UA W/K	Consommation d'entretien kWh/24h
300	353000	3,15	1,5	0,23	41	1,77	2,52
500	342104	4,10	1,5	0,30	67	2,78	3,00
750	342150	3,76	2,0	1,34	69	2,77	3,32
1000	342151	5,20	3,0	3,80	100	3,16	3,79
1500	342152	5,60	3,0	4,10	107	3,66	4,39
2000	342153	5,60	3,0	4,10	107	4,06	4,87
2500	342154	7,00	3,0	5,20	132	4,42	5,30
3000	342155	7,00	3,0	5,20	132	4,70	5,64

** Primaire à 68°C et Sanitaire 10 à 45°C*

Given : Q1 the HRC[70] heat pumps total primary flow rate.
Q2 the sanitary exchangers total primary flow rate.

Q2 total flow rate must be sufficient in order to ensure heating in less than 8 hours of all the DHW tanks and it must be as following : 0,90 x Q1 < Q2 < Q1.

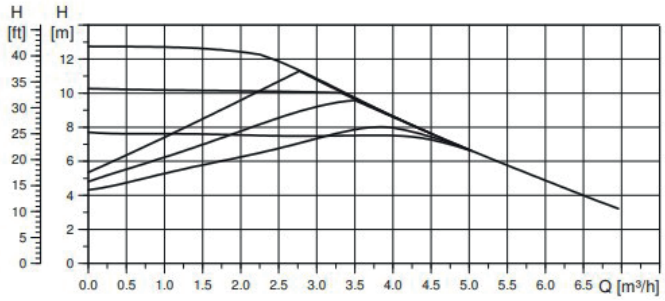


«**d2**» distance between hydraulic pilot and water tanks primary exchangers must have a hydraulic section will have to be sufficient.

With the following tables, determine the minimum interior diameter of the pipes according to the d2 distance.

4.2.2.3 - UPMXL 25-125 circulator for heat pump circuits and distribution (DHW/ heating)

4.2.2.3.1 - Manometric height/Flow rate



4.2.2.3.2 - Setting of the circulator pump on the CP3 constant pressure mode

CP3 constant pressure is factory set.

However, in order to verify set is correct or in the case of a change of circulator pump, it can be necessary to set it correctly.

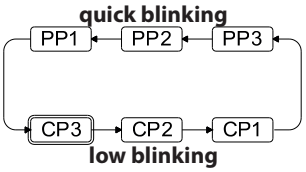
Speed selector enables de choose 2 control modes «PP» or «CP» :

- 3 proportionnal pressure curves (PP)
- 3 **constant pressure** curves (CP)

The circulator pump must be obligatorily set in **constant pressure** mode and «speed» 3, that is to say **CP3** :

- Press «speed» selector during **2 seconds** :
  - The circulator pump is in setting mode, LED is flashing.
  - Flashing mode :
  - Fast : Proportionnal pressure (PP),
  - **Slow : Constant pressure (CP).**
- Every new press on the selector triggers a change of the set :
  - Command curve and control mode are changed. (see diagram below) :

quick blinking III II I	PP1
quick blinking III II I	PP2
quick blinking III II I	PP3
low blinking III II I	CP1
low blinking III II I	CP2
low blinking III II I	**CP3**



- After 10 seconds without pressing the button :
  - Set is selected
  - Heat pump is in operation mode.
- LED 1 or 2 or 3 is permanently lighted up :
  - Heat pump must work with the selected curve and the selected mode. **(Constant pressure CP3)**

4.3 - Electrical connections

4.3.1 - Power electrical connections

The rules and regulations in the country of installation MUST be respected (standard C15-100).

- **The electrical lines for general power supply to the circuits must be made in compliance with your country's current rules and regulations (standard C15-100).**
- **Standard C15-100 determines the cable section to be used based on acceptable currents.**
- **Standard C15-100 determines the cable section to be used based on the following elements:**
  - *Nature of the conductor :*
    - *. type of insulation, number of strands, etc...*
  - *Installation mode :*
    - *. influence of conductor and cable groups*
    - *. ambient temperature*
    - *. tightly or non-tightly installed*
    - *. length of cables, etc...*

- **During the transport, an accidental loosening of the electrical connections can occur.**
- **In order to eliminate any risk of anomalous overheating, a control of the tightening of the connections is strongly recommanded. See § «Spare parts list - electrical boxes»**

4.3.2 - Prior recommandations before power electrical connections

Check:

- **The power consumption**
- **Number and thickness of the power supply cables**
- **Fuse or circuit breaker ratings**

The power supply must come from an electrical protection and sectioning device which complies with all current rules and regulation in effect in the country of use.

This CE-approved unit complies with all the essential requirements of the following directives:

- Low voltage n°2006/95/CE
- Electromagnetic compatibility n° 2004/108/CE

Ensure that the installation is equipped with a properly sized and connected grounding cable.
Ensure that the voltage and frequency of the general power supply fits requirements.

The acceptable variation in voltage is:
230 V -10% to +6% 50Hz for single-phase + Ground models.
400 V -10% to +6% 50Hz for three-phase + Neutral + Ground models

Under no circumstances will the manufacturer be held liable for any problems which may arise due to improper installation and/or choice of power supply cable.

Electrical supply of each device must be done power off by a qualified professional.

4.3.3 - Power electrical connection of the pilot

Electrical supply must be protected by an omni-polar power cut-off device having a 3mm minimum spacing (EN 60335.1) : fuses or circuit breakers must be calibrated according to the power of the pilot.

Electrical protection - 6P10 (with electrical back-up)

Number of circulator pumps	Supply voltage	Cable cross-section	Maximum intensity called	Circuit braker
2	230V mono	3 G 6 mm² to 3 G 10 mm²	27,9 A	32 A
	400V tri	5 G 2.5 mm² to 5 G 4 mm²	9,3 A	16 A
3	230V mono	6 to 10 mm²	28,7 A	32 A
	400V tri	2,5 to 4 mm²	9,5 A	16 A
4	230V mono	6 to 10 mm²	29,4 A	32 A
	400V tri	2,5 to 4 mm²	9,8 A	16 A

Plan for a circuit breaker dedicated to the power supply of the **Pilot** on the electrical panel. It must be able to completely cut-off the electrical supply from the network (all-pole) to eliminate any danger when carrying out maintenance on the appliance.

How to proceed:

- Check that the «ground» cable is connected properly to the grounding peg or grounding network of the building.
- Connect the **Pilot's** electrical cable to the dedicated plug, equipped with a circuit breaker.
- Leave the pilot switched off until set-up.
- If a back-up boiler has to be connected ensure it is powered off before any action.

The proper voltage is: 230 V (+10% / -15%).
Each appliance is delivered from the factory completely pre-wired. However, it is necessary to connect the following elements to the relevant terminals:

- The general electricity supply.
- The different sensors or thermostats on the **Pilot**.
- The 2-core shielded cable connecting the **Pilot** and the Heat pump (10m length supplied).
- The back-up boiler (optional)

For three phase 400V electrical connection, refer to § «Electrical Power Connection»

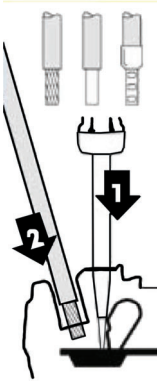
Under no circumstances will the manufacturer be held liable for any problems which may arise due to improper installation and/or choice of power supply cable.

Terminal block

The terminals connection are «Cage Clamp» terminals spring.

For Handling, use the following :

- for 2.5mm² or 4mm² control terminals, use a 3.5 x 0.5mm flat-head screwdriver.
- for 6mm² power terminal, use a 5.5 x 0.8mm flat-head screwdriver.
- for 10mm² power terminal, use a 5.5 x 0.8mm flat-head screwdriver.



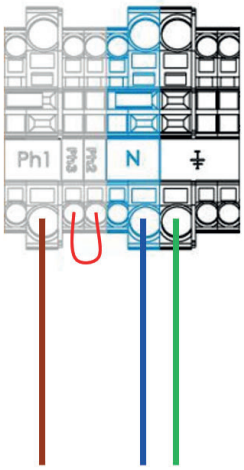
1 : Insert the screwdriver into the rectangular window located on top of the terminal block.

2 : Insert the wire ito the «Cage Clamp» when the flap is open.

3 : Remove the screwdriver.

Note : The wires must be stripped to the following lengths :
- For 2,5mm² control terminals : between 10 et 12mm
- For principal powers terminals : between 18 et 20mm
- For intermediate powers terminals : between 11 et 13mm

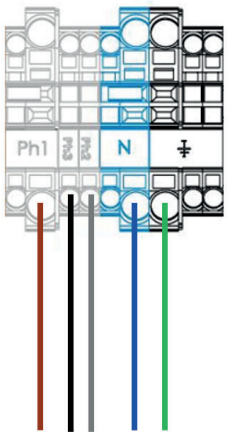
Single phase power supply :



- Connect the power supply to the main terminal block on the power board. Use only the Ph1 terminal (brown wire below above) for phase connection.
- Make sure that the internal cable between the Ph1 terminal and the Power Electronics Board (red cable) is connected to the last terminal (marked P3) of the power board.

The phase must be connected to the Ph1 terminal on the main terminal block, which in connected to the P3 terminal on the power board with the red internal cable.
Make sure these connections are followed before powering on.

Three phase power supply :



- Connect the power supply to the main terminal block on the power board. Each phase must be connected to one of the terminals **P1**, **P2**, **P3** (remove the bridge between terminals P1 and P2).
- Remove the **X2** and **X3** connector bridges.

Do not power up without first checking that the connectors X2 and X3 and the bridge between terminals P1 and P2 have been removed.

4.3.4 - Power connection of the HRC[70] heat pump

It is mandatory to read the installation manual provided with each HRC[70] heat pump.

4.3.5 - Control connection of the heat pump

• Distance between the pilot and the heat pump must not be higher than 100m

• In order to avoid disruptions related to the values of the sensors read by the controller, control and power lines must be wired independently. Avoid junction boxes.

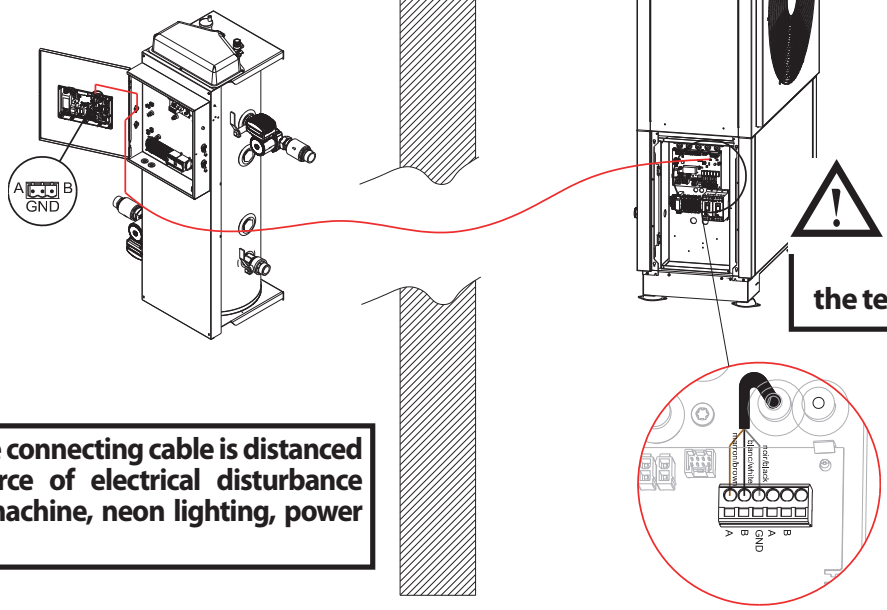
• Conductors must be made of electrolytic copper.

• Telephone wire use is forbidden.

• Control cross-section cables must be between 0,5 and 1mm².

- Connect the two wires of the connecting cable on terminals **A** and **B** of the «**Modbus**» terminal while taking care to respect the polarity **A**/**B** (terminal **A** of the **Pilot** to be connected to terminal **A** of the heat pump; the same for terminal **B**).
- Connect:
  - the brown wire to A
  - the white wire to B
  - the black wire to GND on both appliances.
- If you are using a different cable, respect the polarity of A and B as well as the connection of the shielding on 0V on both appliances.

Plan for the appropriate length of cable between the pilot and the heat pump. Do not hesitate to cut the cable to the appropriate length to **AVOID LOOPS**.

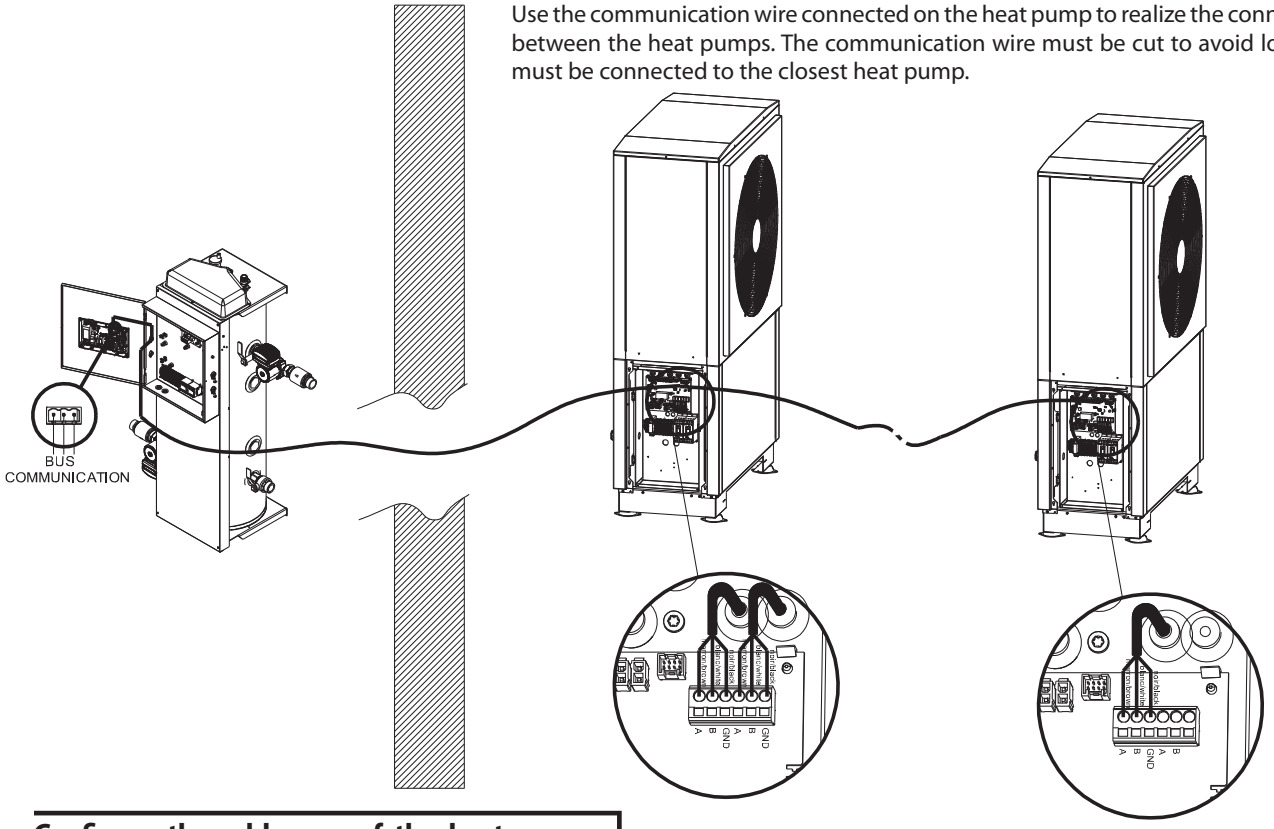


Black wire must be imperatively be connected on the terminal.

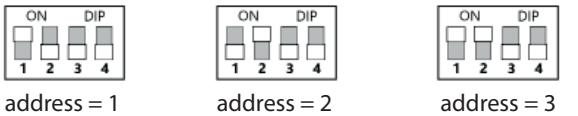
Ensure that the connecting cable is distanced from any source of electrical disturbance (ex: washing machine, neon lighting, power supply cable....)

4.3.6 - Cascade of heat pumps

Use the communication wire connected on the heat pump to realize the connections between the heat pumps. The communication wire must be cut to avoid loop and must be connected to the closest heat pump.



Configure the addresses of the heat pumps thanks to the red selector on the heat pump electronic card.
Pay attention to respect the numbering (address 1 for HP1, address 2 for HP2,...)



address = 1
Heat Pump n°1

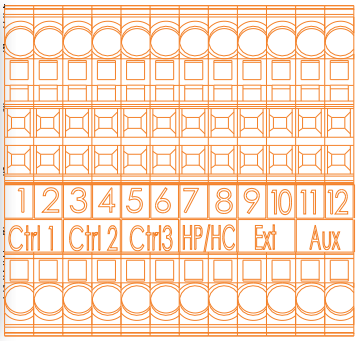
address = 2
Heat Pump n°2

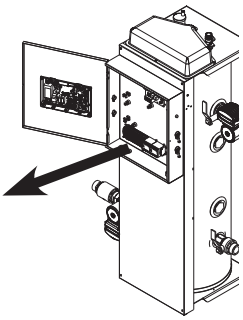
address = 3
Heat Pump n°3

4.4 - Connection of circuits and accessories

Sensors and accessories details :

1-2	=	Zone 1 control (ambience thermostat or water tank sensor)
3-4	=	Zone 2 control (ambience thermostat or water tank aquastat)
5-6	=	Zone 3 control (water tank sensor)
7-8	=	Peak hours contact
9-10	=	Outdoor sensor
11-12	=	Back-up boiler command (To connect to the thermostat input of the boiler)





4.4.1 - Room thermostat

In an installation with both thermostatic valves and a room temperature thermostat, the radiator(s) in the room in which the thermostat is located **MUST** be equipped with a manual valve(s).

It is mandatory to install the ambient temperature control on an interior wall of the room and not a wall that lets out onto the outside of the building.

Installation against an exterior facing wall is prohibited.

Do not place the ambient temperature controller too close to a window, a curtain, or a door. Avoid placing it in an alcove, a closet, or behind drapes.

Do not place above a heat source (radiator,...)or against a wall with a chimney.

Do not place in reach of sun's rays, or near powerful lighting.

Place the sensor 1.50m above floor level, and at least 50cm away from neighboring walls. Insulate the extremeties of the electrical cabling of the installation on the side of the appliance to prevent air currents from influencing the measures taken.

EXCLUSIVELY connect the AMBIENT TEMPERATURE RADIO THERMOSTAT (Ref. 770001).
All other thermostats which are chronoproportional may cause malfunctioning and render the warranty null and void.

4.4.2 - Exterior sensor

The connection of the exterior sensor is recommended (if it is not the heat curve is calculated using the temperature read by the air sensor).

Place the sensor on the coldest exterior wall of the building (usually the north-facing wall). It must not be exposed to the morning sun.

It is preferred to mount the exterior sensor in the middle of the wall of the building or of the heating zone, at least 2.5m above ground level.

Do not place the sensor:
- above windows, doors, air exhausts, or other heat sources,
- beneath balconies or gutters

To prevent mistakes in the temperatures measured due to air circulation, insulate the extremities of the sensor's electrical conduit.

Do not paint the exterior sensor.

Note :
After connection, go to the «*DISPLAY*» menu and check that the «*EXTERIOR*» screen appears with the value read by the probe.
If not, check the connection of the probe or the pilot connector.

4.4.3 - Domestic water aquastat

EXCLUSIVELY connect the water sensor (Ref. 752202).

If DHW is produced by a domestic hot water tank:
- Place the aquastat bulb in the well of the tank to inspect the temperature of the hot water immediately available.
- Connect the aquastat to the terminals of the **Pilot**.

4.4.4 - Domestic water sensor

EXCLUSIVELY connect the water sensor (Ref. 710029).

If DHW is produced by a domestic hot water tank:
- Place the sensor in the well of the tank to inspect the temperature of the hot water immediately available.
- Connect the water sensor to the terminals of the **Pilot**.

Note1 :
For DHW tanks equipped with an aquastat, the setting of the temperature target corresponds to the temperature of the tank circulating in the exchanger. For DHW tanks equipped with a water sensor, the setting of the temperature target corresponds to the water temperature in the tank.
If the water temperature is controlled by aquastat, the temperature target set to the pilot must be 5°C to 10°C higher than the temperature target set to the aquastat.

Note2 :
The thermostat (in the case of a heating circuit) or the aquastat (in the case of a DHW circuit) connected to terminals 1 and 2 must be able to withstand a voltage of 230V.

5 - SET-UP

Set-up must be done by a qualified professional.

5.1 - Before set-up

Ensure that:

- All work carried out on the hydraulic circuits and the electrical circuits are in compliance with the regulations in effect (inspection by a qualified professional)
- The pressure relief valve on the cold water inlet of the domestic hot water tank is working properly and is properly connected to a drain in complaince with the regulations in effect.
- All piping is watertight.
- All hydraulic connections are properly tightened.
- The correct voltage at the mains switch.
- All of the valves are open and nothing is obstructing the circulation of water in the exchanger and in the hydraulic circuit.
- The installation is equipped with a filter valve or a filter on its inlet and that the filter is not clogged.
- The automatic air purger's cap is open.
- The exterior sensor and the ambient temperature control (if present on the installation) are connected properly.
- If using an ambient thermostat, ensure that it is actually being used and set to be on demand (turn it to its maximum set point).

Once all of these checks have been done, turn on the heat pump and **Pilot**.

Installation should not be started WITHOUT WATER inside

5.2 - Check watertightness

Inspect the entirety of the hydraulic connections (nuts with washers, toric joints or anything assembled with glue) which may loosen during transport or during the installation process, and tighten if necessary.

After pressurising the appliance, it is important to check the watertightness (both visually and by any lowering of pressure) of all internal and external connections.

Any deterioration of the appliance due to a lack of watertightness renders the warranty null and void.

5.3 - Starting set-up

The pilot is factory configured to work with :
- Heat pump without back-up boiler
- 1 heating circuit

This configuration can be modified, if necessary, in the Installer menu.

When the **Pilot** is turned on for the first time, it will ask you to confirm the language of use (French, English, German, Italian, Spanish, or Polish), and will request to start set-up:

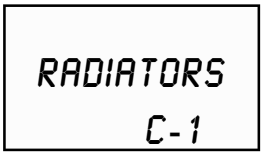
Choose YES and confirm by pressing .

NOTE: If you choose not to start set-up (NO) this option remains accessible in the expert menu, by the COMMISSIO. sub-menu.

5.3.1 - Step 1 : Number of heat pump

Indicate the number of heat pump(s)

5.3.2 - Step 2 : Circuits choice



Select the type of circuit which is connected (DHW, radiators).

5.3.3 - Step 3 : Filling

Activate the backflow prevention device of the installation to fill the heating circuit to just over 1.5 bars of pressure.

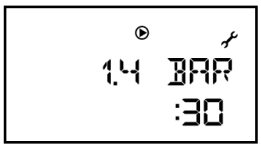
During the filling stage, the **Pilot** indicates the pressure measured in the heating circuit.

The **Pilot** automatically confirms the filling of the installation once the pressure reaches 1.6 bars.

A manual confirmation (press ⏎) is possible starting at 0.6 bars of pressure.

5.3.4 - Step 4 : Purging the installation

The purging cycle activates the circulator pump at an alternating rhythm to allow the displacement and purging of any air bubbles accumulated at high points of the installation using the **Pilot's** automatic purger.



During the purging cycle, the screen indicates the countdown until the automatic stop of the cycle as well as the pressure in the circuit.

During the cycle, check that the automatic purgers are open and regularly activate the manual purgers.

If the pressure in the circuit becomes insufficient due to the volume of air purged, the **Pilot** will indicate it and will pause the purging cycle.

Activate the backflow prevention device or the filling valve to raise the pressure. The purging cycle will resume automatically once there is sufficient pressure.

The purging cycle is launched for a duration of 30 minutes and will automatically stop after that time is up.

At any time during the cycle, you can:

- Interrupt (or resume) the cycle by pressing on ☰.
- End the cycle and continue to the next step by pressing ⏎

5.3.5 - Step 5 : Choosing the back-up

It is possible to select the electrical back-up, the back-up boiler or not to declare a back-up.

5.3.6 - Step 6 : Finishing set-up

The **Pilot** will indicate when set-up has been achieved:

And will automatically put itself in standby mode.

The **Pilot** can be left in this state until first use.

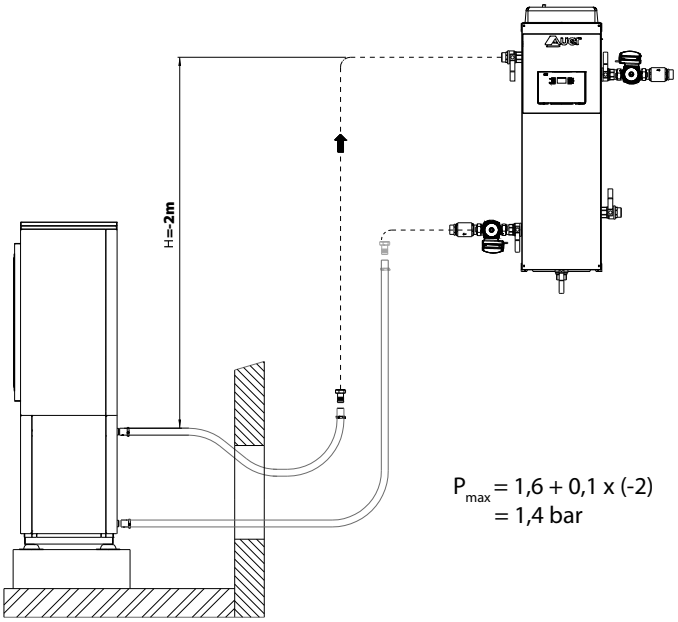
5.4 - First use

To turn on the **Pilot**, press ⏻.

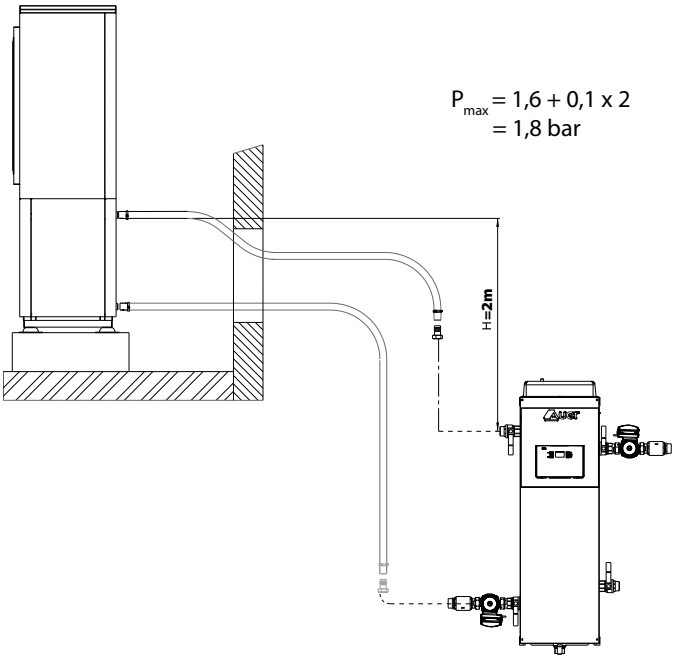
Long pressing ⏻ puts the **Pilot** in standby mode.

When the pilot is switched on for the first time, if heating function doesn't work, maybe the pilot is not in «WINTER» mode. You can verify in the «INSTALLER» menu and change it if necessary.

Do not leave a filling pressure upper than 1.6 bar + 0.1 x (height of the lowest heat pump relative to the pilot) when the pilot is standstill.



P_{max} = 1,6 + 0,1 x (-2)
= 1,4 bar

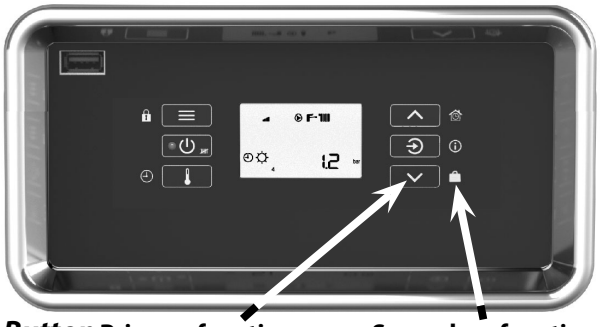


P_{max} = 1,6 + 0,1 x 2
= 1,8 bar

6 - SETTINGS AND FUNCTIONS

6.1 - Control panel

6.1.1 - Keypad

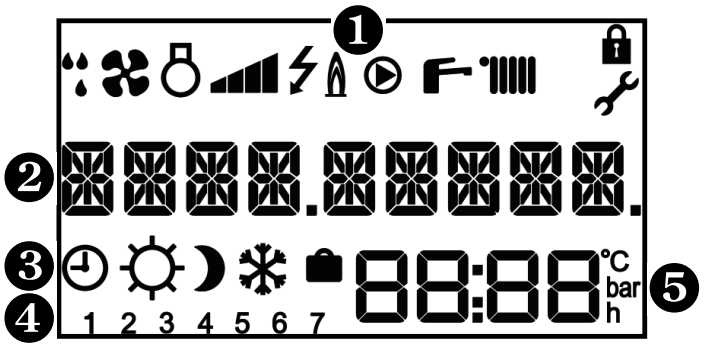


Button **Primary function**
ex.*: decrease / scroll down*

Secondary function
ex.: holiday mode

Primary function (short press)		Secondary function (long press)	
☰	- menu access - return / cancel	🔒	locking / unlocking of the keypad
⏻	- switch on		standby mode
🌡	- setting the temperatures	🕘	program scheduled comfort modes
^	- increase the setting - scroll up	🏠	activate temporary comfort mode
→	- confirm / remove error - display pressure or T°	ⓘ	information on temperatures and current operating state
v	- decrease the setting - scroll down	💼	activation of holiday mode

6.1.2 - Display



❶ *Symbols of current operating state*

	defrosting in progress		circulating pump working
	ventilator working		domestic hot water activated
	compressor working		heating activated
	power level		keypad locked
	electrical back-up		installer menu
	back-up boiler		

❷ *9 character message*

❸ *Current comfort mode*

	Programming active		Comfort mode		Eco mode
	Frost protection mode		Holiday mode		

❹ *Day of the week: (1= Monday; 2= Tuesday...)*

❺ *Display zone: temperatures, pressure, settings, time...*

6.2 - Menus

Menus (and sub-menus)	access buttons
menu *USER*	☰
menu *INSTALLER* *(Display here under will be shown or hidden according to product configuration)* - *HP CIRC* : Setting the speed of HP circulating pump - *OUTS.TMAX* : Outside temperature on the warmest day - *OUTS.TMIN* : Outside temperature on the coldest day - *BACKUP* : Choice of back-up - *HEAT CURV 1* : Setting the heat curve 1 - *HEAT TMAX.1* : Heat curve 1 setpoint on the coldest day - *HEAT TMIN 1* : Heat curve 1 setpoint on the warmest day - *HEAT CURV 2* : Setting the heat curve 2 - *TMAX HEAT 2* : Heat curve 2 setpoint on the coldest day - *TMIN HEAT 2* : Heat curve 2 setpoint on the warmest day - *SHARING* : Activation of priority sharing - *ANTI_BACT* : Activation of anti-bacteria function	☰ + ^
menu *EXPERT* - *SETTINGS* : Access to all parameters - *DISPLAY* : State of operation of the pilot - *DATA CALC* : Temperatures and time delays in progress - *COUNTERS* : Operation counters - *CONFIGURA.* : Choice of circuits and their controls - *AIR BLEED* : Activation of a special air purge cycle - *MANUAL* : Manual operation of component for diagnostics - *COMMISSIO.* Access to the set-up - *MODBUS* : Remote control setting up - *SOFTWARE* : Manage software version	☰ + v

Press ☰ to exit the menus and sub-menus.

6.3 - Actions to be activated using a combination of buttons

Action	combination of buttons
Reset counters to zero Certain counters cannot be reset to zero. Only the counters which can be reset are affected by this action.	in the «counters» menu ⏻ + 🌡 press for 5s
Reset to default settings (return to factory settings)	in the «settings» menu ⏻ + 🌡 press for 5s

6.4 - List of parameters which can be set

Parameter N°	Description	Unit	Range of setting	Factory setting
P202	Maximum exterior temperature (warmest day for heat curve)	°C	11 to 25	20
P203	Minimum exterior temperature ((coldest day for heat curve))	°C	-30 to 10	-5
P204	Summer/winter changeover: choice of changeover method	-	AUTO: changeover is done automatically based on the exterior temperature MANU: changeover is done manually by the user	MANU
P205	Summer/winter time delay: time period for observation of the exterior temperature before automatic season changeover. Only used if automatic changeover is activated.	hour	0 to 48	12
P206	Reactivity: the temperature for heating takes into account the ambient temperature to accelerate heating time when heating is switched on or restarted.	-	YES: reactivity activated NO : reactivity deactivated	NO
P207	Anticipation of heating: heating restarted before return from holidays (for getting a home already at the set temperature on return)	-	YES: anticipation activated NO: anticipation deactivated	NO
P208	Minimum exterior temperature for operation using only the HP. The back-up is authorised to operate in colder temperatures.	°C	P209 to 20	2
P209	Maximum exterior temperature for operation using only the back-up. The heat pump is authorised to operate in warmer temperatures.	°C	-20 to P323	-20
P210	Operation in peak hours (HP/HC contact open)	-	0: no operation allowed 1: HP limited to 1st power stage 2: HP limited to 2nd power stage 3: full HP without back-up 4: HP + 1 stage back-up (2kW) 5: HP + 2 stages back-up (4kW) 6: Full authorization: HP + 3 stages back-up (6kW) 7: back-up (6kW or boiler) without HP 8: anti-frost confort level 9: eco 10: do not use	6
P212	Type of back-up	-	NO: no backup ELEC: electrical back-up BOIL: back-up boiler	NO
P213	Heat pump time-out: allows the heat pump to continue running for a period of time after intervention of the back-up	min.	1 to 20	5
P214	Difference in temperature between the back-up and the heat pump	°K	0 to 7	ELEC : 4 BOIL : 7
P215	Presence of a heat pump	-	0: operation without heat pump 1: presence of a heat pump	1
P216 to P225	Not concerned	-	Do not change the setting	0.5
P221	Choice of heat pump 1 compressor in operation	-	0 to 2	0
P222	Choice of heat pump 2 compressor in operation	-	0 to 2	0
P223	Choice of heat pump 3 compressor in operation	-	0 to 2	0

Parameter N°	Description	Unit	Range of setting	Factory setting
P226	Choice for pressure sensor		0: no pressure sensor 1: IMIT/HUBA sensor (4 bar) 2: ELTEK sensor (4 bar) 3: 6 bar sensor	3
P227	Speed of heat pump circulator pump	%	10 to 100	100
P228	Post-circulation of the heat pump circulator pump	-	Do not change the setting	3
P230	Speed of heating circuit circulator pump	%	10 to 100	100
P231	Setpoint temperature for heating circuit	°C	AUTO: automatic set temperature from the air sensor or exterior sensor (if connected) or 20 to 70: setting fixed in °C	AUTO
P232	Setpoint temperature at the coldest day	°C	P233 to 70	70
P233	Setpoint temperature at the warmest day	°C	20 to P232	40
P234	Action of circulating pump for heating circuit	-	0: permanent 1: controlled by room temperature / room thermostat 2: controlled by room temperature with lower setpoint when room temperature target is reached («anti-cold radiators» function)	1
P235	Lowering of the Heating setpoint : lowering applied to the heating temperature when room has reached the temperature target	°K	0 to 30	4
P236	Lowering in ECO: temperature lowering applied to the heating setpoint during ECO mode.	°K	0 to P237	10
P237	Lowering in Frost protection : temperature lowering applied to the heating setpoint during Frost protection mode	°K	P236 to 40	20
P238	Self-adaptability: automatic correction of the heat curve based on the room temperature on a 24h cycle	-	YES: correction activated NO: correction deactivated	NO
P239	Complementary self-adaptability: automatic correction of the temperature on a 3h cycle of room temperature	-	YES: correction activated NO: correction deactivated	NO
P247	Room temperature hysteresis (requires an room temperature sensor) : room temperature deviation triggering a heating demand	°K	0.1 to 1	0.5
P250	Circuit 2 - Circulator speed (in case of 2nd heating circuit kit)	%	10 to 100	100
P251	Circuit 2 - Setpoint temperature for heating circuit	°C	AUTO : automatic setpoint from air or outside probe if connected or 20 to 70 : fixed set point in°C	AUTO
P252	Circuit 2 - Setpoint temperature at the coldest day	°C	P253 to 70	70
P253	Circuit 2 - Setpoint temperature at the warmest day	°C	20 to P252	40
P254	Circuit 2 - Action of circulating pump for heating circuit	-	0: permanent 1: controlled by room temperature / room thermostat 2: controlled by room temperature with lower setpoint when room temperature target is reached («anti-cold radiators» function)	1
P255	Circuit 2 - Lowering of heating setpoint : lowering applied to the heating temperature when room has reached the temperature target	°K	0 to 30	4

Parameter N°	Description	Unit	Range of setting	Factory setting
P256	Circuit 2 - Lowering in ECO: temperature lowering applied to the heating setpoint during ECO mode.	°K	0 to P257	10
P257	Circuit 2 - Lowering in Frost protection : temperature lowering applied to the heating setpoint during Frost protection mode	°K	P256 to 40	20
P258	Circuit 2 - Self-adaptability: automatic correction of the heat curve based on the room temperature on a 24h cycle	-	OUI : correction enabled NON : correction disabled	NON
P259	Circuit 2 - Complementary self-adaptability: automatic correction of the temperature on a 3h cycle of room temperature	-	OUI : correction enabled NON : correction disabled	NON
P267	Circuit 2 - (mixed circuit option) - Room temperature hysteresis (requires a room sensor): room temperature deviation triggering a heating demand	°K	0.1 to 1	0.5
P271	Domestic sharing: simultaneous operation of heating and domestic hot water production at the end of the tank's heating cycle. Increases the available heating time for installations with a larger volume of domestic hot water.	-	YES: sharing activated NO: sharing deactivated	NO
P272	Anti-legionellosis – activation and choice of frequency: the cycle raises the temperature in the domestic hot water tank. This cycle eliminates the bacteria through thermal shock.	-	0: protection deactivated 1: (monthly) : the cycle is carried out at the beginning of each month, on the first day P273 of the month 2: (weekly): the cycle is carried out each week on day P273	0
P273	Anti-legionellosis – choice of day to carry out anti-legionellosis cycle	-	1 (Monday) to 7 (Sunday)	2
P275	Circulating pump speed during production of domestic hot water	%	10 to 100	100
P278	Lowering of the domestic hot water temperature in ECO mode.	°K	0 to 40	10
P279	Maximum heating time of the domestic hot water tank (too long heating time function)	min.	5 to 60	20
P281	Domestic hot water hysteresis : temperature drop in the domestic hot water tank to start a new heating cycle	°K	2 to 15	5
P282 to P291	Not concerned	-	Do not change the setting	

6.5 - Description of functionalities

6.5.1 - Functions related to heating

6.5.1.1 - AUTO temperature (heat curve)

The set temperature for heating decreases with the exterior temperature, which allows the installation to operate at a low temperature throughout the majority of the heating season and improves the seasonal efficiency of the installation.

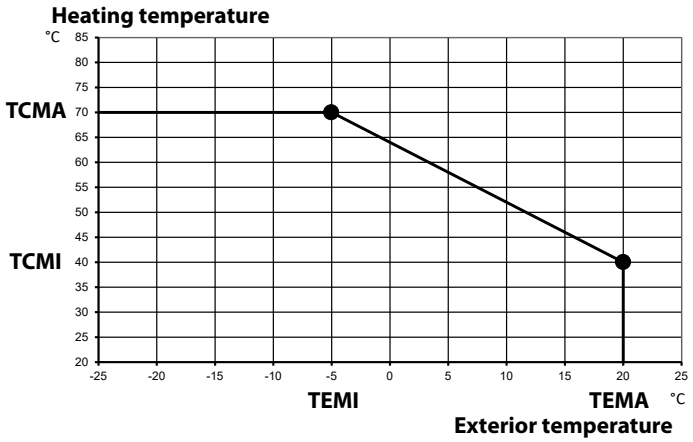
This function can be activated by setting *P231* to *AUTO*.

Setting the heat curve is done using parameters *P202*, *P203*, *P232* and *P233*.

RADIATOR application:

P202 (TEMA) = 20°C *P233* (TCMI) = 40°C

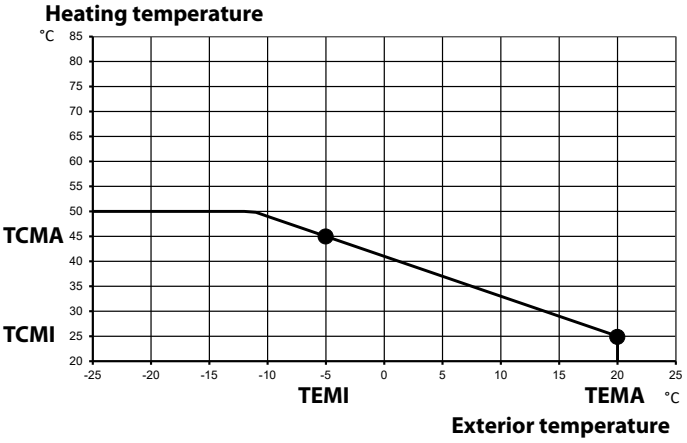
P203 (TEMI) = -5°C *P232* (TCMA) = 70°C



UNDERFLOOR HEATING application:

P202 (TEMA) = 20°C *P233* (TCMI) = 25°C

P203 (TEMI) = -5°C *P232* (TCMA) = 45°C



Note:
In manual operation, it is possible for the user to set the set temperature in the range of TCMI to TCMA.

6.5.1.2 - Lowering of the temperature

The set temperature of heating can be lowered at the same time as the ambient temperature when in Eco or Frost protection modes to improve the heat pump's performance.

The set temperature in comfort mode is the reference point. The set temperature applied in Eco or Frost protection mode is the temperature in comfort mode lowered by the differential:

- *P236*: lowering of the temperature in ECO mode.
- *P237*: lowering of the temperature in Frost protection mode.

6.5.1.3 - Auto-adaptability

The auto-adaptability function allows to continually correct the heat curve to correspond to the needs of the household.

Auto-adaptability operates on two modes, which can be independently activated:

- primary auto-adaptability (activated by *P238*-circuit 1 [*P258* circuit 2]) examines the heating needs over 24h cycles and adjusts the set temperature for heating when ambient temperature is requested.
- complementary auto-adaptability (activated by *P239*-circuit 1 [*P259* circuit 2]) examines the heating needs over 3h cycles and adjusts the set temperature when ambient temperature is not requested. Complementary auto-adaptability requires the presence of an ambient temperature sensor and the activation of the anti-cold radiators function (*P234* = *2*).

6.5.1.4 - Ambient temperature reactivity

The reactivity function allows the pilot to increase its set temperature for heating when the temperature read by the ambient temperature sensor is far from the set temperature.

In particular, it allows an accelerated increase in ambient temperature when returning to comfort mode.

This function is activated using parameter *P206* and requires the presence of an ambient temperature sensor.

6.5.2 - Programming and timeout functions

6.5.2.1 - Anticipation of return from holiday

When this function is activated, the time of return from holiday mode is no longer considered as the time for heating to resume, but instead is considered as the time that the ambient temperature should be at the set temperature. And so, the heating will resume in advance based on the planned return from holiday mode.

This anticipation can vary based on if the heating circuit has a weak inertia (*RADIATOR* setting) or strong inertia (*FLOOR* setting). It also depends on the exterior temperature read (advanced anticipation on cold days).

The pilot uses a arbritrary initial time-delay which may cause discomfort on the first use of the function (first return from holiday). The length of anticipation is automatically adjusted after the first use.

This function can be activated by setting parameter *P207* to *YES*.

6.5.2.2 - Automatic summer/winter changeover

With the automatic summer/winter changeover function activated, the pilot decides when to enact the changeover from one season to another, independently from the choice made by the user via the on/off button.

The pilot examines the exterior temperature for an extended period of time (standby time) and uses the maximum exterior temperature for heating («*TMAX.EXTER*», corresponding to parameter *P202*) as a reference point:

- If the observed exterior temperature is continually above the maximum temperature, the pilot switches to summer mode.
- If the observed exterior temperature is continually below the maximum temperature, the pilot switches to winter mode.

This function can be activated by setting parameter *P204* to *YES*.

Parameter *P205* allows the adjustment of the length of standby time observed by the pilot before the changeover from one season to the other.

6.5.3 - Ambient temperature and heating circulation control functions

6.5.3.1 - Ambient temperature sensor hysteresis

Differential between the set ambient temperature and the measured ambient temperature to activate or deactivate a heating request.

Only applicable if an ambient temperature sensor is connected.

Controlled by parameter *P247*.

6.5.3.2 - Circulator pump speed

Speed is adjustable through parameter *P230*.

Also adjustable through the installer menu *INSTALLER*: «*CIRC. PUMP*».

6.5.3.3 - Heating circulator control

Heating circulation can be permanent or controlled by an ambient temperature control.

If being controlled, the heating circulator will only be activated when there is an ambient temperature request.

Control activated through parameter *P234*.

6.5.3.4 - Anti-cold radiators

This function is only possible with an ambient temperature sensor.

Circulation is always controlled by the ambient temperature control. When the set ambient temperature is reached, the pilot adopts a lower set water temperature but continues to circulate so the radiators do not become cold.

This function can be activated by setting parameter *P234* to *2*.

The set temperature can be lowered through parameter *P235*.

6.5.4 - Functions related to the production of domestic hot water

6.5.4.1 - Domestic priority sharing

Allows the operation of the heating circuit at the end of the domestic hot water heating cycle when the tank's temperature has been raised sufficiently but before the cycle has been completed).

This function can be activated by setting parameter *P271*.

The Domestic Hot Water sharing is only done with the boiler equipped with the DHW probe.

6.5.4.2 - Anti-legionellosis protection

This function activates a cycle which raises the temperature in the domestic hot water tank above the set temperature so as to eliminate any bacteria. This cycle is carried out at regular intervals.

If the function is activated, the cycle will be carried out at the chosen frequency and on the day of week chosen:

- Activation / choice of frequency at *P272*: deactived, monthly, or weekly.
- Choice of day at *P273*: if the frequency is weekly, the cycle will be carried out each week on the selected day. If the frequency is monthly, the cycle will be carried out on the first day chosen in the month (ex. first Monday of the month).

Note: If holiday mode is engaged for more than 3 days, an anti-legionellosis cycle will run at the exiting of holiday mode.

Note:
The cycle starts by default at 22:00 with a set temperature of 60°C.

6.6 - Heat pump circulator speed

Speed is adjustable through parameter *P227*.

Also through *INSTALLER* : «*HP.CIRC.*».

7 - MAINTENANCE AND TROUBLESHOOTING

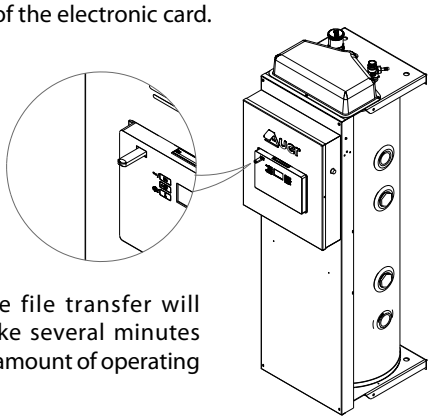
- **All work on the pilot must be carried out by a qualified professional.**
- **Follow all safety instructions!**
- **Disconnect the pilot from the electrical supply before opening it.**
- **Except for certain operations, it is not necessary to drain the system to work on the components.**
- **If the system must be drained, close the overflow valves and open the drainage valve.**
- **Do not get water on the control components.**

7.1- Diagnostics

7.1.1 - Loading the operating history

The operating history is saved in the memory of the electronic board. This data can be loaded onto the USB stick provided. The USB port is located on the left of the electronic card.

1) Get the USB stick that comes with the **6P10** pilot.
2) Insert the key into the USB port (on the front)
3) As soon as the USB stick is recognized* the file transfer will begin. This can take several minutes (depending on the amount of operating history to transfer).



4) When the transfer is complete there will be a sound signal and the message: «*REMOVE USB STICK*» will appear.

Remove the USB stick, **but ensure not to remove it before this message is displayed.**

5) A file named «C14_historique» will be generated onto the USB stick. It contains the recent operating history of the pilot and the heat pump.

** If the USB stick is not recognized, disconnect and reconnect the electrical supply to the appliance and try again.*
If the USB stick is still not being recognized, try a different USB stick.

In the user menu, the *USB* sub-menu allows you to set the frequency of monitoring of operating history (every minute, every 30 seconds....).
These changes are not retroactive, they will only be visible in the *USB* history in the period following the changes being applied.

7.1.2 - Consulting the current operating state of the system

Enter the *EXPERT* menu (☰ + ⌄) and then in the *DISPLAY* sub-menu, or enter the *DISPLAY* sub-menu directly by long pressing ⏎ .

The *DISPLAY* sub-menu gives you access to the following values:

THERMOSTA	State of contact (if using a thermostat): 0 = open (no request) 1 = closed (request)
T_WATER	Temperature of domestic hot water
OUTSIDE	Exterior temperature
0/1 ECO	State of peak hours contact : 0 = open (peak hours) 1 = close (standard operation)
HEAT CURVE	Current temperature set point (determined by the heat curve)
T_PILOTE	Temperature at pilot outlet
VERSION	Pilot version number

The data specific to each heat pump is accessible in the *HP1* ; *HP2* and *HP3* sub-menus (according to the number of heat pumps connected to the pilot) :

T_FLOW	Temperature at heat pump outlet
T_RETURN	Temperature at heat pump inlet
T_AIR	Temperature of heat pump air
T_EVAPOR	Temperature of evaporator
T_COMP 1	Temperature of compressor (compressor n°1 if using heat pumps with 2 compressors)
T_COMP 2	Temperature compressor n°2 (heat pumps with 2 compressors)
COMP 1	Compressor 1 working state
COMP 2	Compressor 2 working state
VERSION	Heat pump version number
T_COND	Temperature of condenser (sensor)

7.1.3 - Water sensors

Ohmic values for *T_PILOTE* (pilot outlet) and *T_WATER* (domestic water sensor placed in the tank) sensors

10 KΩ à 25°C

T (°C)	R (ohms)	T (°C)	R (ohms)
0	32 550	50	3 605
5	25 340	55	2 990
10	19 870	60	2 490
15	15 700	65	2 084
20	12 490	70	1 753
25	10 000	75	1 481
30	8 060	80	1 256
35	6 535	85	1 070
40	5 330	90	915
45	4 372		

7.1.4 - Exterior sensor

Ohmic values for OUTSIDE (exterior) sensor

12 KΩ à 25°C

T (°C)	R (ohms)	T (°C)	R (ohms)
-30	171 800	5	28 600
-25	129 800	10	22 800
-20	98 930	15	18 300
-15	76 020	20	14 770
-10	58 880	25	12 000
-5	45 950	30	9 804
0	36 130		

7.1.5 - Consulting the counters

To consult the pilot and heat pump counters, enter the *EXPERT* menu by pressing simultaneously on [≡] + [∨], and select the *COUNTERS* sub-menu.

Counter n°	Description	Unit
C-00*	Time of DHW request from tank	h
C-01*	Time of heating request from ambience (circuit n°1)	h
C-02*	Time of heating request from ambience (circuit n°2)	h
C-06*	Time of heat pump operation	h
C-07*	Time of boiler heating request	h
C-08*	Stage 1 Operating Time of the electrical back-up	h
C-09*	Stage 2 Operating Time of the electrical back-up	h
C-10*	Stage 3 Operating Time of the electrical back-up	h
C-11*	Defrosting cycles	quantity
HEAT PUMP		
C-20	Heat pump operating time	h
C-21	Number of start-ups from compressor n°1	quantity
C-22	Number of start-ups from compressor n°2	quantity
C-23	Operating time of compressor n°1	h
C-24	Operating time of compressor n°2	h
C-25	Defrosting cycles	quantity
C-26	Frequent defrosting errors	quantity
C-27	High pressure (switch) on compressor n°1	quantity
C-28	Activation of high pressure switch for compressor n°2	quantity
C-29	Activation of low pressure switch for refrigerant fluid	quantity
C-30	Activation of high temperature for compressor n°1 exhaust	quantity
C-31	Activation of high temperature for compressor n°2 exhaust	quantity
C-32	Overheating at heat pump outlet	quantity
C-35	Insufficient flow rate	quantity
C-36	BUS error	quantity
PILOT		
C-40	Time of DHW request from tank	h
C-41	Time of heating request from ambience (circuit n°1)	h
C-42	Time of heating request from ambience (circuit n°2)	h
C-45	Time of heating request for back-up boiler	h
C-46	Stage 1 Operating Time of the electrical back-up	h
C-47	Stage 2 Operating Time of the electrical back-up	h
C-48	Stage 3 Operating Time of the electrical back-up	h
C-49	Overheating at pilot outlet error	quantity
C-50	Lack of water pressure error	quantity
C-51	Lack of water pressure defect	quantity
C-52	Error loss of BUS connection	quantity

* counters which can be reset to zero by long pressing (5s) on [⏻] + [🌡] in the *COUNTERS* menu.

Note :
If several heat pumps are connected, each of them will have its own counters, readable via *HP1*, *HP2*, *HP3* sub-meus in *COUNTERS* menu.

7.1.6 - Manual forcing of components

Enter the *EXPERT* menu ([≡] + [∨]) and then the *MANUAL* sub-menu.

7.1.6.1 - Circulator pump

Activate the forced operation of the circulator pump to check that circulation is working properly. To activate forced operation press [⊕].

7.1.6.2 - Electrical back-up

Activate (always in the *MANUAL* menu of the pilot) the forced operation of the electrical back-up by pressing [⊕].

7.1.6.3 - Back-up boiler

Activate (always in the *MANUAL* menu of the pilot) the forced operation of the Back-up boiler by pressing [⊕].

7.1.7 - Errors indicated by the pilot

Press [⏻] to stop the sound signal (the error persists)

Whatever the number of connected heat pumps, errors denomination is the same. If several heat pumps are connected, error alternately appears with the heat pump which is concerned.

Display	Error	Possible causes	Consequences	Reset
AIR HP	T_air error	The heat pump temperature sensor (Tair) is defective or not connected properly	heat pump stopped*	automatic after repair
CIRC PUMP	Power cable or PWM circulator cable error	The cables for the circulator (heating/water) are defective or not connected properly	complete stop	manual
AMBI ENCE	Amb error	The ambient temperature sensor is defective (error when measuring the ambient temperature)	heating circuit stopped	automatic after repair
BLOC. CIRC	Circulator pump blocked	The circulator (heating/water) is blocked or is working with a load loss which is too high	complete stop	manual
BUS	BUS	BUS communication error	complete stop	automatic after repair
AMB BUS	Amb BUS error	The ambient temperature sensor («Amb» terminals on the pilot) is defective or not connected properly	heating circuit stopped	automatic after repair
COND. SENSO DIAG	Condenser fluid pressure sensor error	The refrigerant circuit pressure sensor is defective or not connected properly	operation in downgraded mode	automatic after repair
EVAP. SENSO	Evaporator fluid pressure sensor error	The refrigerant circuit pressure sensor is defective or not connected properly	heat pump stopped*	automatic after repair
PRES. SENSO	Pressure sensor error	The heating water pressure sensor is defective or not connected properly	complete stop	automatic after repair
INVR. COMM.	Inverter communication error	HP circuit board is disconnected or defective	heat pump stopped*	manual
CP CTRL	Loss of control of inverter	Error detected by the HP circuit board	heat pump stopped*	manual
CP ELEC	Inverter having electrical problems	Error detected by the HP circuit board	heat pump stopped*	manual
CP MECA	Inverter having mechanical problems	Error detected by the HP circuit board	heat pump stopped*	manual
CP THERM	Inverter having thermal problems	Error detected by the HP circuit board	heat pump stopped*	manual
CP1 OVRHT. ERR	Multiple overheatings on compressor 1	- The set temperature for heating during warmer months is too high - Problem with refrigerant fluid load	heat pump stopped*	manual
CP2 OVRHT. ERR	Multiple overheatings on compressor 2	- The set temperature for heating during warmer months is too high - Problem with refrigerant fluid load	heat pump stopped*	manual
FLOW or FLOW 1	No flow HP circuit	- The filter valve needs manintenance - A valve on the distribution circuit is closed - The circuit is blocked	heat pump stopped*	manual
LOW FLOW DIAG	Insufficient flow rate	- The filter valve needs manintenance - The circuit is blocked	informative message	manual

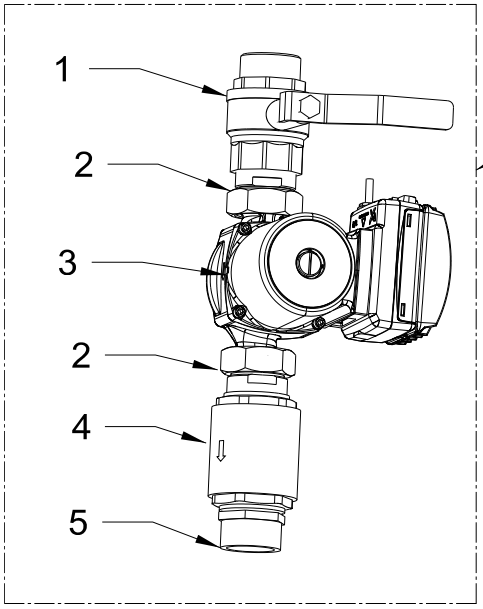
Press [⏎] for 2 seconds to remove the errors manually (indicated by «press [⏎]»).

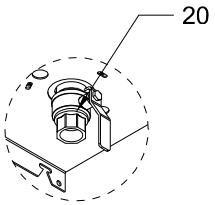
Display	Error	Possible causes	Consequences	Reset
REV. FLOW	Flow rate is reversed	- The hydraulic connection between the heat pump and the pilot is reversed - The heat pump's inlet and outlet sensors are reversed	heat pump stopped*	manual
FREQ. DEFRO.	Defrosting too often error	- The heat pump's evaporator or the grills of the crankcase heater are obstructed and are preventing proper air flow - The free space around the heat pump to ensure sufficient air flow has not been respected - Problem with refrigerant fluid load	heat pump stopped*	manual
LONG DEFRO. DIAG	Defrosting cycle is too long error	- Evaporator sensor improperly positioned - Defrosting valve blocked	informative message	manual
LONG DEFRO.	Defrosting cycle is too long error	- Evaporator sensor improperly positioned - Defrosting valve blocked	heat pump stopped*	manual
"MAIN TENAN EXCH ANGER"	Maintenance is needed on the hot water exchanger	- Hot water exchanger is clogged - The tank's water sensor is misplaced	informative message	manual
CLOC K	Clock	Clock is defective	permanent operation in ECO mode	replace circuit board
INV T1/T2	Compressor sensors reversed error	The sensors for compressor 1 and compressor 2 have been reversed (affects the heat pumps and both compressors)	heat pump stopped*	manual
SOFT WARE	Software update necessary	The software versions of the heat pump and pilot are incompatible	complete stop	automatic after repair
HP M EMORY	HP memory card	Heat pump memory card defect	heat pump stopped*	automatic after repair
MEMO RY	Pilot memory card	Pilot memory card defect	complete stop	automatic after repair
MODB US	External control protected by Modbus	- Programming error of the central GTB/GTC - Too many interventions in the same day	operation of circuits in Frost protection mode	manual or automatic after 24h
HP N UMBER DIAG	Number of HPs connected error	- The HP has been unplugged or switched off - the number of heat pumps declared at *P215* is not accurate	informative message	automatic after repair
HP O UTPUT.	Overheating at HP outlet	The temperature at the heat pump outlet is abnormally high	heat pump stopped*	automatic
HP O UTPUT ERR	Multiple overheatings at HP outlet	- Drop in flow rate when traveling through the heat pump - Reapeated heating requests for low heating needs (installation design)	heat pump stopped*	manual
CP1 POWER	Compressor 1 power supply error	There is a problem with the power supply to the compressor (cable,...)	heat pump stopped*	manual
CP2 POWER	Compressor 2 power supply error	There is a problem with the power supply to the compressor (cable,...)	heat pump stopped*	manual

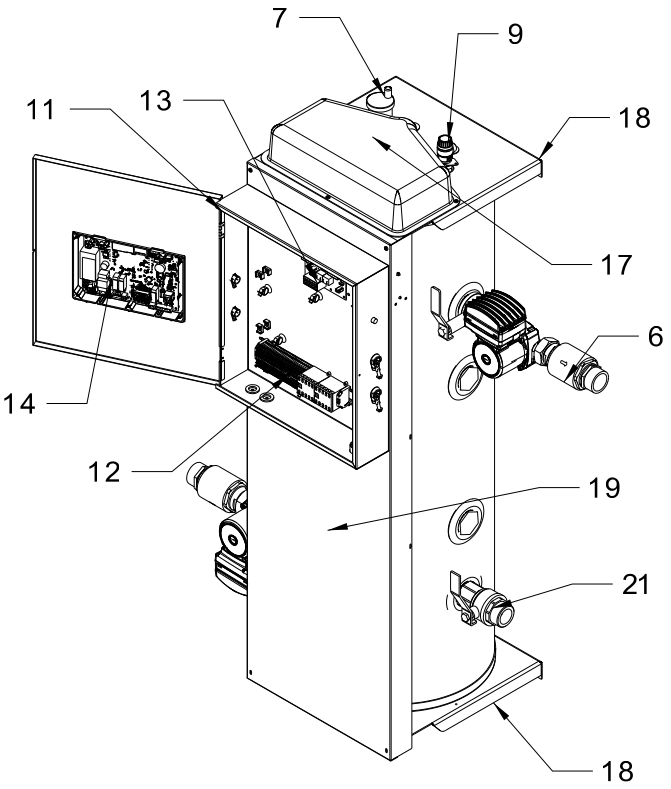
The messages signalled by «*DIAG*» are informative and do not interrupt the operating of the **Pilot**. This information comes from the analysis of the operating history of the **Pilot** and is designed to assist you in the maintenance of yout installation.

Display	Error	Possible causes	Consequences	Reset
EVAP. SENSO.	Defrosting sensor error	Error when measuring the evaporation temperature	heat pump stopped*	manual
EXT. SENSO. DIAG	Exterior sensor placement error	- The exterior sensor is badly positioned and is being influenced by heat or cold sources - The exterior sensor or the air sensor is defective	informative message	manual
PRES SURE	Lack of water pressure	Water pressure is less than 0.3 bars	complete stop	automatic after pressure is returned
CP1 RAMP	Temperature ramp is insufficient for Compressor 1	- Compressor blocked or error in power supply (cable, voltage) - Defrosting valve blocked	HP stopped and restart (with anti-short cycle)	automatic
CP2 RAMP	Temperature ramp is insufficient for Compressor 2	- Compressor blocked or error in poiwer supply (cable, voltage) - Defrosting valve blocked	HP stopped and restart (with anti-short cycle)	automatic
REPR OG / PILOT / HP	Reprogramming error	An error is detected on the reprogramming circuit on one the bus's circuit boards	informative message	automatic after repair
CUTO. LPRE	Low pressure error	- The set temperature for heating during colder months is too low - Problem with refrigerant fluid load	heat pump stopped*	automatic
CUTO. LPRE ERR	Low pressure error	- The set temperature for heating during colder months is too low - Problem with refrigerant fluid load	heat pump stopped*	manual
CUTO. HPRE1	High pressure switch HP1	- The set temperature for heating during warmer months is too high - Problem with refrigerant fluid load	heat pump stopped*	manual
CUTO. HPRE2	High pressure switch HP2	- The set temperature for heating during warmer months is too high - Problem with refrigerant fluid load	heat pump stopped*	manual
T CY LIND	Tank sensor out of place	The water sensor is out of place in the tank, or it is placed too low in the tank (placed below the heat exchanger or near the cold water inlet)	DHW circuit stopped**	manual
CP1 SENSO.	T1 defect	Defect of incorrect connection of the temperature sensor for the compressor – or compressor n°1 depending on the model (connector TCP1 on the HP)	heat pump stopped*	automatic after repair
CP2 SENSO.	T2 defect	Defect of incorrect connection of the temperature sensor for compressor n°2 (TCP2)	heat pump stopped*	automatic after repair
T-WA TER	TTANK defect	Defect of incorrect connection of the temperature sensor for the DHW tank (terminal «Bal»)	DHW circuit stopped**	automatic after repair
T-FLOW	TsPAC defect	Defect of incorrect connection of the temperature sensor at the heat pump outlet (TwOUT)	heat pump stopped*	automatic after repair
T-PI LOTE	TsEAU defect	Defect of incorrect connection of the temperature sensor of the pilot	back-up stopped*	automatic after repair
T-PI LOTE DIAG	Overheating at pilot outlet	- insufficient flow rate to irrigate the pilot	back-up stopped*	automatic
T-PI LOTE ERR	Multiple overheatings at pilot outlet	- insufficient flow rate to irrigate the pilot	back-up stopped*	manual
T-RE TURN	TePAC defect	Defect of incorrect connection of the temperature sensor at the heat pump inlet (TwIN)	heat pump stopped*	automatic after repair

8 - SPARE PARTS







Rep.	Réf.	Désignation
1	B1239277	1"1/2 valve
2	B1593083	2 pces 1"1/2 --> 1"1/2 plumbing fitting
3	B1244897	UPMXL 25-125 PWM circulator pump
4	B1239236	1"1/2 check valve
5	B1134481	1"1/2 plumbing fitting
6	B4994834	PWM hydraulic set (for HRC[70] 25kW and 32kW)
7	B1239216	1/2" automatic air bleed
non visible	B1244569	6 bar pressure sensor
9	B1239239	6 bar pressure relief valve
non visible	B1244901	6kW electrical back-up
11	B4994835	Electronic set
12	B1244902	Terminal block
13	B1244769	Electronic power board
14	B4594836	Electronic control board
15	B1238802	Aquastat
17	B1759512	Electrical back-up patch
18	B4480011	Holder
19	B4485674	Electronic base
20	B1238928	Desludging valve
21	B1239275	1"1/2 M/M valve

Note : Availability of spare parts :
Spare parts which belong our products are available during 10 years, from the end of the mass production, except from an event beyond our control.

9 - WARRANTY

9.1 - Warranty coverage

• The tank is guaranteed for a period **five (5) years** against breakage, starting from the date of first use if the warranty form was returned to the manufacturer, In the absence of this form, the date of manufacture will be used as a reference point for the start of warranty.
• The spare parts (see attached list) are guaranteed for a period of **two (2) years** starting from the date of first use if the warranty form was returned to the manufacturer, In the absence of this form, the date of manufacture will be used as a reference point for the start of warranty.

The appliance is guaranteed against all manufacturing defects, provided that it was installed according to the instructions provided in this manual and in compliance with all current rules and regulations in the country of installation. All electrical connections should comply with the C15-100 standard.

Under no circumstances does a defective part warrant the replacement of the whole appliance.

The warranty only applies to parts which we (AUER) identify as having been defective at manufacture. If necessary, the part or product should be returned to the manufacturer, but only with prior agreement from our technical department. Labour, transport, and packaging costs are the responsibility of the user. Repairs on a device will not result in compensation.

The warranty on replacement parts ends at the same time as the warranty of the appliance.

The warranty only applies to the appliance and its components and excludes any part or installation external to the appliance: electrical parts, hydraulic components, etc...

The warranty will not apply in the absence of, insufficient, or improper, maintenance of the appliance.

It is essential to carry out regular annual maintenance on the appliances and on the installation to ensure sustained use and durability. This maintenance should be carried out by your installer, or by an AUER-approved technical center. In the absence of regular maintenance the warranty is rendered null and void.

If an appliance is presumed to be the cause of any damage, it must not be moved or tampered with before an expert assessment has been carried out.

9.2 - Limitations of warranty

9.2.1 - General information

The warranty does not apply to defects or damage caused by situations or events such as:
- Misuse, abuse, negligence, improper transport or handling.
- Incorrect installation, or installation which has been carried out without following the instructions in the manual and user guide.
- Insufficient maintenance.
- Modifications or changes carried out on the appliance.
- Impacts from foreign objects, fire, earthquakes, floods, lightning, ice, hailstones, hurricanes or any other natural disaster.
- Movement, imbalance, collapse or settling of the ground or the structure where the appliance is installed.
- Any other damage which is not due to defects in the product.

The Pilot is not guaranteed against:
- Variations in the colour of the appliance or damage caused by air pollution, exposure to chemical elements, or changes brought about by adverse weather conditions
- Dirt, rust, grease or stains which occur on the surface of the appliance.

9.2.2 - Cases (not limited to) for exclusion from warranty

9.2.2.1 - Usages

Cases (not limited) for exclusion from warranty:
- Filling with anything other than domestic cold wate from the drinking water network; such as rain-water, well-water, ...etc, or using domestic cold water which is particularly aggressive and not in compliance with the national regulations in effect in the country of use (DTU 60-1 addendum 4 concerning hot water).
- Switching on the appliance without first having filled it with water.

9.2.2.2 - Handling

Cases (not limited) for exclusion from warranty:
- Any damage sustained by impacts or falls during handling after delivery from the factory.
- Deterioration in the condition of the appliance after handling where the instructions in the manual have not been followed.

9.2.2.3 - Installation site

Cases (not limited) for exclusion from warranty:
- Placement of the **Pilot** in a location where it could be subject to ice frost or other adverse weather conditions.
- Not positioning the appliance in accordance with the instructions in the installer manual.
- Installation of the appliance against a wall which cannot support the weight of the appliance when filled with water.

Costs incurred due to access difficulties are not the manufacturer's responsibility.

9.2.2.4 - Electrical connections

Cases (not limited) for exclusion from warranty:
- Faulty electrical connection which does not conform to the national standards in effect.
- Not following the electrical connection diagrams provided in the installer manual.
- Electrical supply being significantly over- or under- the required voltage.
- Not respecting the supply cable sections.
- Absence of, or insufficient electrical protection throughout the appliance (fuses / circuit breaker, grounding…).
- Damages caused after the neutralisation of the safety aquastat, or due to not having installed an appropriate safety aquastat for underfloor heating.

9.2.2.5 - Hydraulic connections

Cases (not limited) for exclusion from warranty:
- Reversing the inlet/outlet connections.
- Water pressure over 7 bars.
- Absence of, improper mounting of, or obstruction of pressure-relief valves.
- Not installing pressure relief valves directly on the outlet for domestic cold water of the appliance.
- Installing pressure relief valves which do not comply with the national regulations in effect (NF EN 1487 for France).
- Using pressure relief valves which are previously used.
- Not respecting the plumbing of the pressure relief valves.
- Abnormal corrosion due to improper hydraulic connections (direct contact between iron/copper) without a sleeve (cast iron, steel, or insulated).
- External corrosion due to piping being improperly sealed.

In no case can compensation be claimed due to damages caused by the absence of thermostatic mitigators.

9.2.2.6 - Accessories

The warranty does not cover faults or defects resulting from:

- Installation of accessories which do not comply with our recommendations.
- The use of accessories which do not come from the manufacturer of the appliance.

9.2.2.7 - Maintenance

Cases (not limited) for exclusion from warranty:
- Not maintaining the appliance.
- Not maintaining the pressur relief valves leading to high pressures.
- Abnormal levels of limescale on the heating elements and of the safety devices.
- Not using parts issued by the manufacturer.
- Outer casing and bodywork being subjected to any external damage.

APPENDIX

A1 - Technical specifications

A1.1 - General characteristics

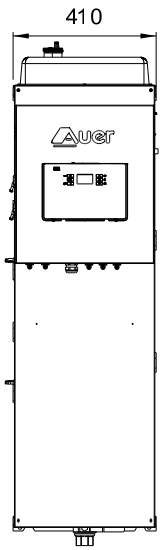
	6P10	
Electrical supply	230V mono	400V tri
Power supply cable cross-section	3 G 6 mm² up to 3 G 10 mm²	5 G 2.5 mm² up to 5 G 4 mm²
Circuit braker	32A	16A
Buffer tank	78L	
Dimensions (W x H x D)	410 mm x 1512mm x 536mm	
Weight when empty	49kg	
Hydraulic connection	1" 1/2	
Back-up	Electric heater or Boiler	
Electrical back-up output	0 to 6 kW	
Maximum hydraulic pressure	6 bar	

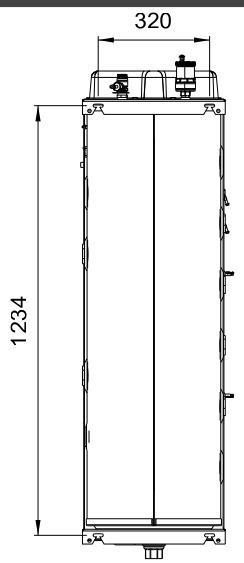
A1.2 - UE declaration

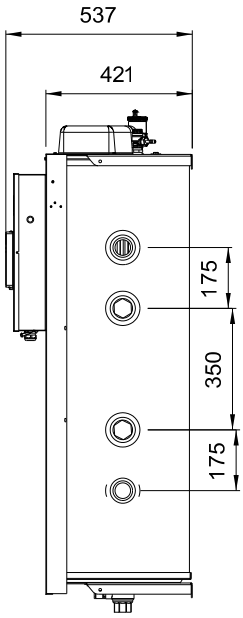
This device complies with CEI 60335-1, CEI 60335-2-40 electrical securities international norms. CE marking on the device attests its conformity to the following Communal Guidelines, which he answers to essential requirements :

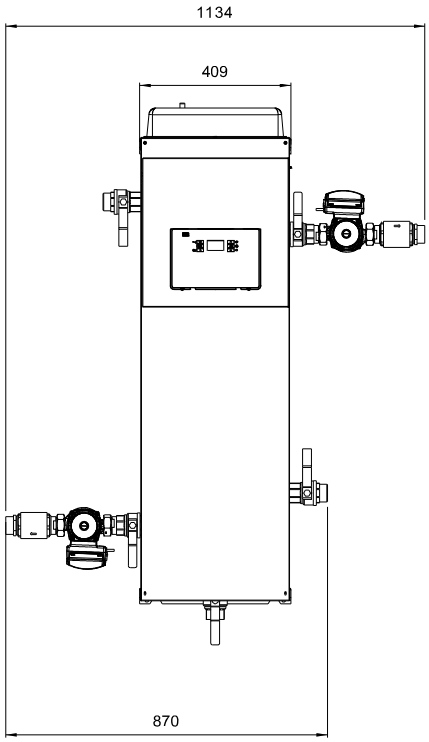
- Low Voltage guideline (BT) : 2014/35/UE.
- Electromagnetic Compatibility : (EMC) : 2014/30/UE.
- Eco conception guideline applicable to products related to energy : 2009/125/CE.
- Restriction of Hazardous substances in electrical and electronic equipment (ROHS) : 2011/65/UE.

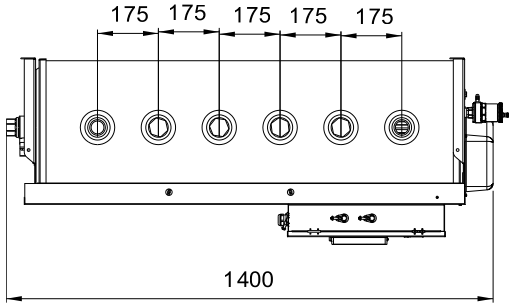
A1.3 - Dimensions











A2 - Schémas de principe hydraulique

How to find the schematic corresponding to your installation...

Access by list :

CASE n°	heat pumps number	heating circuits number	Domestic hot water circuits number	total number of circuits	page
1	1	1	0	1	36
2	1	2	0	2	37
3	1	1	1	2	38
5	1	1	2	3	39
6	1	0	1	1	40
7	1	0	2	2	41
8	1	0	3	3	42
9	2	1	0	1	43
10	2	2	0	2	44
11	2	3	0	3	45
13	2	1	1	2	46
16	2	1	2	3	47
18	2	0	1	1	48
19	2	0	2	2	49
20	2	0	3	3	50
22	3	1	0	1	51
23	3	2	0	2	52
24	3	3	0	3	53
25	3	0	1	1	54
26	3	0	2	2	55
27	3	0	3	3	56

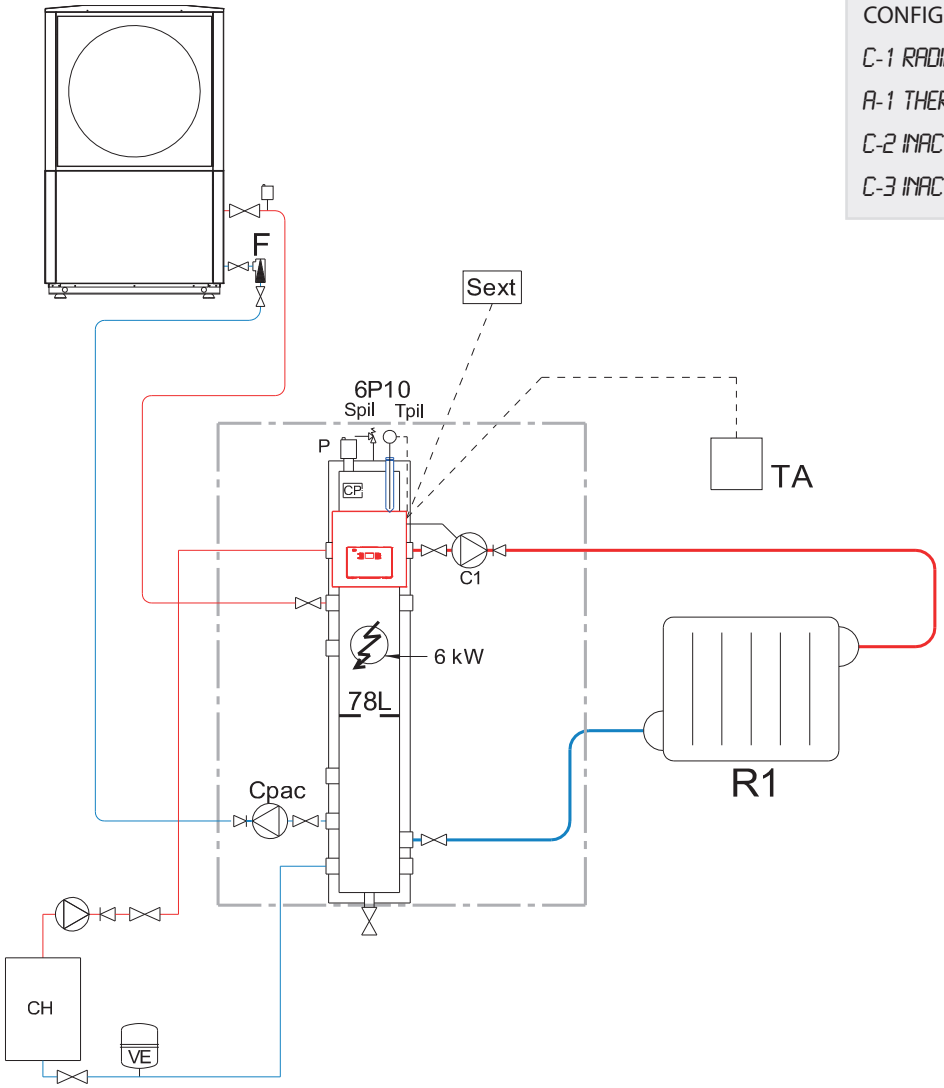
Access by table :

	1 circuit		2 circuits			3 circuits			
	Heating	**DHW**	**Heating Heating**	**Heating DHW**	**DHW DHW**	**Heating Heating Heating**	**Heating Heating DHW**	**Heating DHW DHW**	**DHW DHW DHW**
1 HP	CASE n°1 page 36	CASE n°6 page 40	CASE n°2 page 37	CASE n°3 page 38	CASE n°7 page 41		-	CASE n°5 page 39	CASE n°8 page 42
2 HP	CASE n°9 page 43	CASE n°18 page 48	CASE n°10 page 44	CASE n°13 page 46	CASE n°19 page 49	CASE n°11 page 45	-	CASE n°16 page 47	CASE n°20 page 50
3 HP	CASE n°22 page 51	CASE n°25 page 54	CASE n°23 page 52	-	CASE n°26 page 55	CASE n°24 page 53	-	-	CASE n°27 page 56

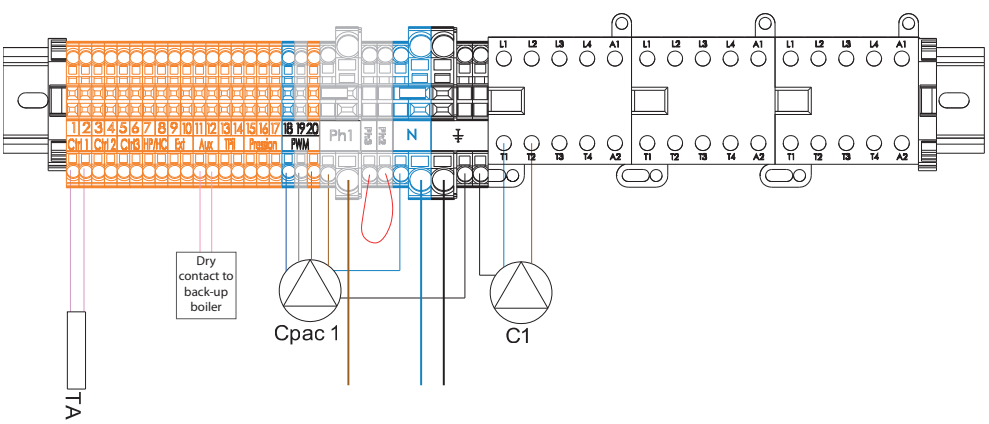
***Note :** **In the following diagrams, in the case of connecting a HRC^{70} 40kW heat pump, the circulator is directly integrated into the heat pump.**

A2.1 - CASE n°1 - 1 HRC[70] heat pump + 1 heating circuit

CONFIGURATION:
C-1 RADIATOR
A-1 THERMOSTAT
C-2 INACTIV
C-3 INACTIV

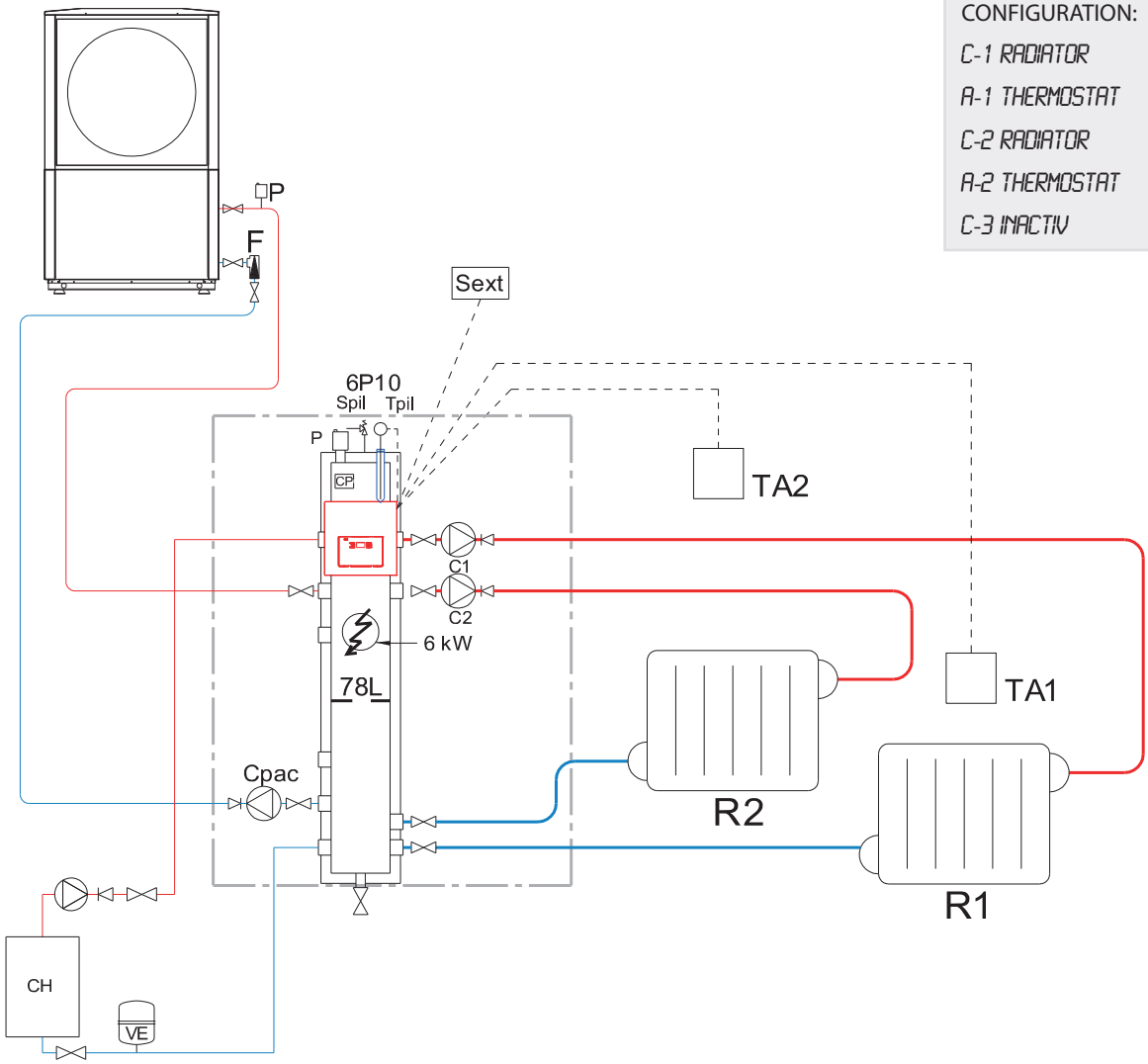


C1	:	*Heating circuit circulating pump*
CH	:	*Back-up boiler (optional)*
****Cpac***	:	*Heat pump 2 circulating pump*
Ext	:	*External sensor*
F	:	*Filter*
P	:	*Air bleed*
R1	:	*Radiators heating circuit*
Spil	:	*Pilot pressure relief valve*
TA	:	*Room thermostat*
Tpil	:	*Pilot temperature sensor*
VE	:	*Expansion vessel*

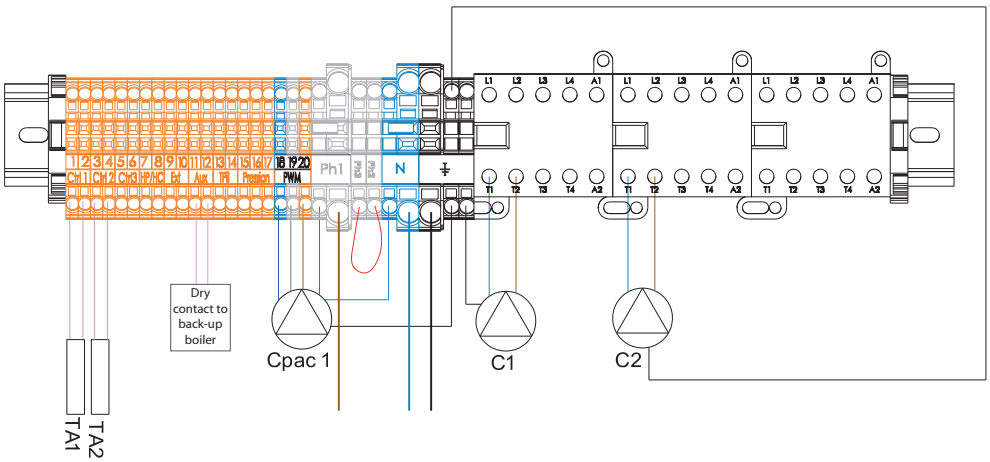


A2.2 - CASE n°2 - 1 HRC70 heat pumps + 2 heating circuits

CONFIGURATION:
C-1 RADIATOR
A-1 THERMOSTAT
C-2 RADIATOR
A-2 THERMOSTAT
C-3 INACTIV

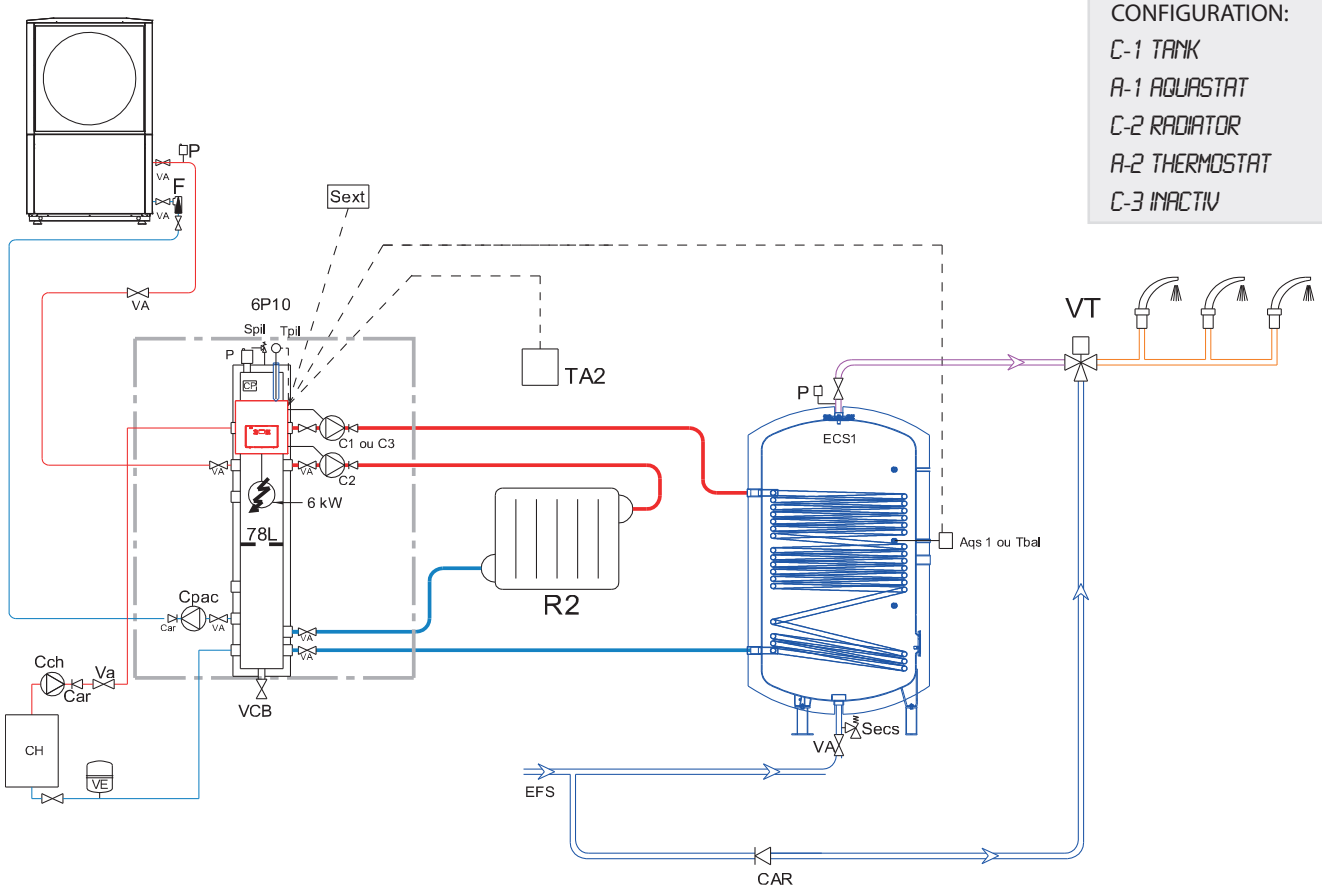


C1	:	*Heating circuit circulating pump n°1*	***R1***	:	*Heating circuit n°1 (radiators)*
C2	:	*Heating circuit circulating pump n°2*	***R2***	:	*Heating circuit n°2 (radiators)*
CH	:	*Back-up boiler (optional)*	***Spil***	:	*Pilot pressure relief valve*
****Cpac***	:	*Heat pump 2 circulating pump*	***TA1***	:	*Room thermostat heating circuit n°1*
Ext	:	*External sensor*	***TA2***	:	*Room thermostat heating circuit n°2*
F	:	*Filter*	***Tpil***	:	*Pilot temperature sensor*
P	:	*Air bleed*	***VE***	:	*Expansion vessel*

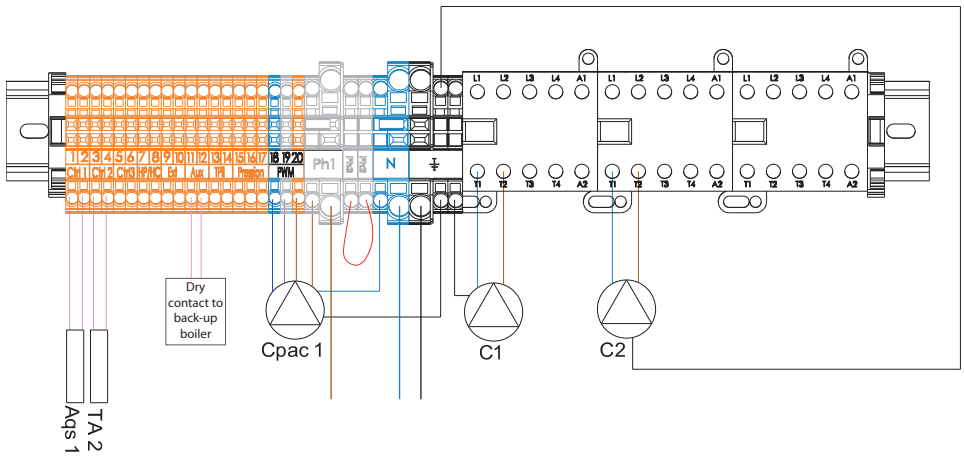


A2.3 - CASE n°3 - 1 HRC70 heat pump + 1 DHW tank + 1 heating circuit

CONFIGURATION:
C-1 TANK
A-1 AQUASTAT
C-2 RADIATOR
A-2 THERMOSTAT
C-3 INACTIV

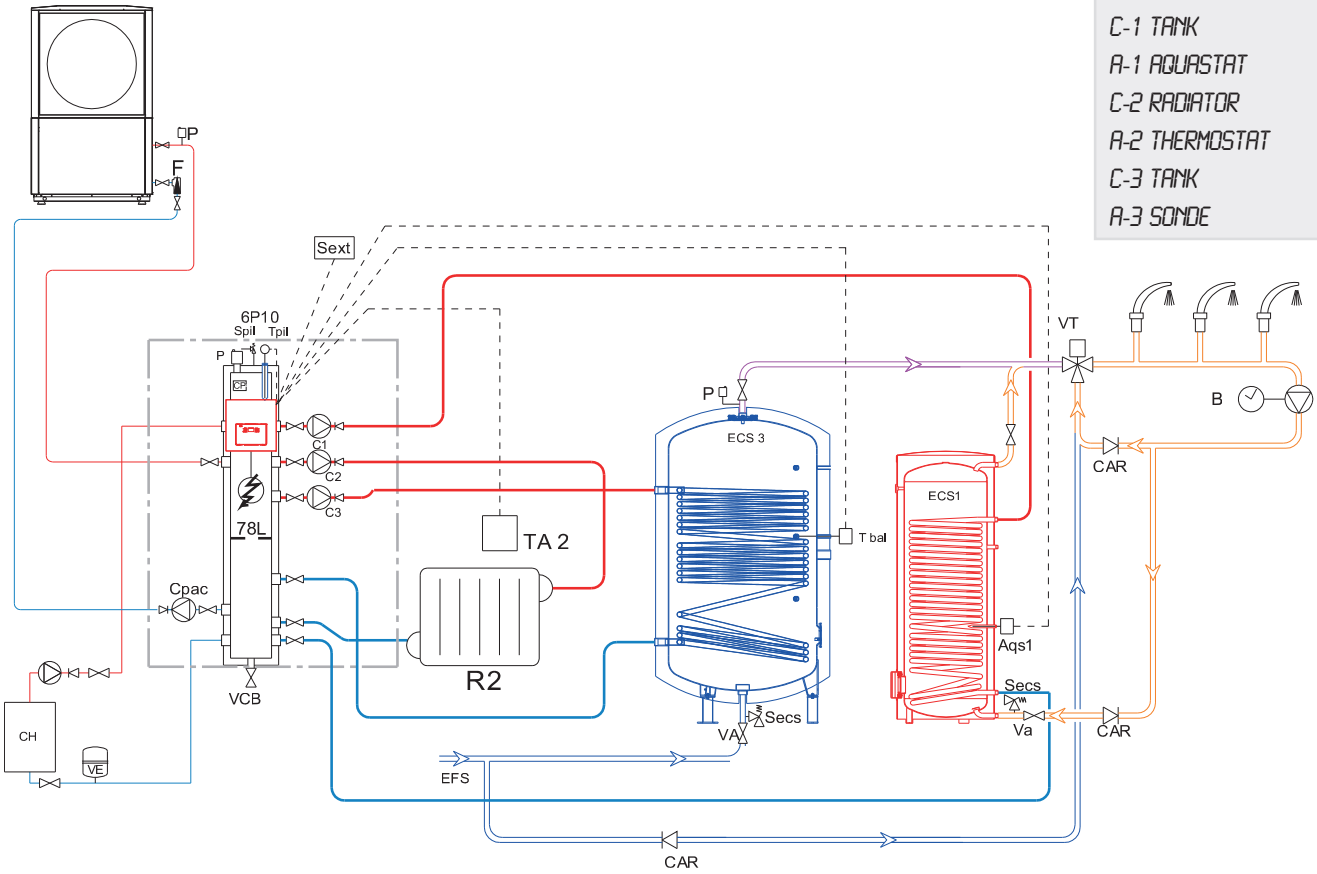


Aqs1	:	*Aquastat DHW tank (Ctrl 1) (or Tbal = sanitary sensor)*
C1	:	*DHW tank circulating pump (ou C3)*
C2	:	*Heating circuit circulating pump*
CAR	:	*Check valve*
Cch	:	*Boiler circulating pump (managed by the boiler)*
CH	:	*Back-up boiler (optional)*
****Cpac***	:	*Heat pump 2 circulating pump*
EFS	:	*Domestic Cold Water*
Ext	:	*External sensor*
F	:	*Filter*
P	:	*Air bleed*
R2	:	*Heating circuit (radiators)*
Sch	:	*Boiler pressure relief valve*
Secs	:	*Domestic water pressure relief valve*
Spil	:	*Pilot pressure relief valve*
TA2	:	*Room thermostat (Ctrl 2)*
Tpil	:	*Pilot temperature sensor*
VA	:	*Stop valve*
VCB	:	*Desludging valve*
VE	:	*Expansion vessel*
VT	:	*Thermostatic valve*

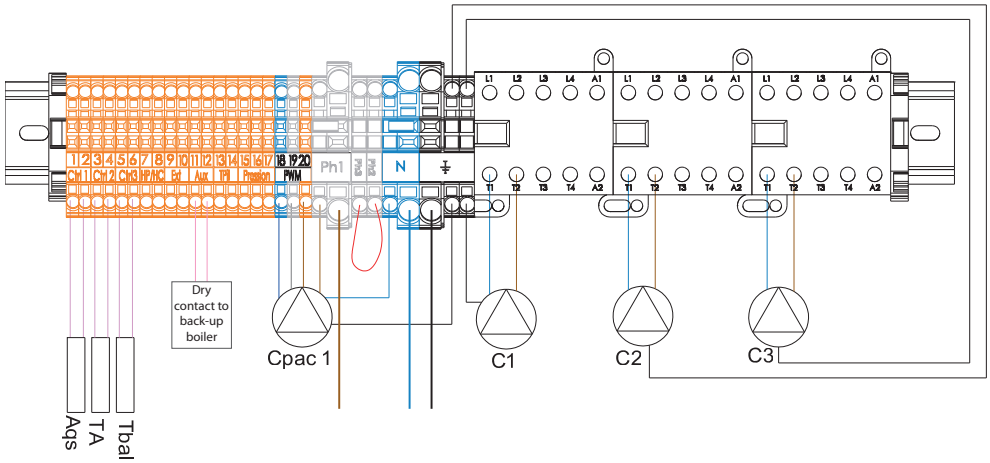


A2.5 - CASE n°5 - 1 HRC70 heat pumps + 2 DHW tanks + 1 heating circuit

CONFIGURATION:
C-1 TANK
A-1 AQUASTAT
C-2 RADIATOR
A-2 THERMOSTAT
C-3 TANK
A-3 SONDE

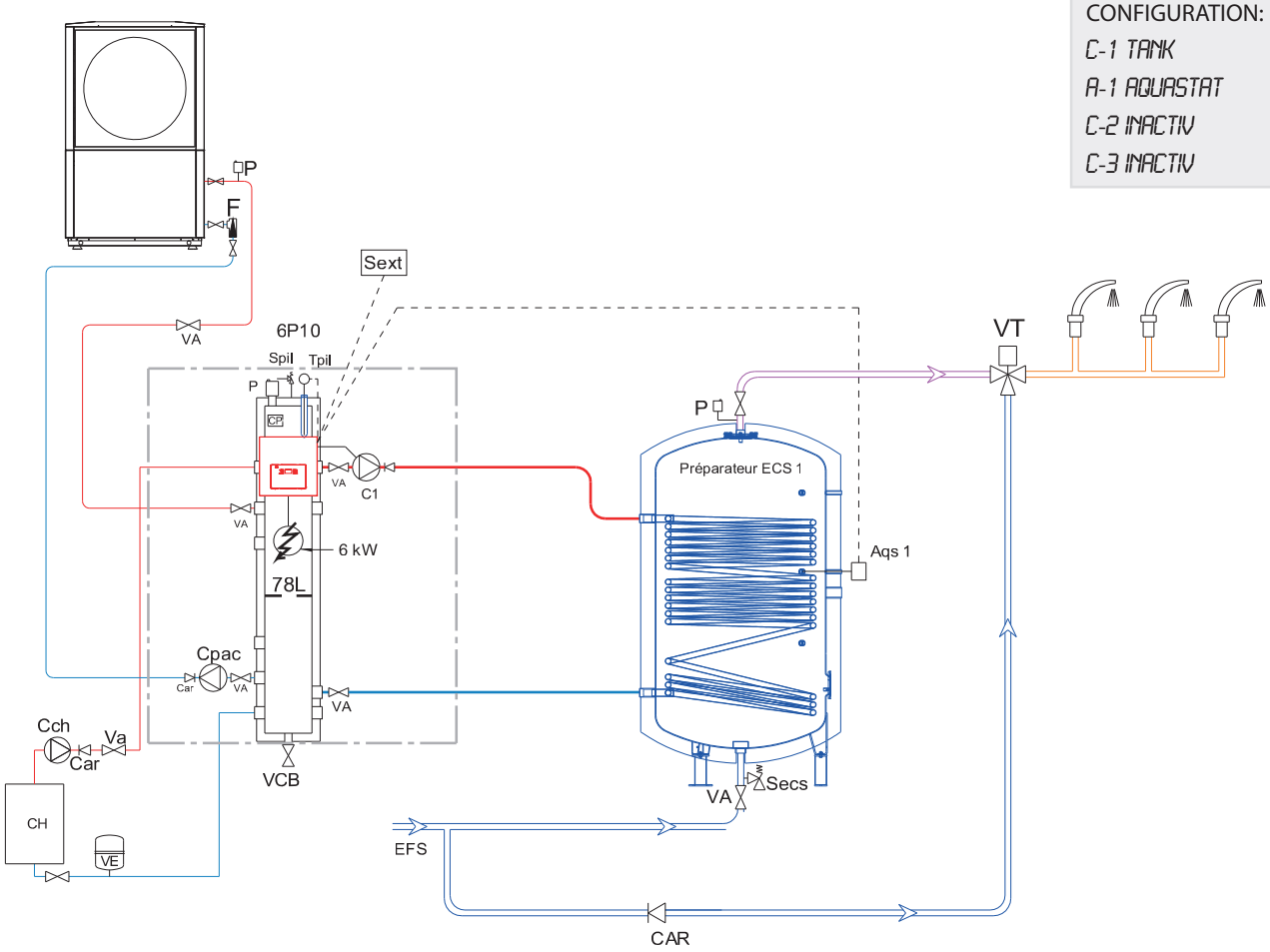


Aqs1	:	*Circuit 1 - DHW tank controlled by aquastat*	***P***	:	*Air bleed*
B	:	*DHW recirculating loop*	***R2***	:	*Circuit 2 - chauffage (radiators)*
C1	:	*Circuit 1 - DHW primary circulating pump*	***Sch***	:	*Boiler pressure relief valve*
C2	:	*Circulateur circuit 2 - radiators*	***Secs***	:	*Domestic water pressure relief valve*
C3	:	*Circuit 3 - DHW primary circulating pump*	***Spil***	:	*Pilot pressure relief valve*
CAR	:	*Check valve*	***TA 2***	:	*Circuit 2 - room thermostat*
Cpac	:	*Boiler circulating pump (managed by the boiler)*	***Tbal***	:	*Circuit 3 - DHW tank controlled by sensor*
CH	:	*Back-up boiler (optional)*	***Tpil***	:	*Pilot temperature sensor*
****Cpac***	:	*Heat pump 2 circulating pump*	***VA***	:	*Stop valve*
EFS	:	*Domestic Cold Water*	***VCB***	:	*Desludging valve*
Ext	:	*External sensor*	***VE***	:	*Expansion vessel*
F	:	*Filter*	***VT***	:	*Thermostatic valve*

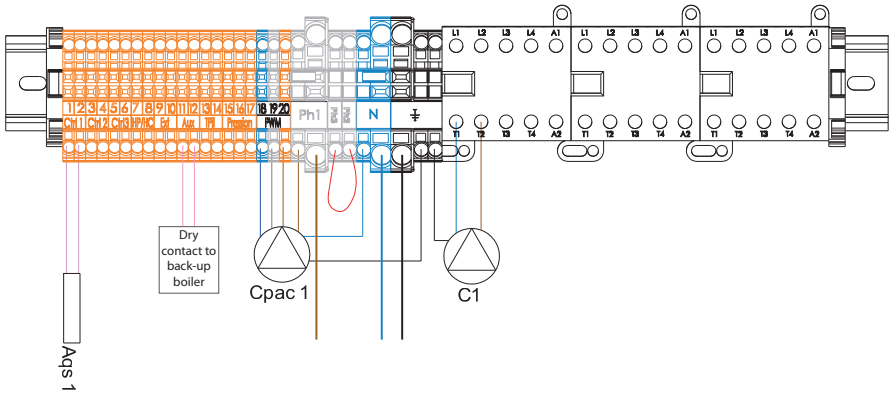


A2.6 - CASE n°6 - 1 HRC70 heat pumps + 1 DHW tank

CONFIGURATION:
C-1 TANK
A-1 AQUASTAT
C-2 INACTIV
C-3 INACTIV

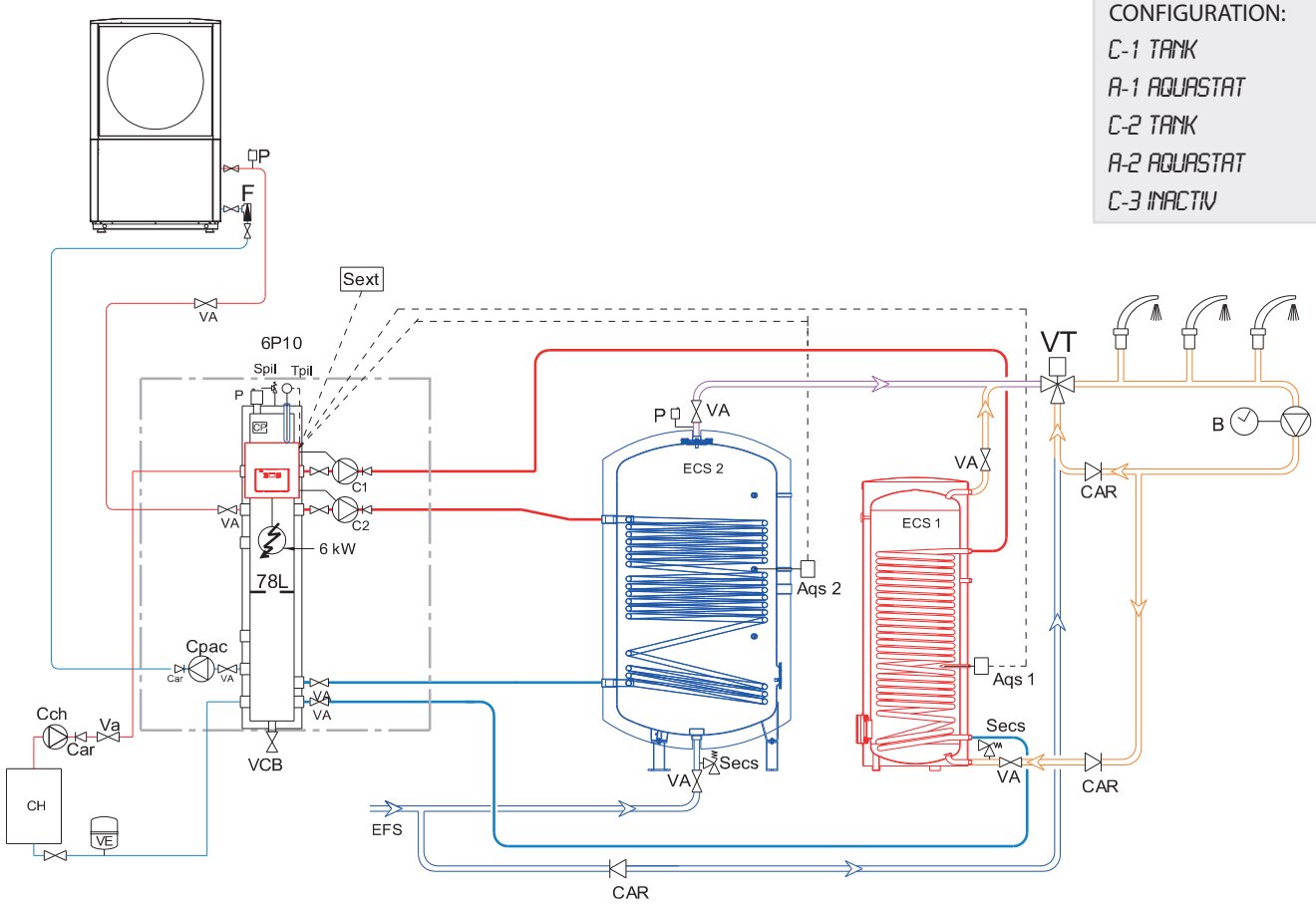


Aqs1	:	*Aquastat du DHW tank*
C1	:	*Circulateur primaire du DHW tank*
CAR	:	*Check valve*
Cch	:	*Circulateur Back-up boiler (piloté par la Back-up boiler)*
CH	:	*Back-up boiler (optional)*
****Cpac***	:	*Heat pump 2 circulating pump*
EFS	:	*Domestic Cold Water*
F	:	*Filter*
P	:	*Air bleed*
Sch	:	*Boiler pressure relief valve*
Secs	:	*Domestic water pressure relief valve*
Spil	:	*Pilot pressure relief valve*
Tpil	:	*Pilot temperature sensor*
VA	:	*Stop valve*
VCB	:	*Desludging valve*
VE	:	*Expansion vessel*
VT	:	*Thermostatic valve / Thermostatic valve*

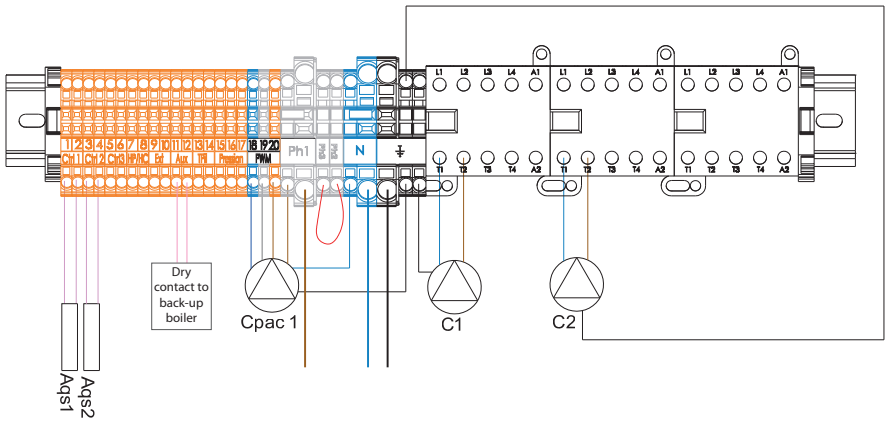


A2.7 - CASE n°7 - 1 HRC70 heat pumps + 2 DHW tanks

CONFIGURATION:
C-1 TANK
A-1 AQUASTAT
C-2 TANK
A-2 AQUASTAT
C-3 INACTIV

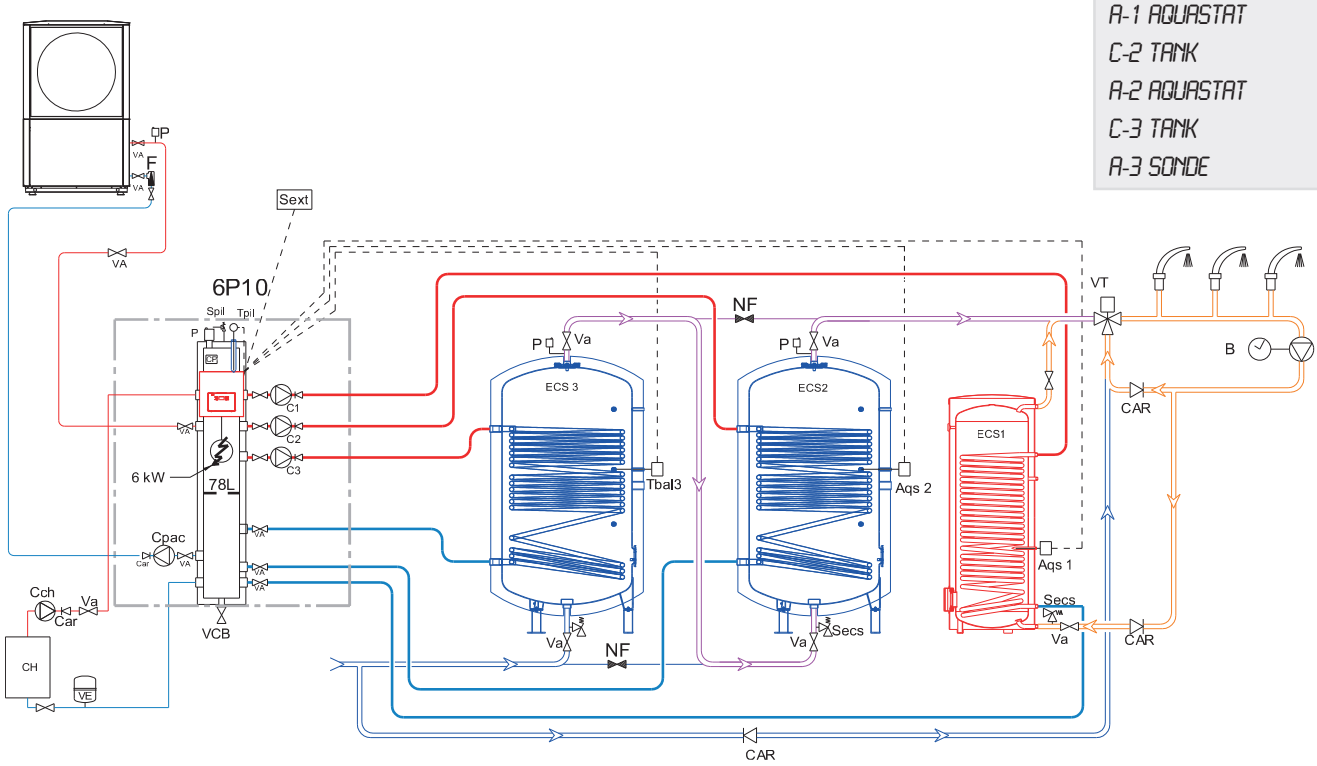


Aqs1	:	*Circuit 1 - DHW tank controlled by aquastat*	**F**	:	*Filter*
Aqs2	:	*Contrôle circuit 2 - Aquastat DHW tank 2*	**P**	:	*Air bleed*
B	:	*DHW recirculating loop*	**Sch**	:	*Boiler pressure relief valve*
C1	:	*Circuit 1 - DHW primary circulating pump*	**Secs**	:	*Domestic water pressure relief valve*
C2	:	*Circuit 2 - DHW primary circulating pump*	**Spil**	:	*Pilot pressure relief valve*
CAR	:	*Check valve*	**Tpil**	:	*Pilot temperature sensor*
Cpac	:	*Boiler circulating pump (managed by the boiler)*	**VA**	:	*Stop valve*
CH	:	*Back-up boiler (optional)*	**VCB**	:	*Desludging valve*
***Cpac**	:	*Heat pump 2 circulating pump*	**VE**	:	*Expansion vessel*
EFS	:	*Domestic Cold Water*	**VT**	:	*Thermostatic valve*

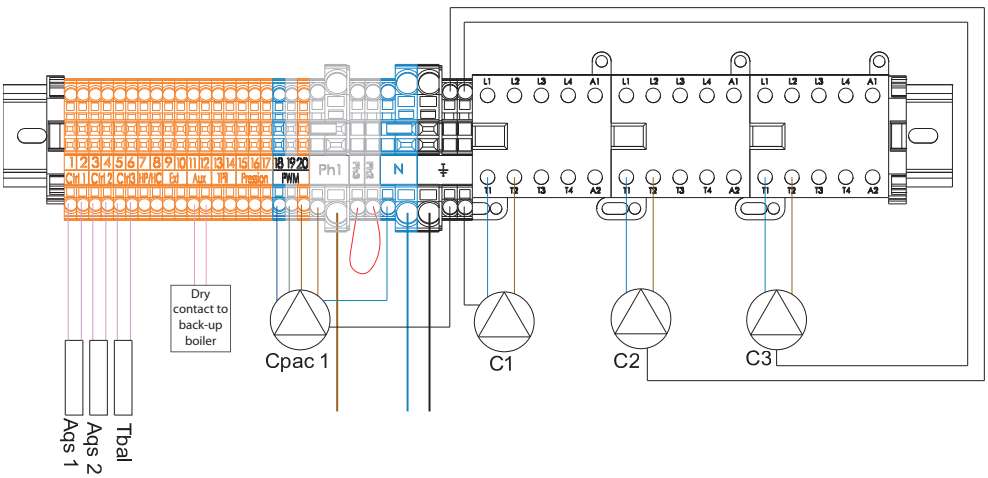


A2.8 - CASE n°8 - 1 HRC70 heat pumps + 3 DHW tanks

CONFIGURATION:
C-1 TANK
A-1 AQUASTAT
C-2 TANK
A-2 AQUASTAT
C-3 TANK
A-3 SONDE

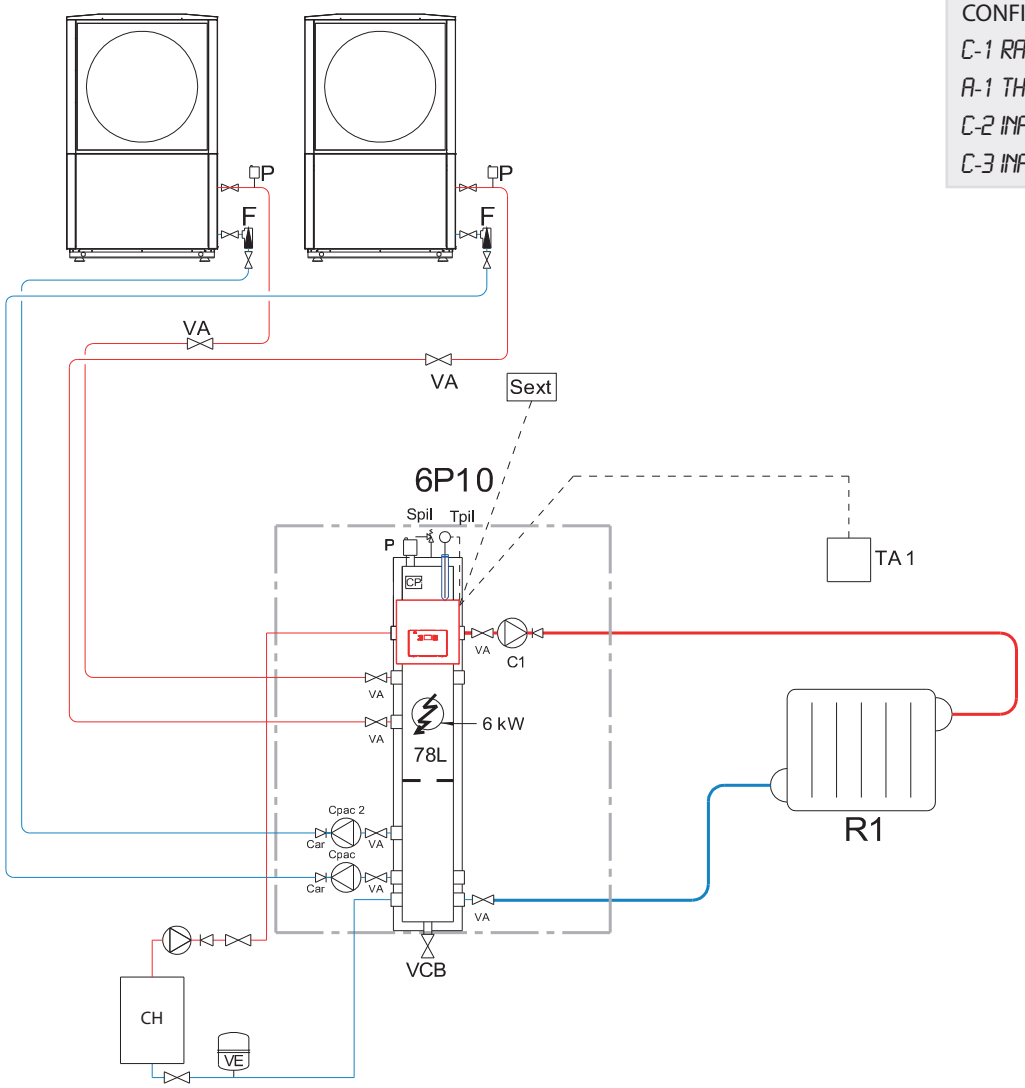


Aqs1	:	*Circuit 1 - DHW tank controlled by aquastat*
Aqs2	:	*Circuit 2 - DHW tank controlled by aquastat*
B	:	*DHW recirculating loop*
C1	:	*Circuit 1 - DHW primary circulating pump*
C2	:	*Circuit 2 - DHW primary circulating pump*
C3	:	*Circuit 3 - DHW primary circulating pump*
CAR	:	*Check valve*
Cch	:	*Boiler circulating pump (managed by the boiler)*
CH	:	*Back-up boiler (optional)*
****Cpac***	:	*Heat pump 2 circulating pump*
EFS	:	*Domestic Cold Water*
F	:	*Filter*
P	:	*Air bleed*
Sch	:	*Boiler pressure relief valve*
Secs	:	*Domestic water pressure relief valve*
Spil	:	*Pilot pressure relief valve*
Tbal	:	*Circuit 3 - DHW tank controlled by sensor*
Tpil	:	*Pilot temperature sensor*
VA	:	*Stop valve*
VCB	:	*Desludging valve*
VE	:	*Expansion vessel*
VT	:	*Thermostatic valve*

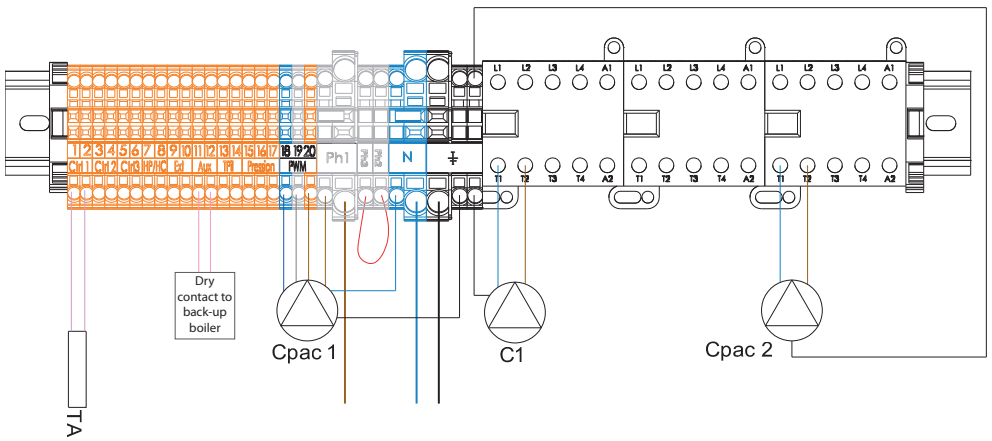


A2.9 -CASE n°9 - 2 HRC70 heat pumps + 1 heating circuit

CONFIGURATION:
C-1 RADIATOR
A-1 THERMOSTAT
C-2 INACTIV
C-3 INACTIV

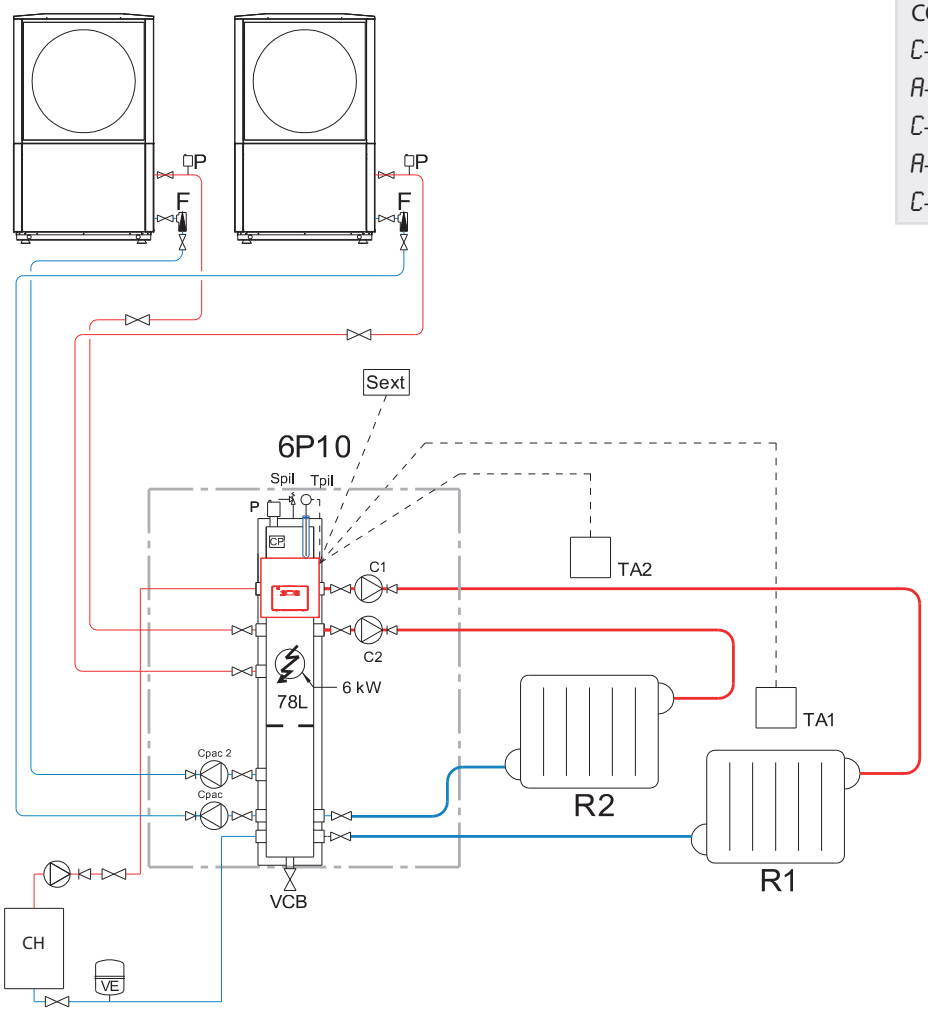


C1	:	*Heating circuit circulating pump*	***P***	:	*Air bleed*
CH	:	*Back-up boiler (optional)*	***R1***	:	*Radiators heating circuit*
****Cpac***	:	*Heat pump 1 circulating pump (PWM signal)*	***Spil***	:	*Pilot pressure relief valve*
****Cpac2***	:	*Heat pump 2 circulating pump*	***TA***	:	*Room thermostat*
Ext	:	*External sensor*	***Tpil***	:	*Pilot temperature sensor*
F	:	*Filter*	***VE***	:	*Expansion vessel*

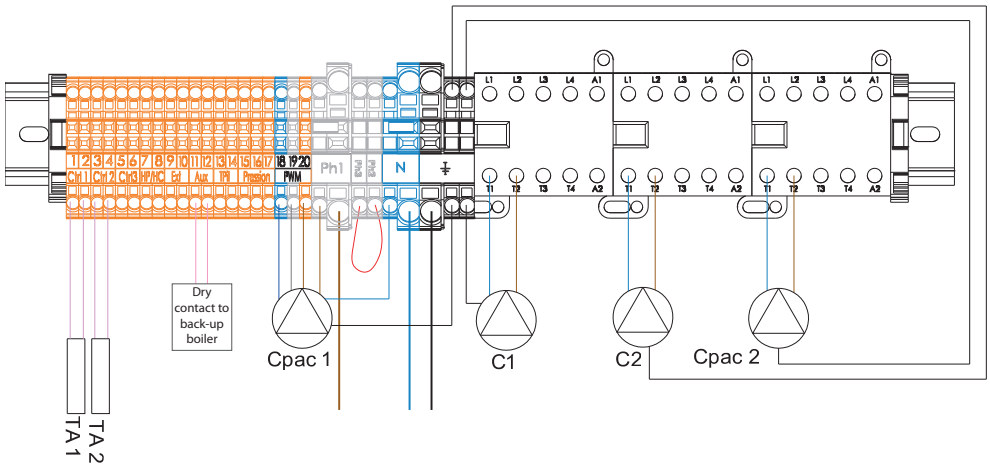


A2.10 -CASE n°10 - 2 HRC70 heat pumps + 2 heating circuits

CONFIGURATION:
C-1 RADIATOR
A-1 THERMOSTAT
C-2 RADIATOR
A-2 THERMOSTAT
C-3 INACTIV

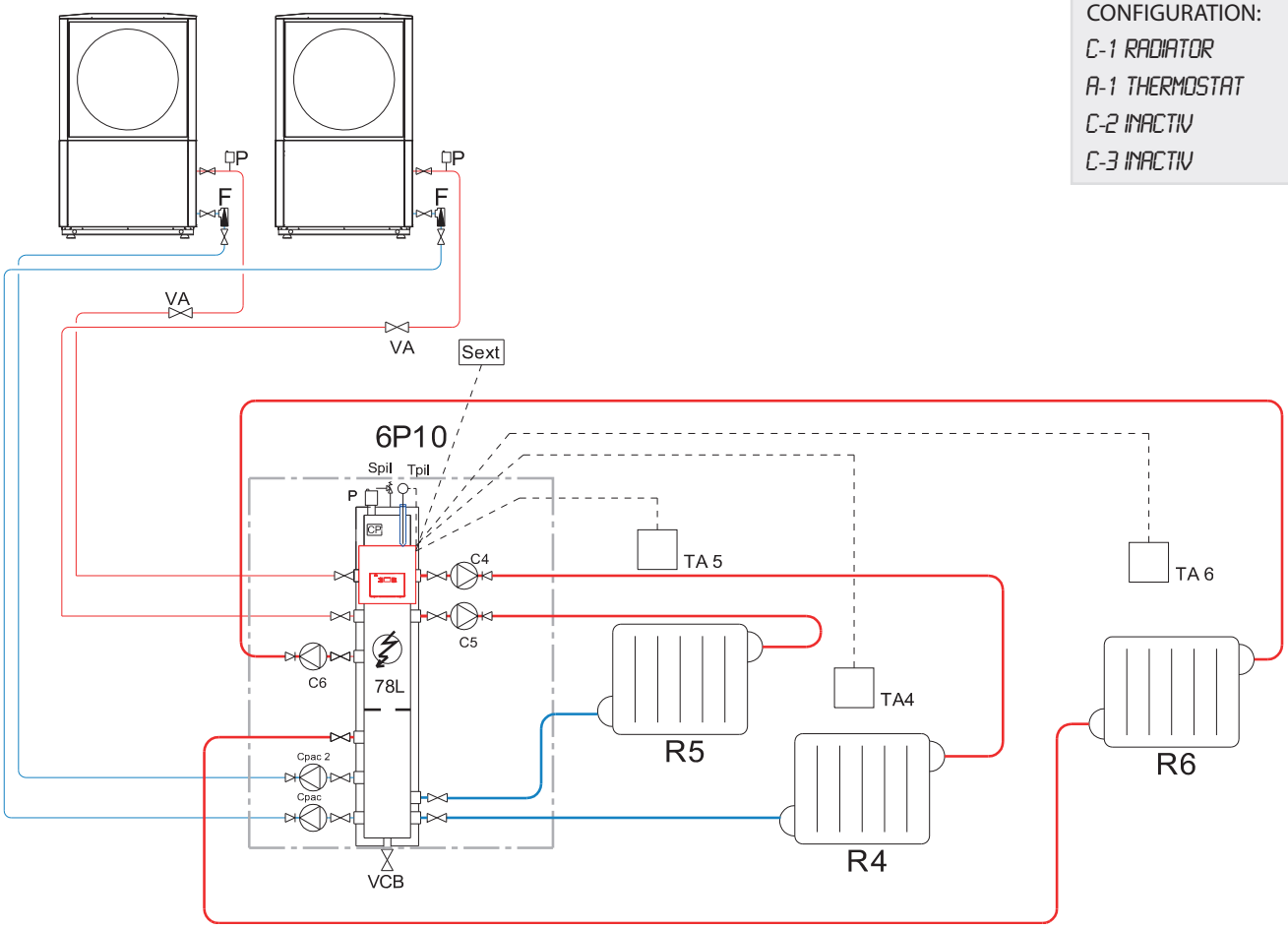


C1	:	*Circuit 1 - heating circuit circulating pump*
C2	:	*Circuit 2 - heating circuit circulating pump*
CH	:	*Back-up boiler (optional)*
****Cpac***	:	*Heat pump 1 circulating pump (PWM signal)*
****Cpac2***	:	*Heat pump 2 circulating pump*
Ext	:	*External sensor*
F	:	*Filter*
P	:	*Air bleed*
R1	:	*Circuit 1 - radiators heating circuit*
R2	:	*Circuit 2 - radiators heating circuit*
Spil	:	*Pilot pressure relief valve*
TA1	:	*Circuit 1 - room thermostat*
TA2	:	*Circuit 2 - room thermostat*
Tpil	:	*Pilot temperature sensor*
VE	:	*Expansion vessel*



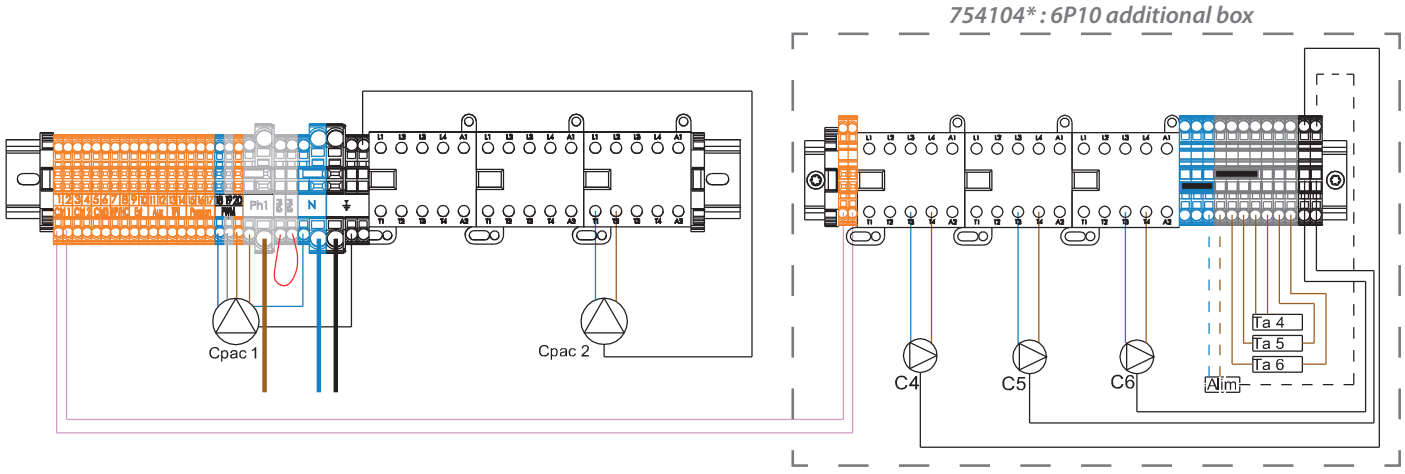
A2.11 -CASE n°11 - 2 HRC70 heat pumps + 3 heating circuits

CONFIGURATION:
C-1 RADIATOR
A-1 THERMOSTAT
C-2 INACTIV
C-3 INACTIV



C4	:	*Circuit 4 - heating circuit circulating pump*	***R5***	:	*2ème heating circuit (radiators)*
C5	:	*Circuit 5 - heating circuit circulating pump*	***R6***	:	*3ème heating circuit (radiators)*
C6	:	*Circuit 6 - heating circuit circulating pump*	***Spil***	:	*Pilot pressure relief valve*
****Cpac***	:	*Heat pump 1 circulating pump (PWM signal)*	***TA4***	:	*Circuit 4 - room thermostat*
****Cpac2***	:	*Heat pump 2 circulating pump*	***TA5***	:	*Circuit 5 - room thermostat*
Ext	:	*External sensor*	***TA6***	:	*Contrôle circuit 6 - Room thermostat*
F	:	*Filter*	***Tpil***	:	*Pilot temperature sensor*
P	:	*Air bleed*	***VA***	:	*Stop valve*
R4	:	*1er heating circuit (radiators)*	***VCB***	:	*Desludging valve*

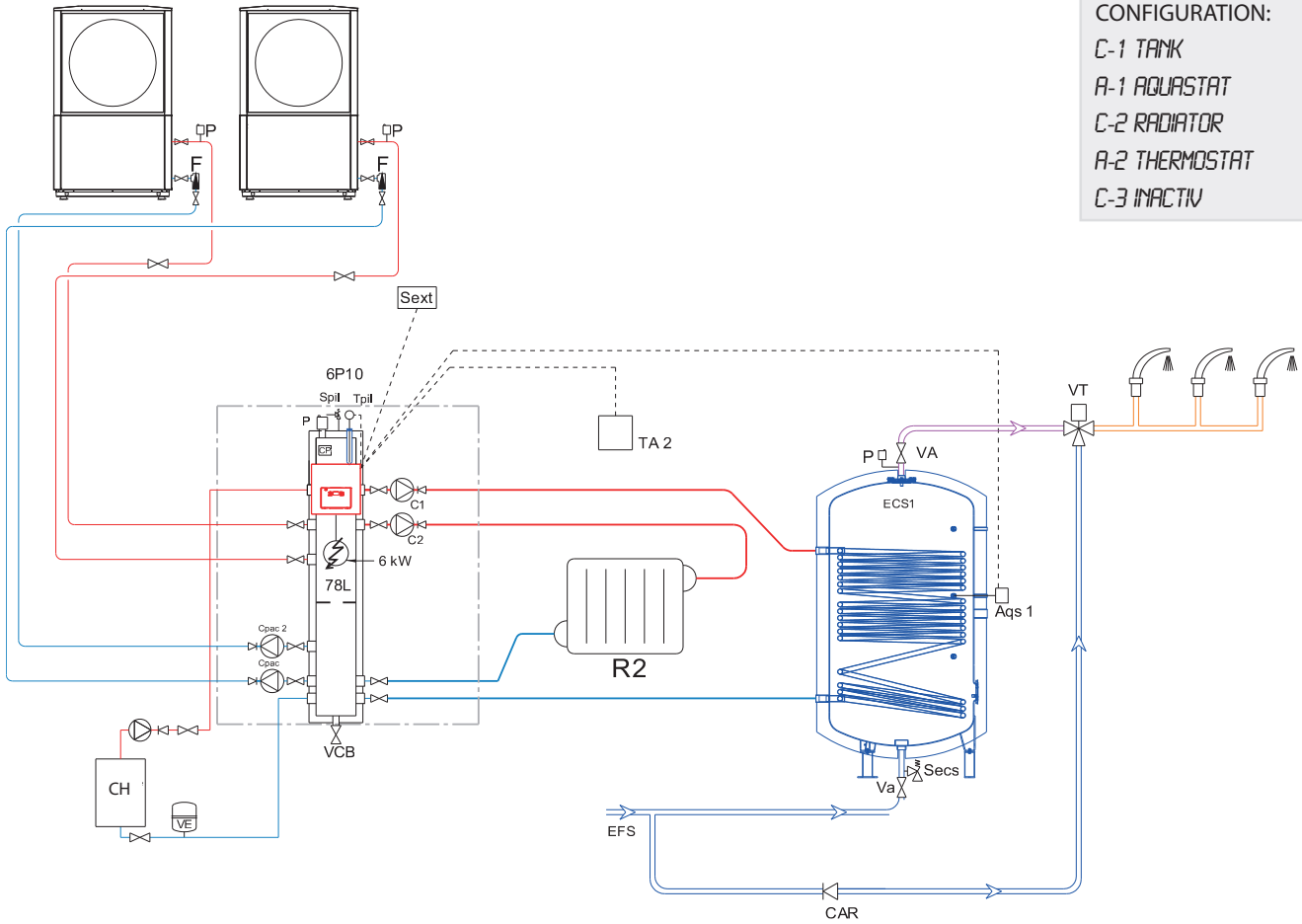
754104 : 6P10 additional box*



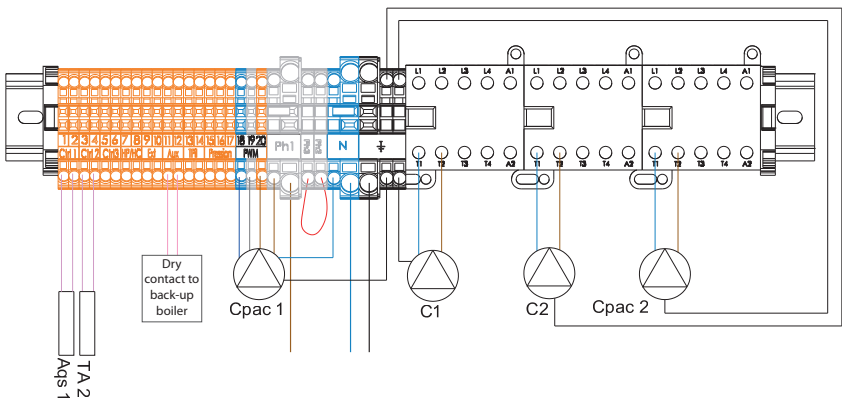
** Only the terminal block and circulator power cables are provided in the part number.*

A2.13 -CASE n°13 - 2 HRC70 heat pumps + 1 DHW tank + 1 heating circuit

CONFIGURATION:
C-1 TANK
A-1 AQUASTAT
C-2 RADIATOR
A-2 THERMOSTAT
C-3 INACTIV

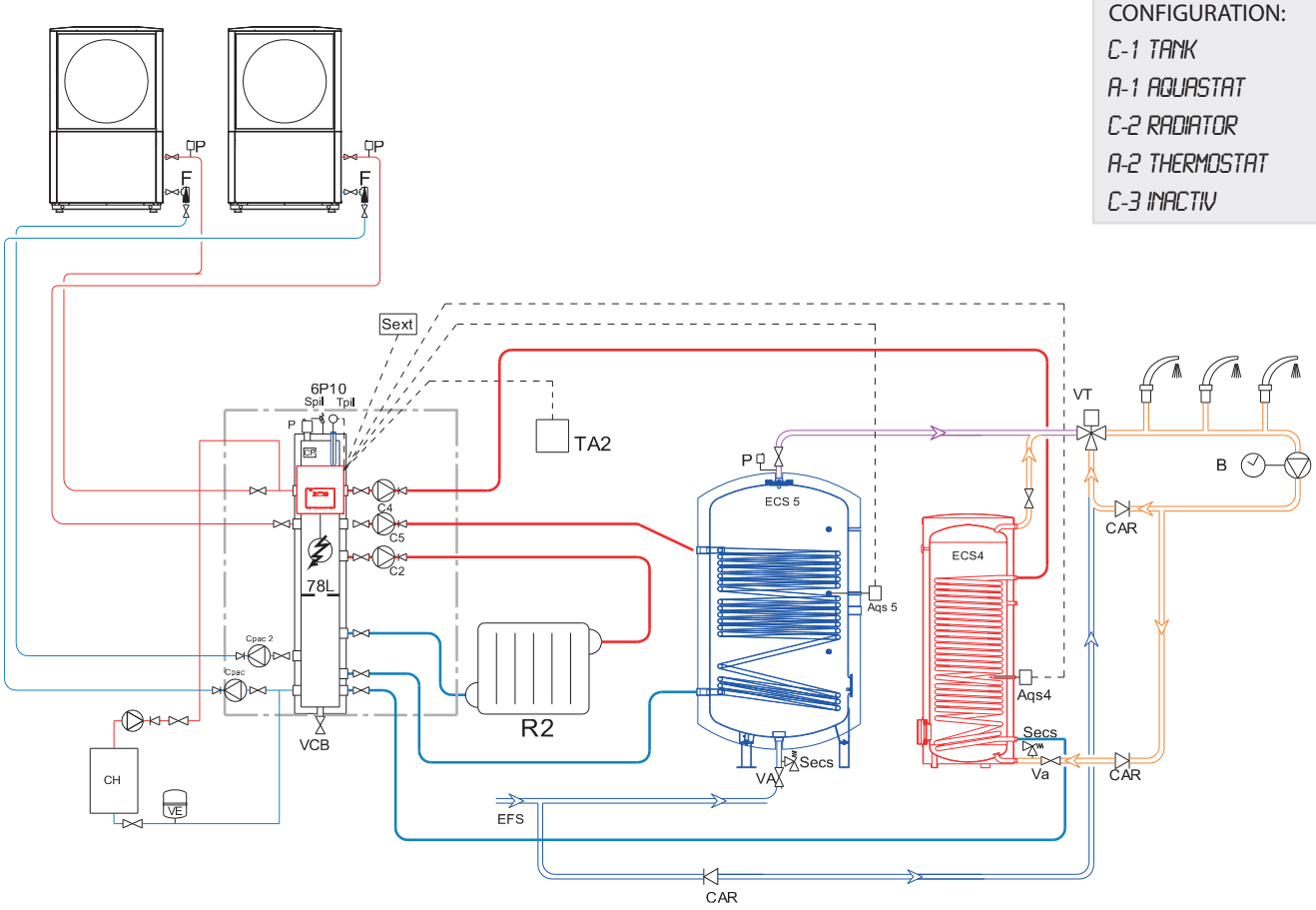


Aqs1	:	*Circuit 1 - DHW tank controlled by aquastat*	***P***	:	*Air bleed*
C1	:	*Circuit 1 - DHW primary circulating pump*	***R2***	:	*Heating circuit (radiators)*
C2	:	*Circuit 2 - heating circuit circulating pump*	***Secs***	:	*Domestic water pressure relief valve*
CAR	:	*Check valve*	***Spil***	:	*Pilot pressure relief valve*
CH	:	*Back-up boiler (optional)*	***TA2***	:	*Circuit 2 - room thermostat*
****Cpac1***	:	*Heat pump 1 circulating pump (PWM signal)*	***Tpil***	:	*Pilot temperature sensor*
****Cpac2***	:	*Heat pump 2 circulating pump*	***VA***	:	*Stop valve*
EFS	:	*Domestic Cold Water*	***VCB***	:	*Desludging valve*
Ext	:	*External sensor*	***VE***	:	*Expansion vessel*
F	:	*Filter*	***VT***	:	*Thermostatic valve*



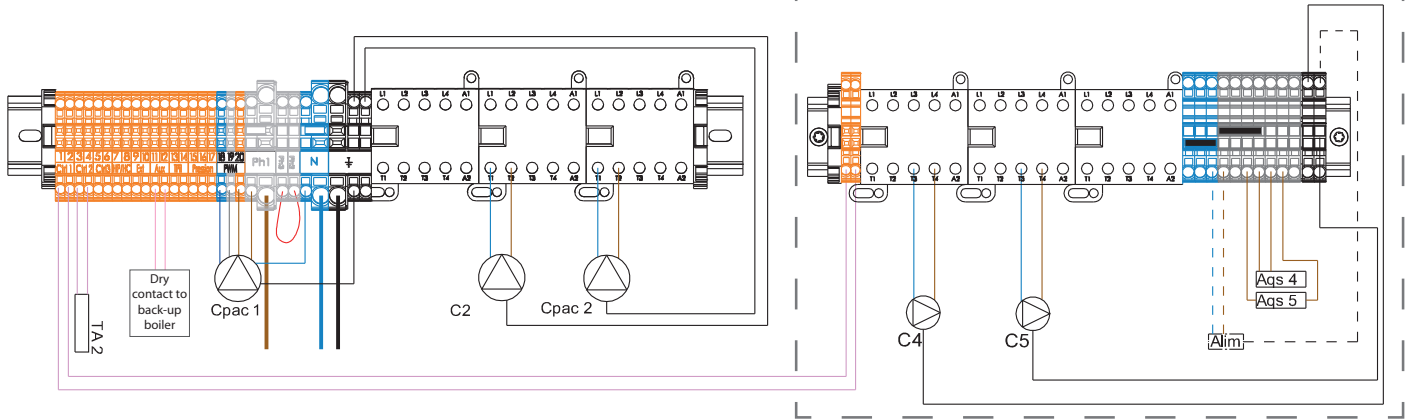
A2.16 -CASE n°16 - 2 HRC70 heat pumps + 2 DHW tanks + 1 heating circuit

CONFIGURATION:
C-1 TANK
A-1 AQUASTAT
C-2 RADIATOR
A-2 THERMOSTAT
C-3 INACTIV



Aqs4	:	*Circuit 4 - DHW tank controlled by aquastat*
Aqs5	:	*Circuit 5 - DHW tank controlled by aquastat*
C2	:	*Circuit 2 - heating circuit circulating pump*
C4	:	*Circuit 4 - DHW primary circulating pump*
C5	:	*Circuit 5 - DHW primary circulating pump*
CAR	:	*Check valve*
CH	:	*Back-up boiler (optional)*
****Cpac1***	:	*Heat pump 1 circulating pump (PWM signal)*
****Cpac2***	:	*Heat pump 2 circulating pump*
EFS	:	*Domestic Cold Water*
F	:	*Filter*
P	:	*Air bleed*
Secs	:	*Domestic water pressure relief valve*
Spil	:	*Pilot pressure relief valve*
TA2	:	*Circuit 2 - room thermostat*
Tpil	:	*Pilot temperature sensor*
VA	:	*Stop valve*
VCB	:	*Desludging valve*
VE	:	*Expansion vessel*
VT	:	*Thermostatic valve*

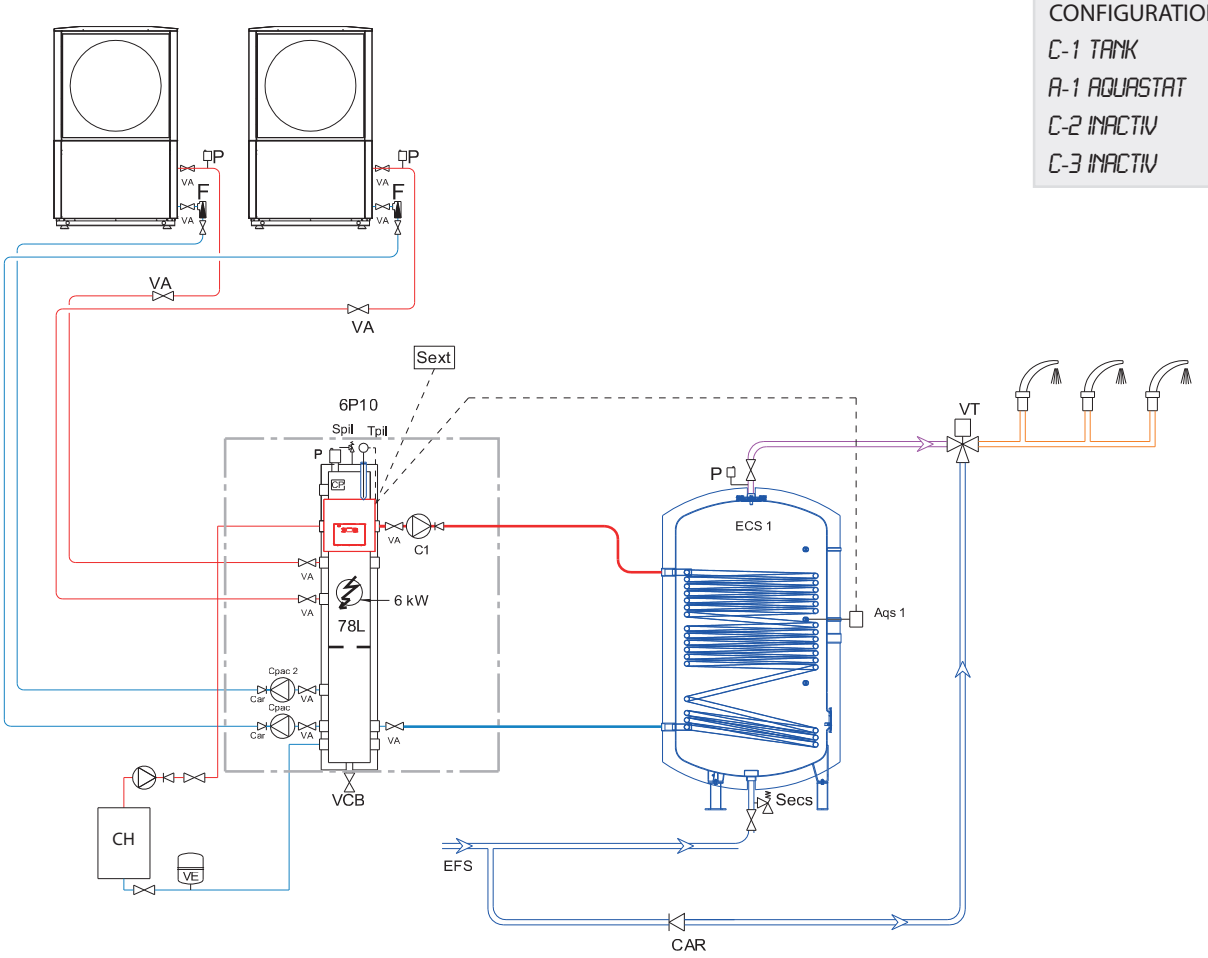
754104 : 6P10 additional box*



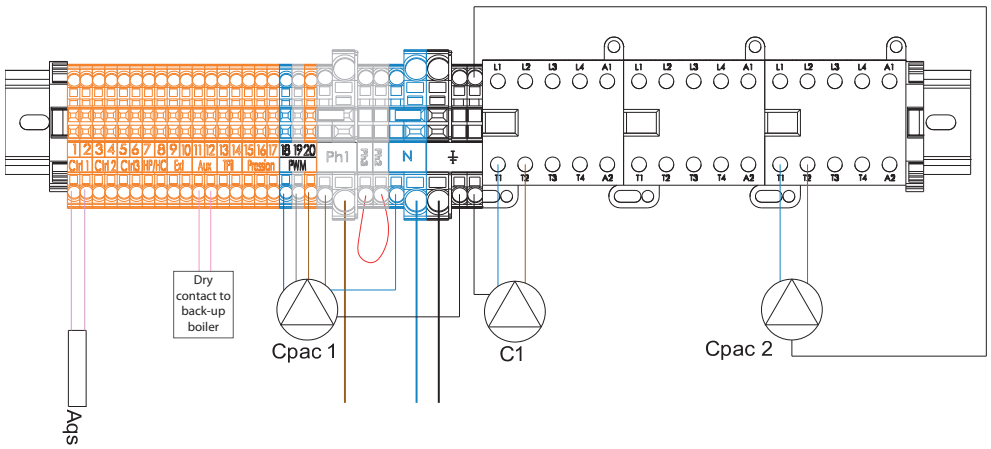
** Only the terminal block and circulator power cables are provided in the part number.*

A2.18 -CASE n°18 - 2 HRC70 heat pumps + 1 DHW tank

CONFIGURATION:
C-1 TANK
A-1 AQUASTAT
C-2 INACTIV
C-3 INACTIV

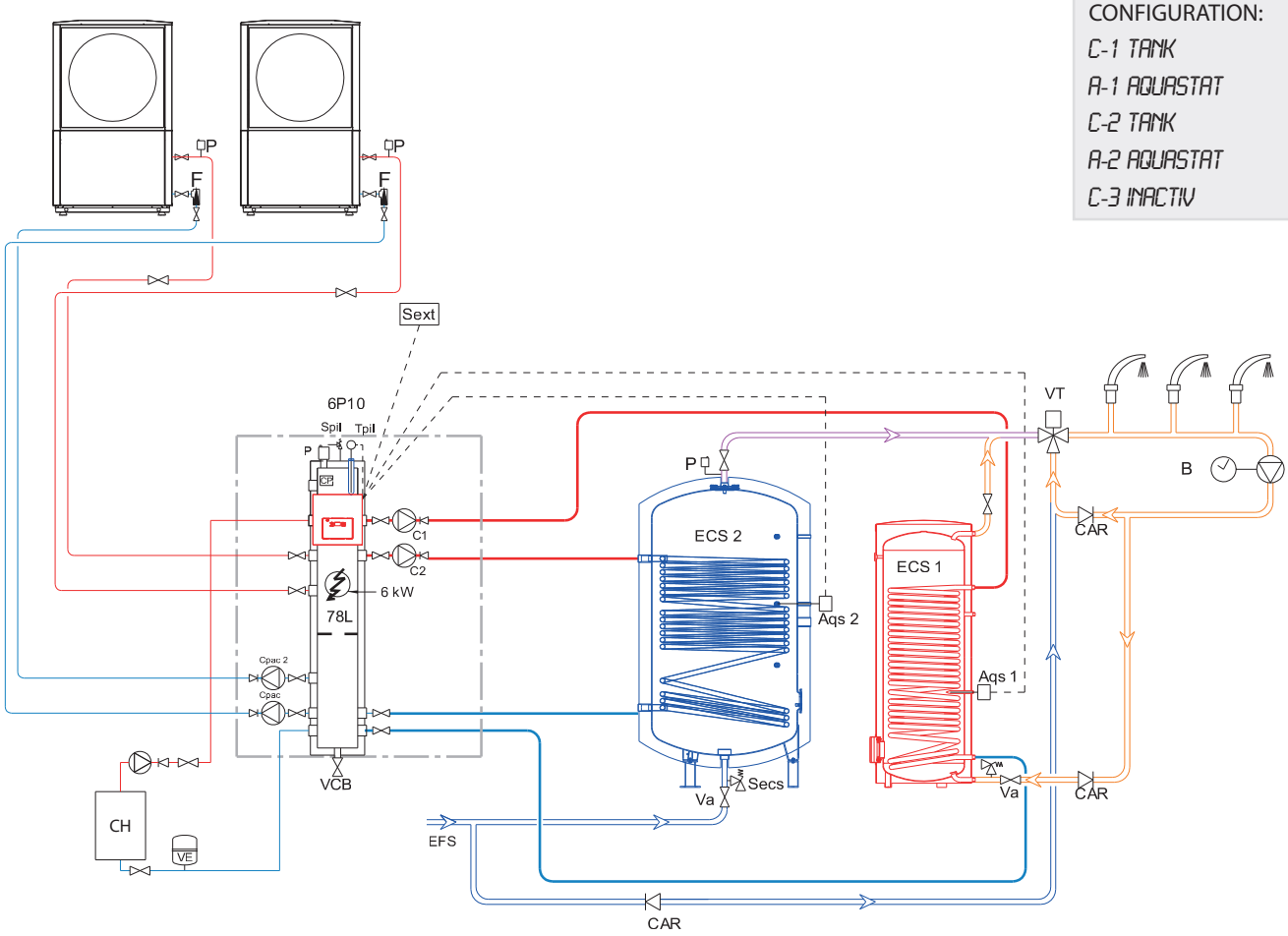


Aqs	:	*Aquastat DHW tank*	**P**	:	*Air bleed*
C1	:	*Circuit 1 - DHW primary circulating pump*	**Sch**	:	*Boiler pressure relief valve*
CAR	:	*Check valve*	**Spil**	:	*Pilot pressure relief valve*
CH	:	*Back-up boiler (optional)*	**Tpil**	:	*Pilot temperature sensor*
***Cpac1**	:	*Heat pump 1 circulating pump (PWM signal)*	**VA**	:	*Stop valve*
***Cpac2**	:	*Heat pump 2 circulating pump*	**VCB**	:	*Desludging valve*
Ext	:	*External sensor*	**VE**	:	*Expansion vessel*
F	:	*Filter*	**VT**	:	*Thermostatic valve*

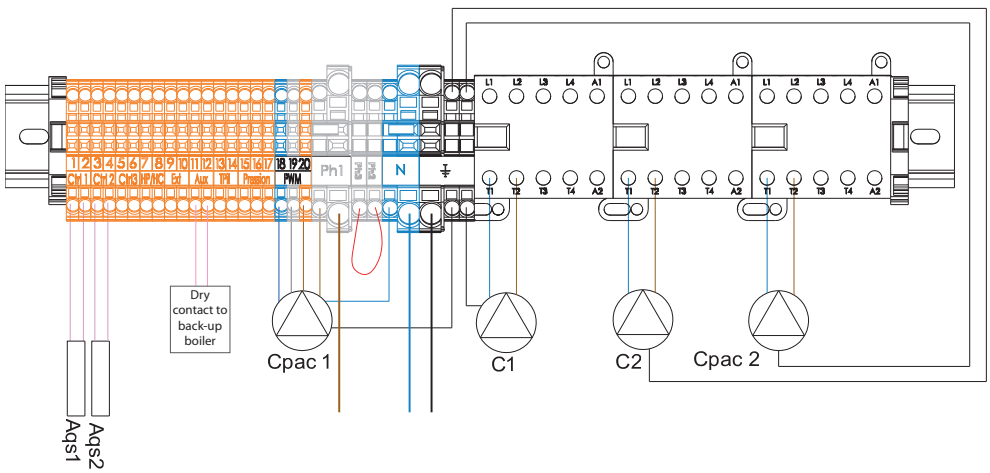


A2.19 -CASE n°19 - 2 HRC70 heat pumps + 2 DHW tanks

CONFIGURATION:
C-1 TANK
A-1 AQUASTAT
C-2 TANK
A-2 AQUASTAT
C-3 INACTIV

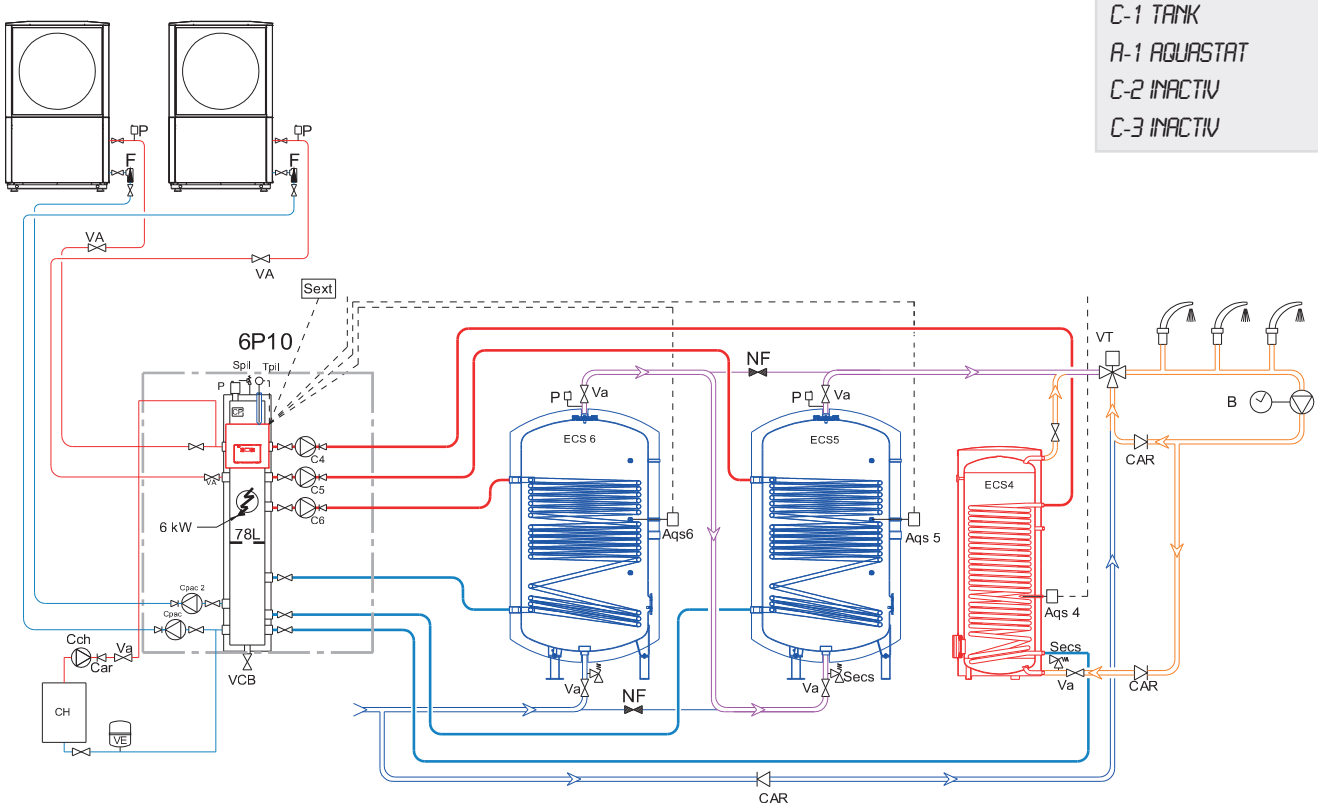


Aqs1	:	*Circuit 1 - DHW tank controlled by aquastat*
Aqs2	:	*Contrôle circuit 2 - aquastat DHW tank 2*
C1	:	*Circuit 1 - DHW primary circulating pump*
C2	:	*Circuit 2 - DHW primary circulating pump*
CAR	:	*Check valve*
CH	:	*Back-up boiler (optional)*
****Cpac1***	:	*Heat pump 1 circulating pump (PWM signal)*
****Cpac2***	:	*Heat pump 2 circulating pump*
Ext	:	*External sensor*
F	:	*Filter*
P	:	*Air bleed*
Sch	:	*Boiler pressure relief valve*
Spil	:	*Pilot pressure relief valve*
Tpil	:	*Pilot temperature sensor*
VA	:	*Stop valve*
VCB	:	*Desludging valve*
VE	:	*Expansion vessel*
VT	:	*Thermostatic valve*



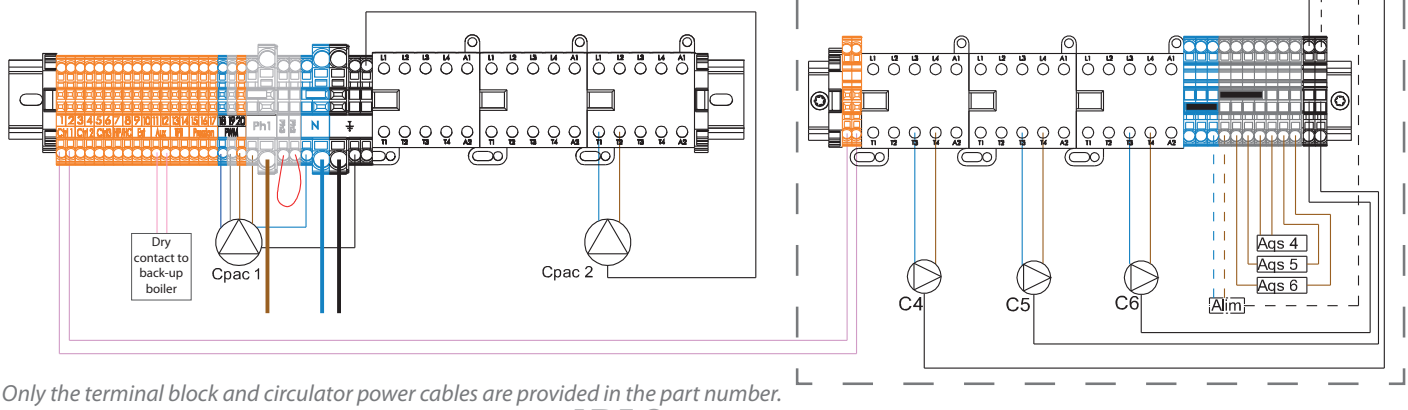
A2.20 -CASE n°20 - 2 HRC70 heat pumps + 3 DHW tanks

CONFIGURATION:
C-1 TANK
A-1 AQUASTAT
C-2 INACTIV
C-3 INACTIV



Aqs4	:	*Circuit 4 - DHW tank controlled by aquastat*
Aqs5	:	*Circuit 5 - DHW tank controlled by aquastat*
Aqs6	:	*Circuit 6 - DHW tank controlled by aquastat*
B	:	*DHW recirculating loop*
C4	:	*Circuit 4 - DHW primary circulating pump*
C5	:	*Circuit 5 - DHW primary circulating pump*
C6	:	*Circuit 6 - DHW primary circulating pump*
CAR	:	*Check valve*
Cch	:	*Boiler circulating pump (managed by the boiler)*
CH	:	*Back-up boiler (optional)*
****Cpac1***	:	*Heat pump 1 circulating pump (PWM signal)*
****Cpac2***	:	*Heat pump 2 circulating pump*
F	:	*Filter*
P	:	*Air bleed*
Secs	:	*Domestic water pressure relief valve*
Spil	:	*Pilot pressure relief valve*
Tpil	:	*Pilot temperature sensor*
VA	:	*Stop valve*
VCB	:	*Desludging valve*
VE	:	*Expansion vessel*
VT	:	*Thermostatic valve*

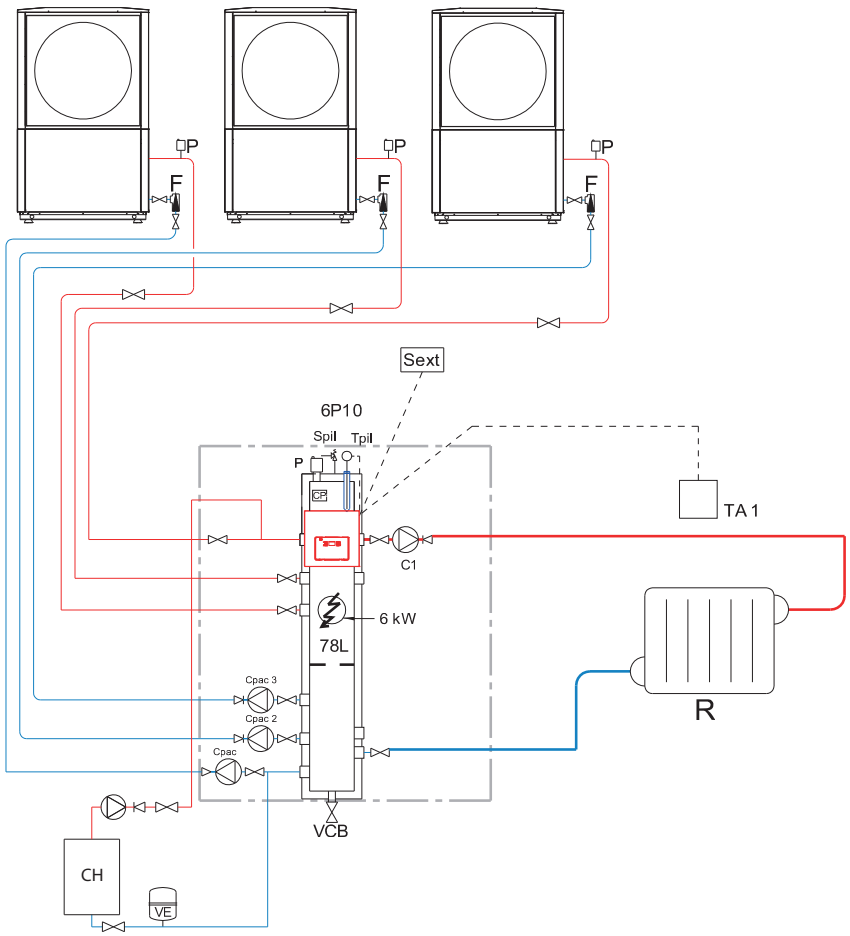
754104 : 6P10 additional box*



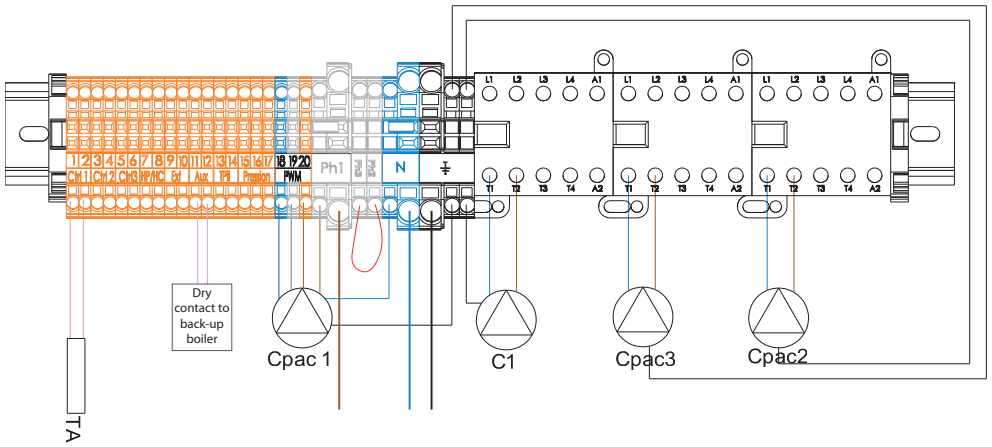
** Only the terminal block and circulator power cables are provided in the part number.*

A2.22 -CASE n°22 - 3 HRC70 heat pumps + 1 heating circuit

CONFIGURATION:
C-1 RADIATOR
A-1 THERMOSTAT
C-2 INACTIV
C-3 INACTIV

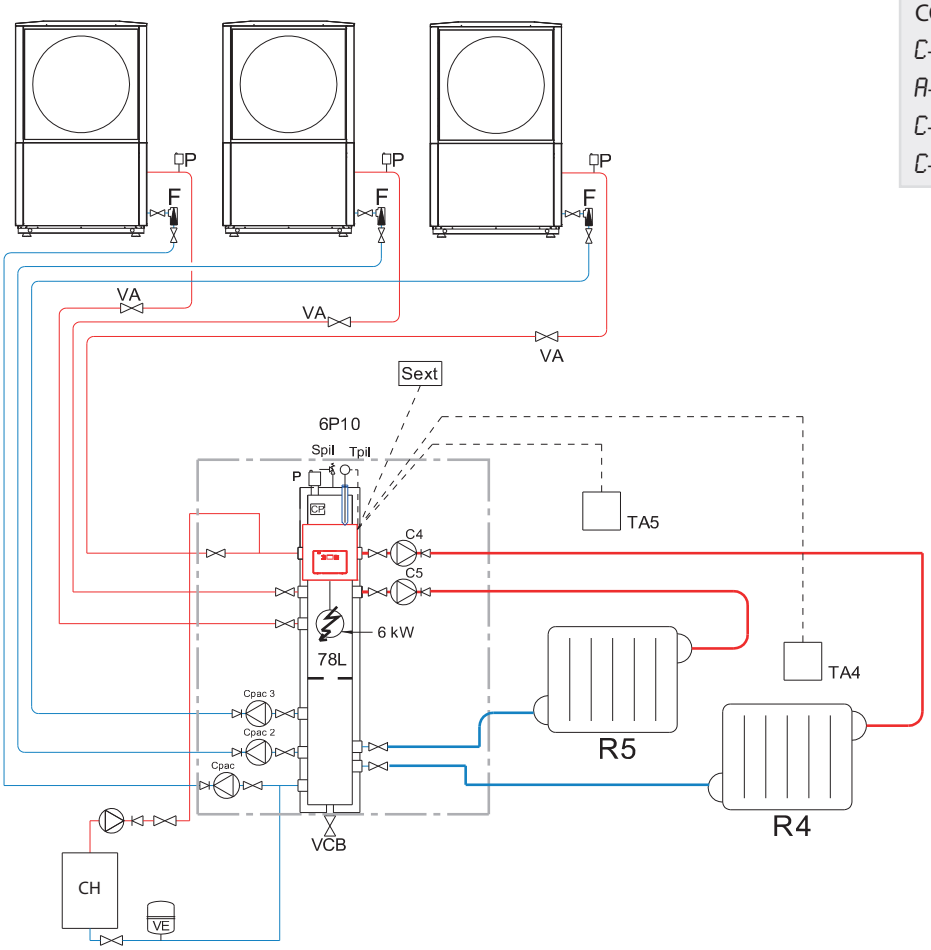


C1	:	*Heating circuit circulating pump (radiators)*	**P**	:	*Air bleed*
CAR	:	*Check valve*	**R**	:	*Heating circuit (radiators)*
CH	:	*Back-up boiler (optional)*	**Spil**	:	*Pilot pressure relief valve*
Cpac1	:	*Heat pump 1 circulating pump (PWM signal)*	**TA1**	:	*Room thermostat*
Cpac2	:	*Heat pump 2 circulating pump*	**Tpil**	:	*Pilot temperature sensor*
Cpac3	:	*Heat pump 3 circulating pump*	**VCB**	:	*Desludging valve*
EFS	:	*Domestic Cold Water*	**VE**	:	*Expansion vessel*
F	:	*Filter*			



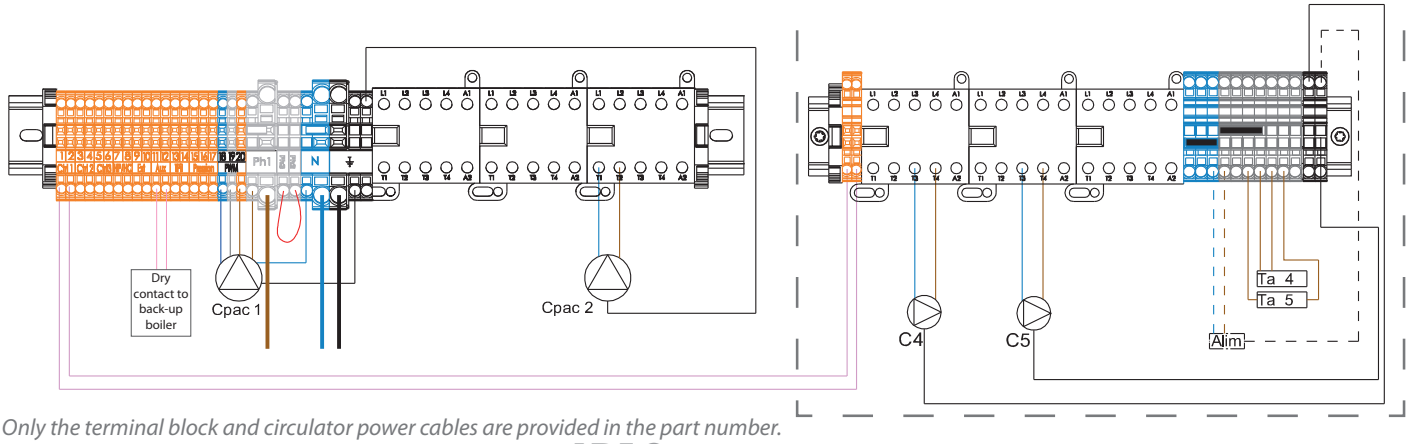
A2.23 -CASE n°23 - 3 HRC70 heat pumps + 2 heating circuits

CONFIGURATION:
C-1 RADIATOR
A-1 THERMOSTAT
C-2 INACTIV
C-3 INACTIV



C4	:	*Circuit 4 - heating circuit circulating pump*	**R4**	:	*Circuit 4 - heating circuit (radiators)*
C5	:	*Circuit 5 - heating circuit circulating pump*	**R5**	:	*Circuit 5 - heating circuit (radiators)*
CAR	:	*Check valve*	**Spil**	:	*Pilot pressure relief valve*
CH	:	*Back-up boiler (optional)*	**TA4**	:	*Circuit 4 - room thermostat*
Cpac1	:	*Heat pump 1 circulating pump (PWM signal)*	**TA5**	:	*Circuit 5 - room thermostat*
Cpac2	:	*Heat pump 2 circulating pump*	**Tpil**	:	*Pilot temperature sensor*
Cpac3	:	*Heat pump 3 circulating pump*	**VA**	:	*Stop valve*
EFS	:	*Domestic Cold Water*	**VCB**	:	*Desludging valve*
F	:	*Filter*	**VE**	:	*Expansion vessel*
P	:	*Air bleed*			

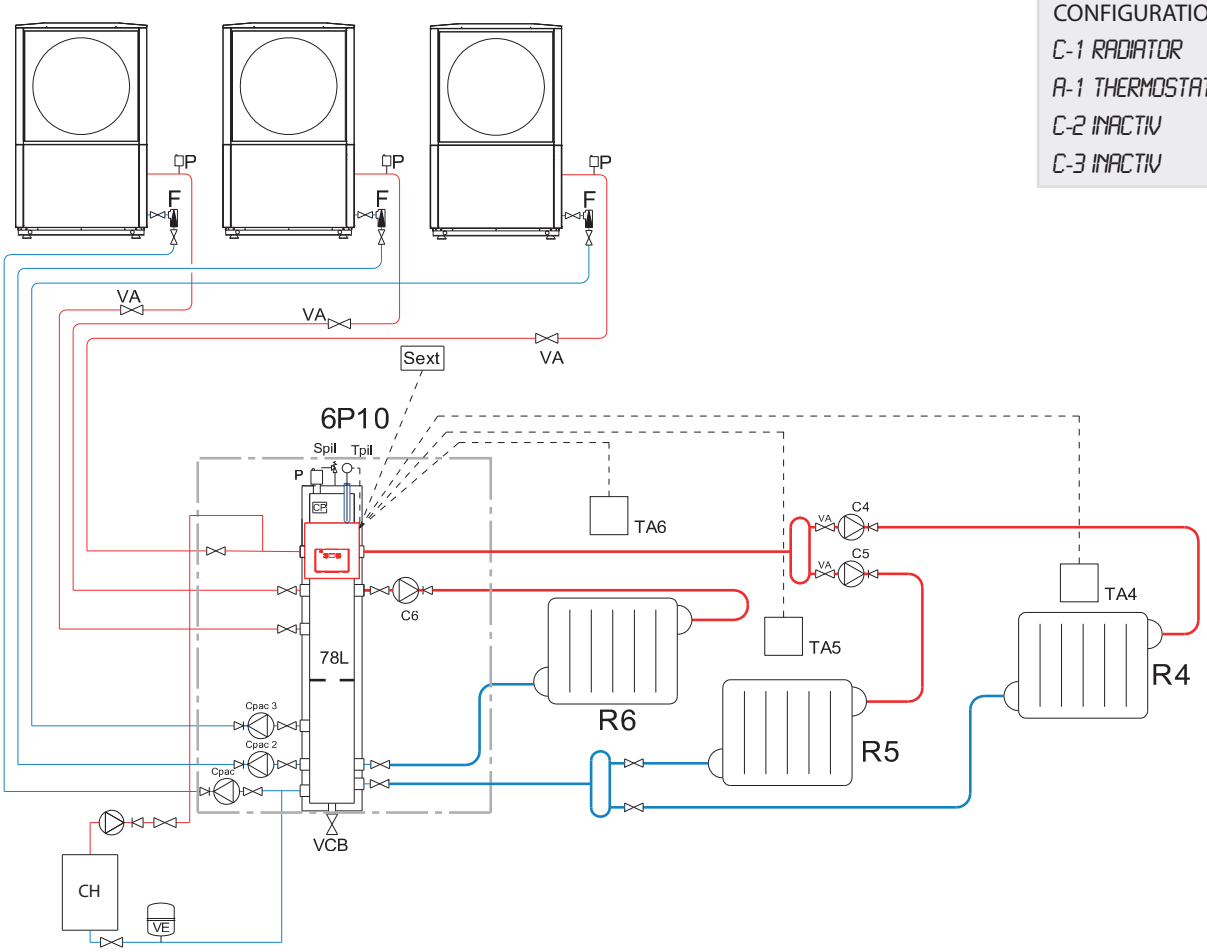
754104 : 6P10 additional box*



** Only the terminal block and circulator power cables are provided in the part number.*

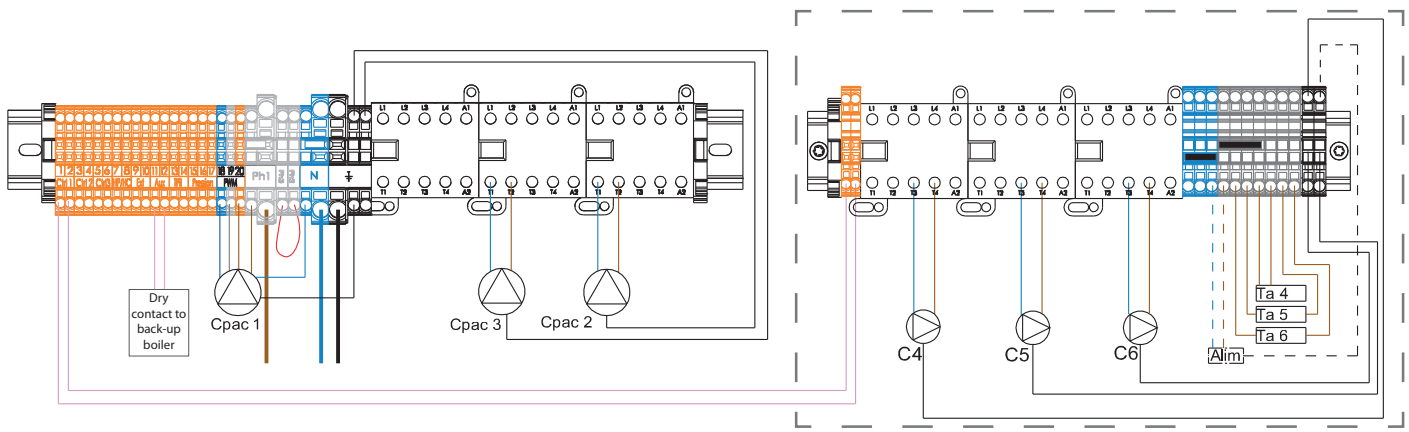
A2.24 -CASE n°24 - 3 HRC70 heat pumps + 3 heating circuits

CONFIGURATION:
C-1 RADIATOR
A-1 THERMOSTAT
C-2 INACTIV
C-3 INACTIV



C4	:	*Circuit 4 - heating circuit circulating pump*	**R4**	:	*Circuit 4 - heating circuit (radiators)*
C5	:	*Circuit 5 - heating circuit circulating pump*	**R5**	:	*Circuit 5 - heating circuit (radiators)*
C6	:	*Circuit 6 - heating circuit circulating pump*	**R6**	:	*Circuit 6 - heating circuit (radiators)*
CAR	:	*Check valve*	**Spil**	:	*Pilot pressure relief valve*
CH	:	*Back-up boiler (optional)*	**TA4**	:	*Circuit 4 - room thermostat*
Cpac1	:	*Heat pump 1 circulating pump (PWM signal)*	**TA5**	:	*Circuit 5 - room thermostat*
Cpac2	:	*Heat pump 2 circulating pump*	**TA6**	:	*Contrôle circuit 6 - Room thermostat*
Cpac3	:	*Heat pump 3 circulating pump*	**Tpil**	:	*Pilot temperature sensor*
EFS	:	*Domestic Cold Water*	**VA**	:	*Stop valve*
F	:	*Filter*	**VCB**	:	*Desludging valve*
P	:	*Air bleed*	**VE**	:	*Expansion vessel*

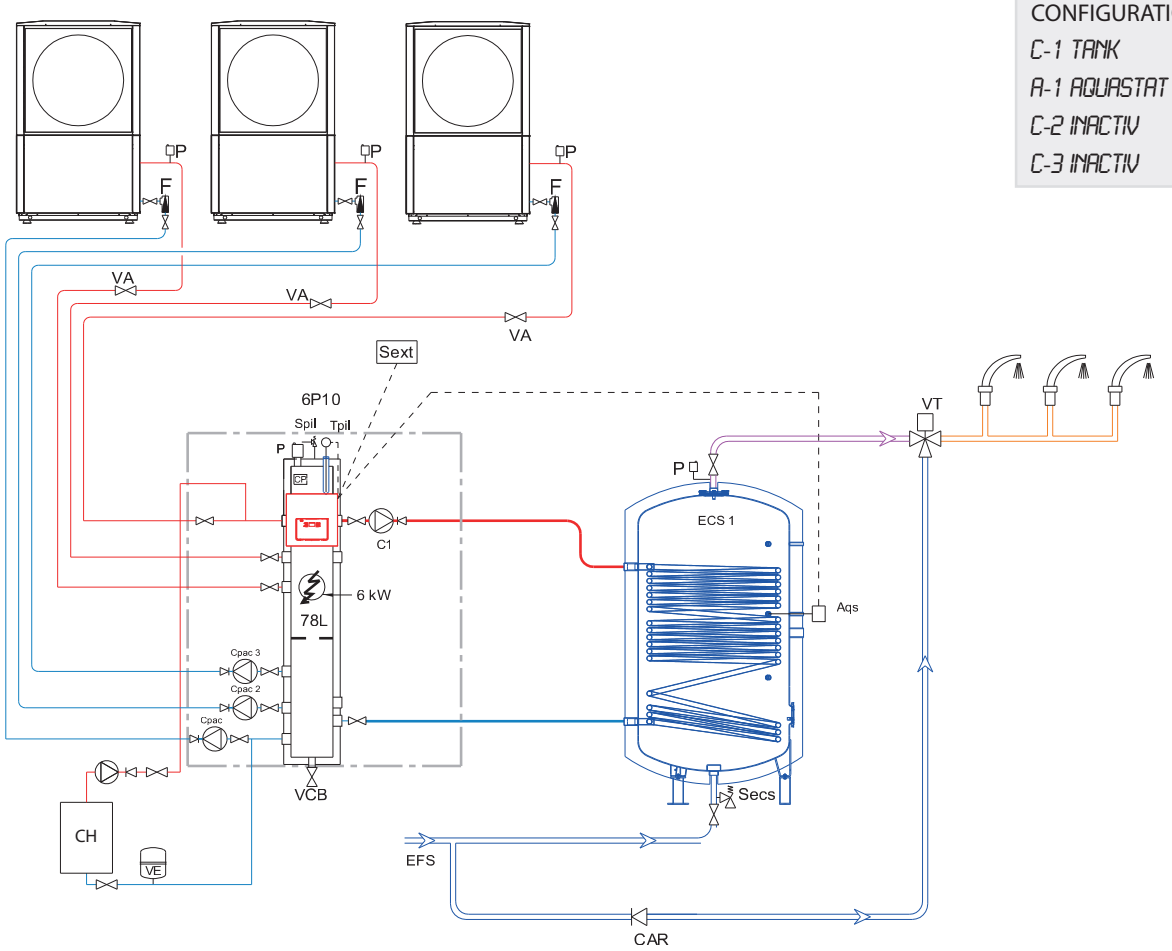
754104 : 6P10 additional box*



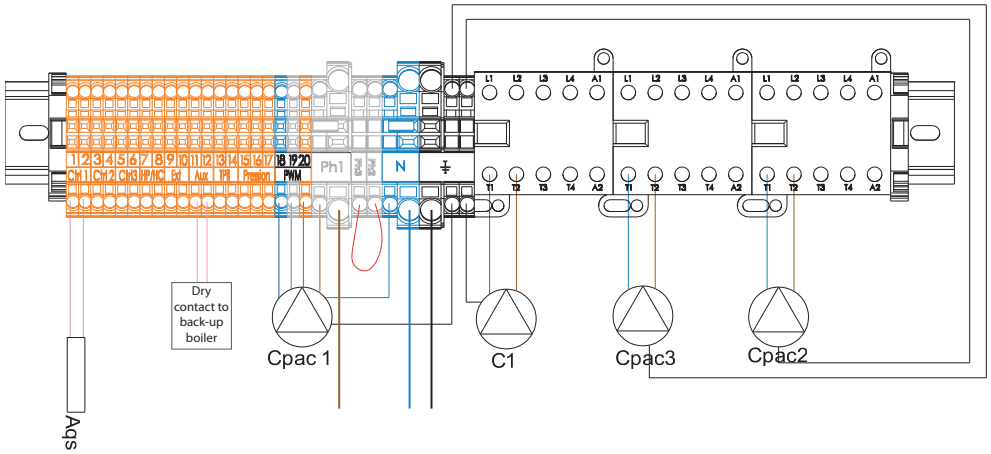
** Only the terminal block and circulator power cables are provided in the part number.*

A2.25 -CASE n°25 - 3 HRC70 heat pumps + 1 DHW tank

CONFIGURATION:
C-1 TANK
A-1 AQUASTAT
C-2 INACTIV
C-3 INACTIV

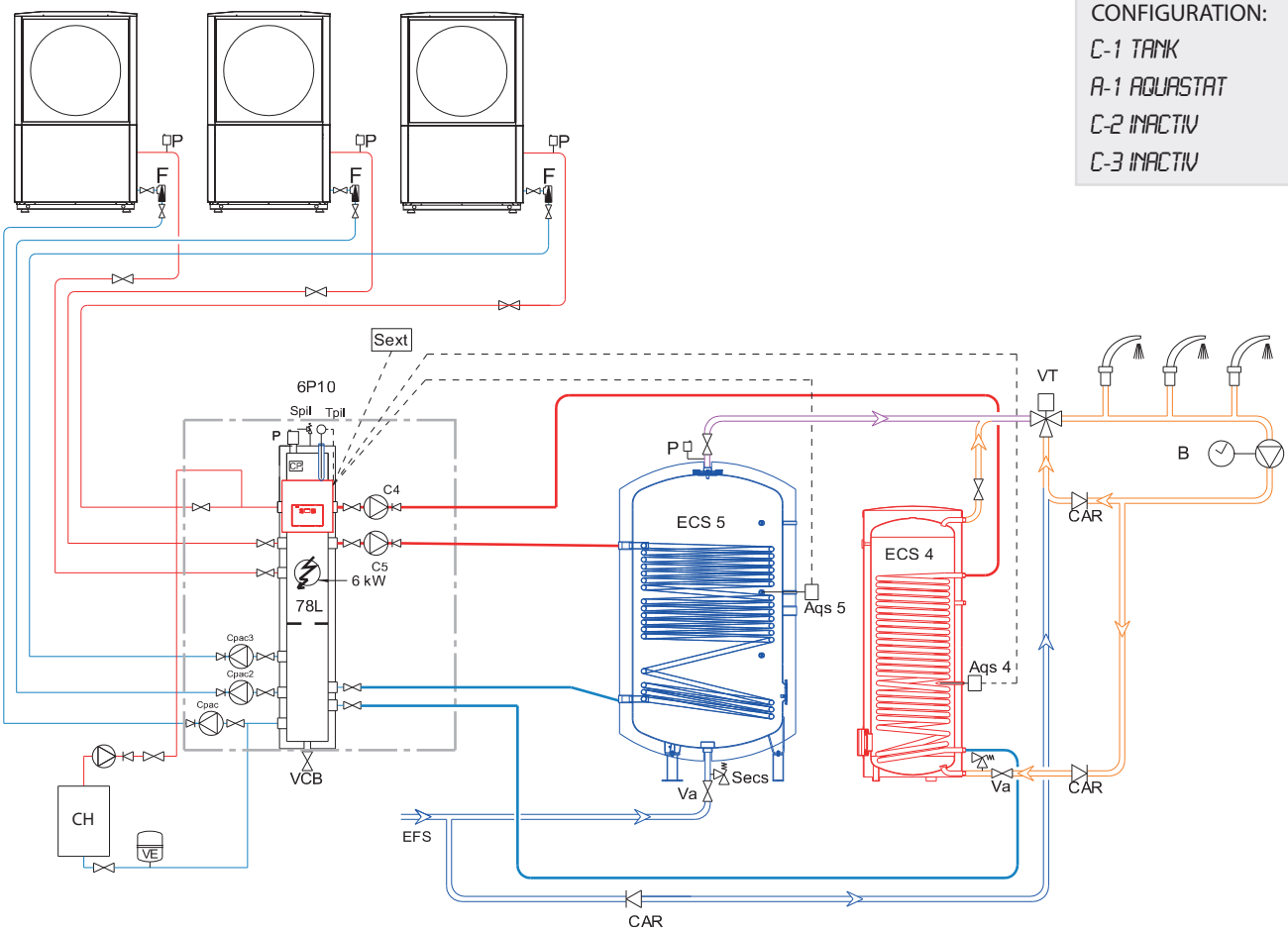


Aqs	:	*Aquastat DHW tank*	**F**	:	*Filter*
C1	:	*Circuit 1 - DHW primary circulating pump*	**P**	:	*Air bleed*
CAR	:	*Check valve*	**Spil**	:	*Pilot pressure relief valve*
CH	:	*Back-up boiler (optional)*	**Tpil**	:	*Pilot temperature sensor*
Cpac1	:	*Heat pump 1 circulating pump (PWM signal)*	**VA**	:	*Stop valve*
Cpac2	:	*Heat pump 2 circulating pump*	**VCB**	:	*Desludging valve*
Cpac3	:	*Heat pump 3 circulating pump*	**VE**	:	*Expansion vessel*
EFS	:	*Domestic Cold Water*	**VT**	:	*Thermostatic valve*



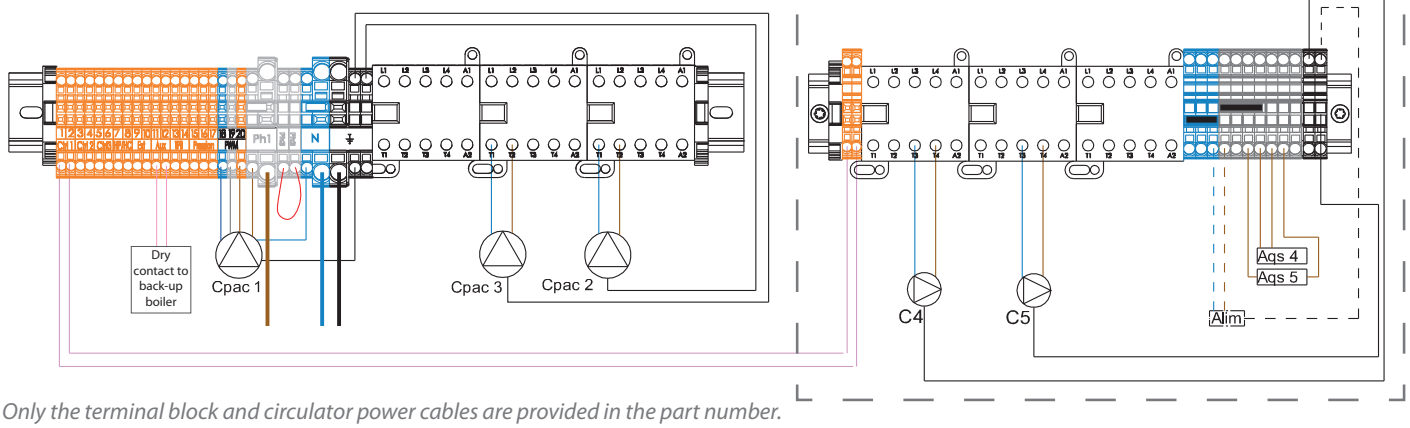
A2.26 -CASE n°26 - 3 HRC70 heat pumps + 2 DHW tanks

CONFIGURATION:
C-1 TANK
A-1 AQUASTAT
C-2 INACTIV
C-3 INACTIV



Aqs4	:	*Circuit 4 - DHW tank controlled by aquastat*
Aqs5	:	*Circuit 5 - DHW tank controlled by aquastat*
C4	:	*Circuit 4 - DHW primary circulating pump*
C5	:	*Circuit 5 - DHW primary circulating pump*
CAR	:	*Check valve*
CH	:	*Back-up boiler (optional)*
Cpac1	:	*Heat pump 1 circulating pump (PWM signal)*
Cpac2	:	*Heat pump 2 circulating pump*
Cpac3	:	*Heat pump 3 circulating pump*
EFS	:	*Domestic Cold Water*
F	:	*Filter*
P	:	*Air bleed*
Spil	:	*Pilot pressure relief valve*
Tpil	:	*Pilot temperature sensor*
VA	:	*Stop valve*
VCB	:	*Desludging valve*
VE	:	*Expansion vessel*
VT	:	*Thermostatic valve*

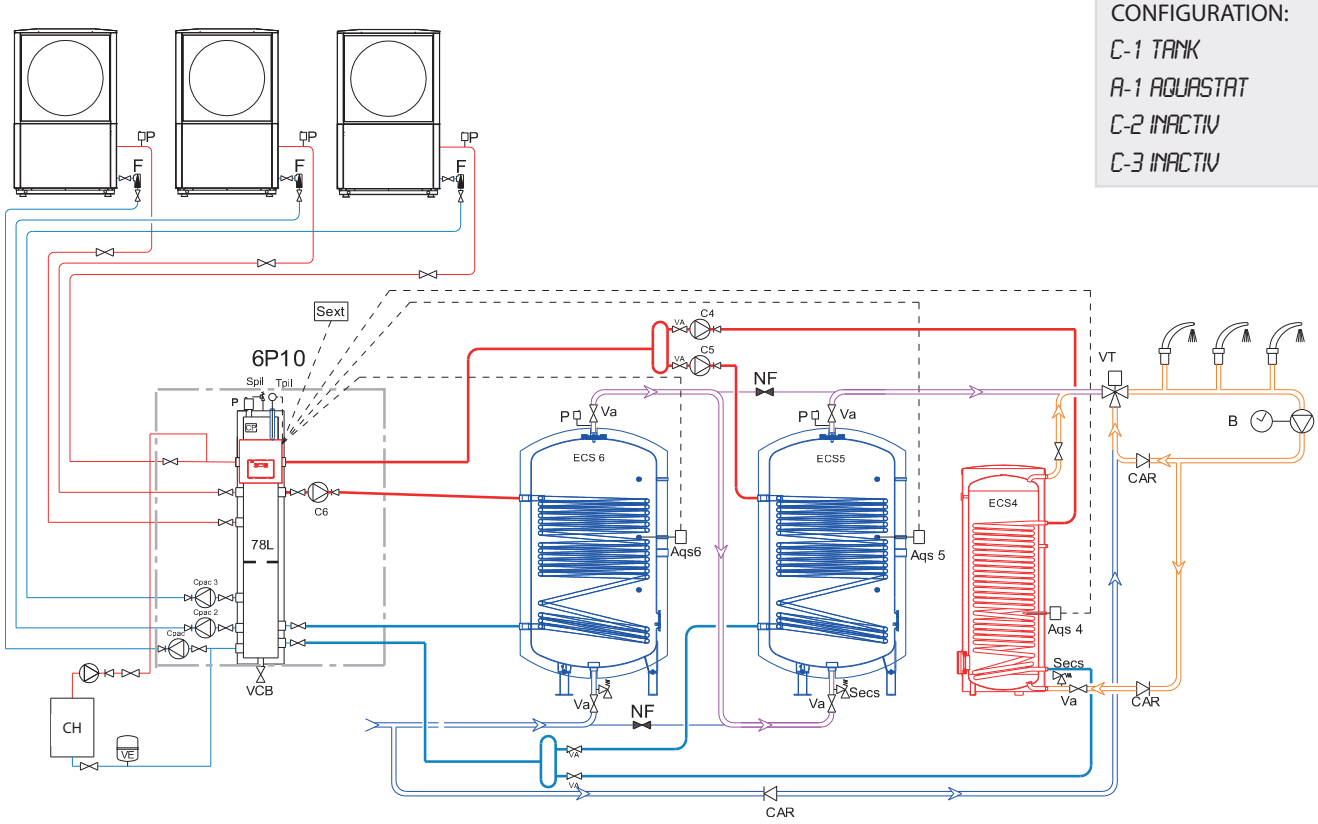
754104 : 6P10 additional box*



** Only the terminal block and circulator power cables are provided in the part number.*

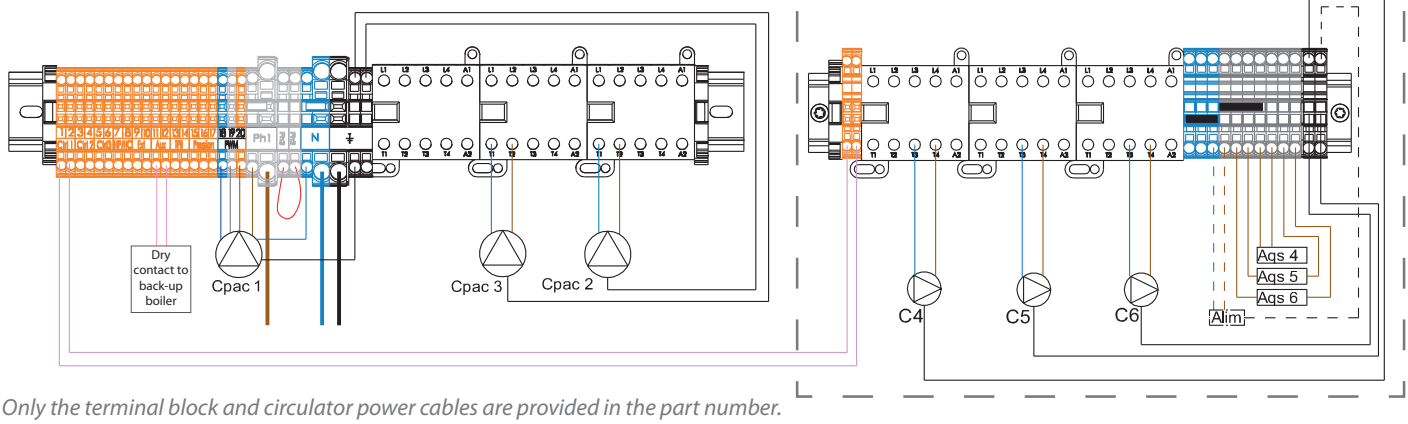
A2.27 -CASE n°27 - 3 HRC70 heat pumps + 3 DHW tanks

CONFIGURATION:
C-1 TANK
A-1 AQUASTAT
C-2 INACTIV
C-3 INACTIV



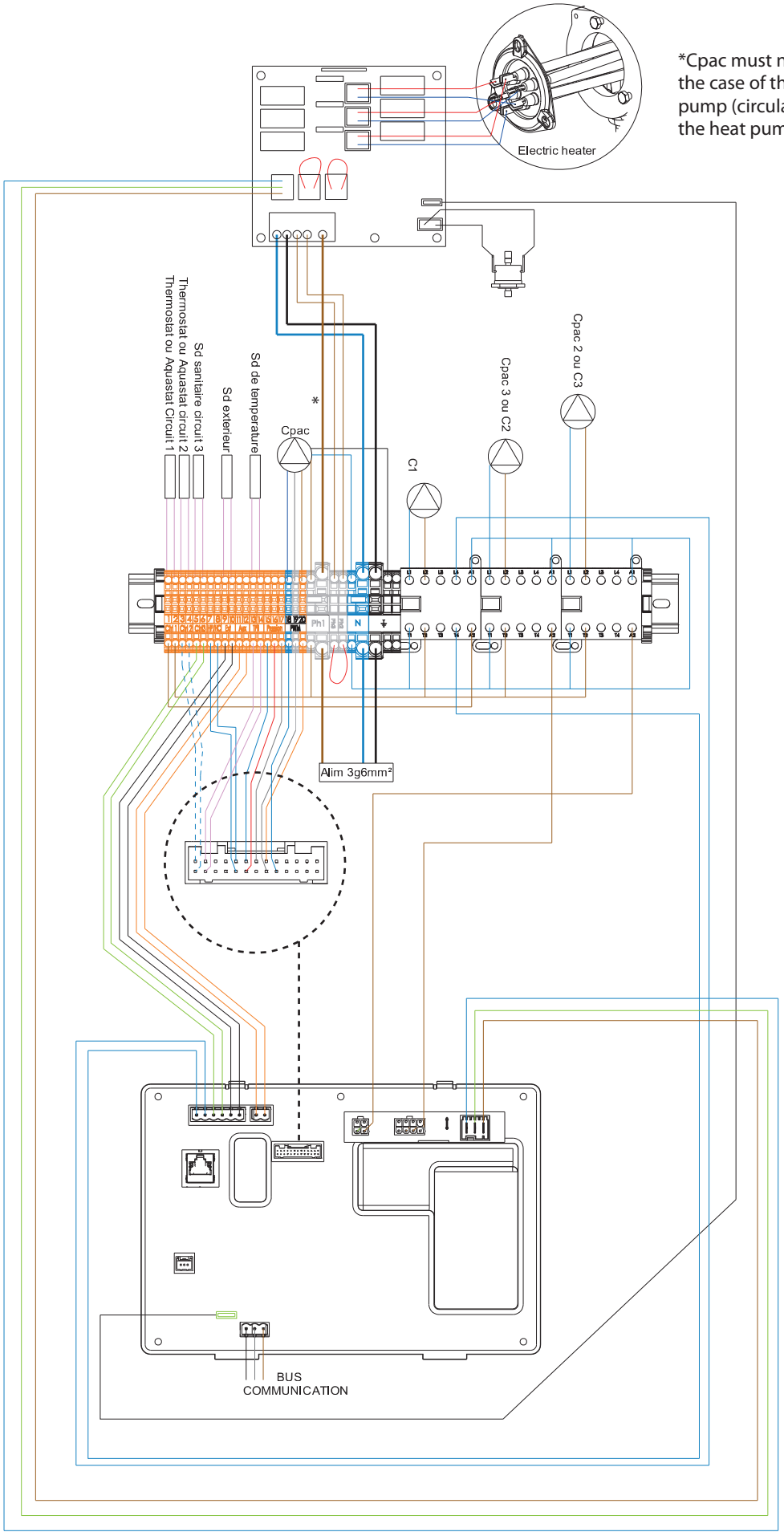
Aqs4	:	*Circuit 4 - DHW tank controlled by aquastat*
Aqs5	:	*Circuit 5 - DHW tank controlled by aquastat*
Aqs6	:	*Circuit 6 - DHW tank controlled by aquastat*
C4	:	*Circuit 4 - DHW primary circulating pump*
C5	:	*Circuit 5 - DHW primary circulating pump*
C6	:	*Circuit 6 - DHW primary circulating pump*
CAR	:	*Check valve*
CH	:	*Back-up boiler (optional)*
Cpac1	:	*Heat pump 1 circulating pump (PWM signal)*
Cpac2	:	*Heat pump 2 circulating pump*
Cpac3	:	*Heat pump 3 circulating pump*
EFS	:	*Domestic Cold Water*
F	:	*Filter*
P	:	*Air bleed*
Spil	:	*Pilot pressure relief valve*
Tpil	:	*Pilot temperature sensor*
VA	:	*Stop valve*
VCB	:	*Desludging valve*
VE	:	*Expansion vessel*
VT	:	*Thermostatic valve*

754104 : 6P10 additional box*



** Only the terminal block and circulator power cables are provided in the part number.*

A3 - Wiring diagram

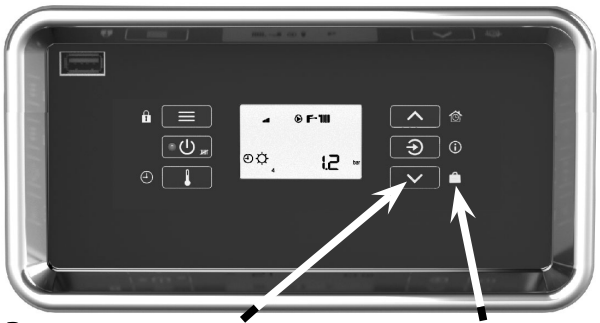


*Cpac must not be connected in the case of the HRC70 40kW heat pump (circulator integrated into the heat pump)

A4 - Recap of functions

A4.1 - Control panel

A4.1.1 - Keypad

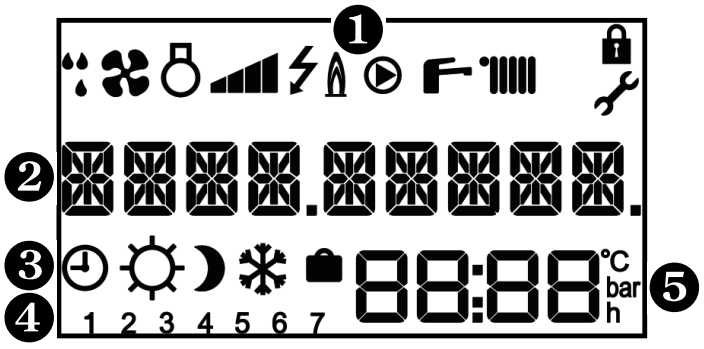


***Button* Primary function**
ex.: *decrease / scroll down*

Secondary function
ex.: holiday mode

Primary function (short press)		Secondary function (long press)	
☰	- menu access - return / cancel	🔒	locking / unlocking of the keypad
⏻	- switch on		standby mode
🌡	- setting the temperatures	🕘	program scheduled comfort modes
^	- increase the setting - scroll up	🏠	activate temporary comfort mode
⏎	- confirm / remove error - display pressure or T°	ⓘ	information on temperatures and current operating state
v	- decrease the setting - scroll down	💼	activation of holiday mode

A4.1.2 - Display



❶ *Symbols of current operating state*

	defrosting in progress		circulating pump working
	ventilator working		domestic hot water activated
	compressor working		heating activated
	power level		keypad locked
	electrical back-up		installer menu
	back-up boiler		

❷ *9 character message*

❸ *Current comfort mode*

	Programming active		Comfort mode		Eco mode
	Frost protection mode		Holiday mode		

❹ *Day of the week: (1= Monday; 2= Tuesday...)*

❺ *Display zone: temperatures, pressure, settings, time...*

A.4.2 - Menus

Menus (and sub-menus)	access buttons
menu *USER*	☰
menu *INSTALLER* *(Display here under will be shown or hidden according to product configuration)* - *HP CIRC* : Setting the speed of HP circulating pump - *OUTS.TMAX* : Outside temperature on the warmest day - *OUTS.TMIN* : Outside temperature on the coldest day - *BACKUP* : Choice of back-up - *HEAT CURV 1* : Setting the heat curve 1 - *HEAT TMAX.* : Heat curve 1 setpoint on the coldest day - *HEAT TMIN* : Heat curve 1 setpoint on the warmest day - *HEAT CURV 2* : Setting the heat curve 2 - *TMAX HEAT 2* : Heat curve 2 setpoint on the coldest day - *TMIN HEAT 2* : Heat curve 2 setpoint on the warmest day - *SHARING* : Activation of priority sharing - *ANTI_BACT* : Activation of anti-bacteria function	☰ + ^
menu *EXPERT* - *SETTINGS* : Access to all parameters - *DISPLAY* : State of operation of the pilot - *DATA CALC* : Temperatures and time delays in progress - *COUNTERS* : Operation counters - *CONFIGURA.* : Choice of circuits and their controls - *AIR BLEED* : Activation of a special air purge cycle - *MANUAL* : Manual operation of component for diagnostics - *COMMISSIO.* Access to the set-up - *MODBUS* : Remote control setting up - *SOFTWARE* : Manage software version	☰ + v

Press ☰ to exit the menus and sub-menus.

A.4.3 - Actions through key combinations

Action	combination of buttons
Reset counters to zero Certain counters cannot be reset to zero. Only the counters which can be reset are affected by this action.	in the «counters» menu ⏻ + 🌡 press for 5s
Reset to default settings (return to factory settings)	in the «settings» menu ⏻ + 🌡 press for 5s

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