ECO-THERMAL HPWH RANGE

HTW

QUALITY COMFORT EVERYWHERE



What is aerothermal?

Aerothermal energy is one that takes termal energy from the outisde environment and transfers it to heat the necessary wáter and thus obtain heat in the home. It is used to produce **domestic hot water** and even to **cool the house** if necessary.

- **Safer, without fumes or residues**
- **More efficient**
- **Savings on the bill**
- **Does not expel CO2**
- **Sustainable**
- **Ease of installation and maintenance**

75 %
Outside Air

Free energy

100 %
HEAT



25 %
Electricity

HTW

ECO - THERMAL



Efficient energy and
environmentally friendly

HTW

Product range

Biblock, Monoblock, Integrated tank

▶ Monoblock Plus



▶ Wall-mounted Biblock Plus



▶ Integrated Biblock Plus











- Air Conditioning
- Sanitary Hot Water
- Heating
- Radiating Floor
- Solar Energy

Product range

Biblock, Monoblock, Integrated tank



Monoblock Plus



Wall-mounted
Biblock Plus



Integrated
Biblock Plus

Eco-Thermal

Power table in kW

	220-240V				380-415V				
	4kW	8kW	12kW	16kW	16kW	18kW	22kW	26kW	30kW
Monoblock Plus	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wall-mounted Biblock Plus	✓	✓	✓	✓	✓				
Integrated Biblock Plus	✓	✓	✓	✓	✓				

Additional advantages of the **Eco-Thermal**



Operates in harsh ambient temperatures

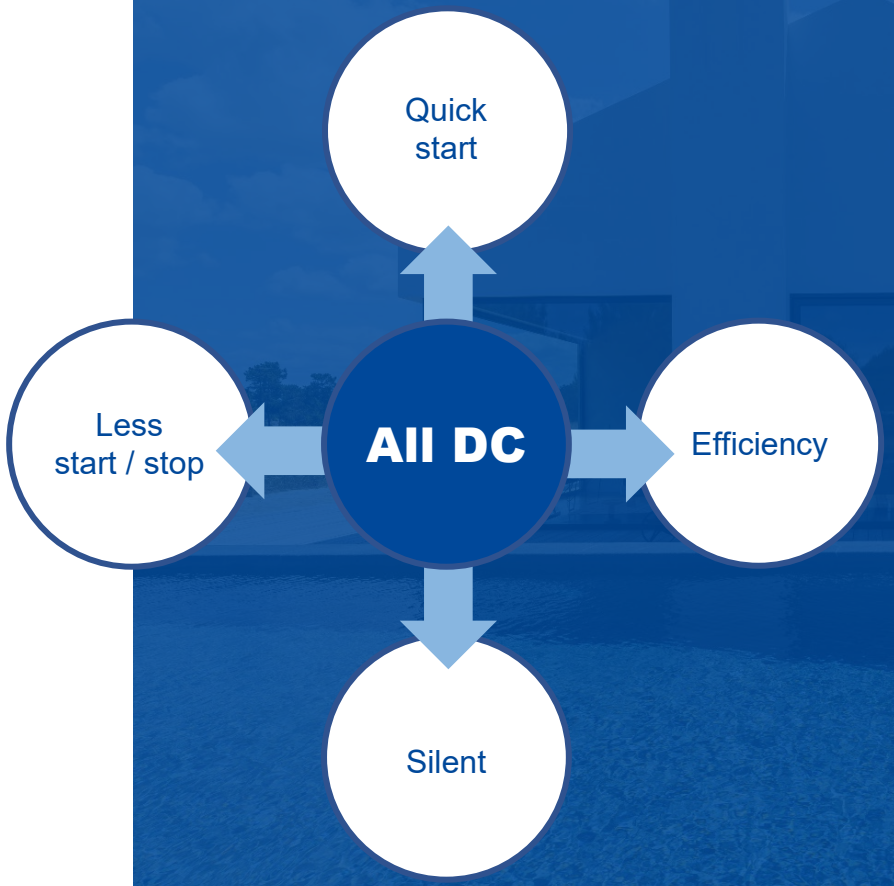
It ensures termal comfort in all circumstances and an accumulation of DHW at 60ºC.

Cool any space ensuring a temperature between 5 to 25ºC.

Additional advantages of the **Eco Thermal**

All DC design



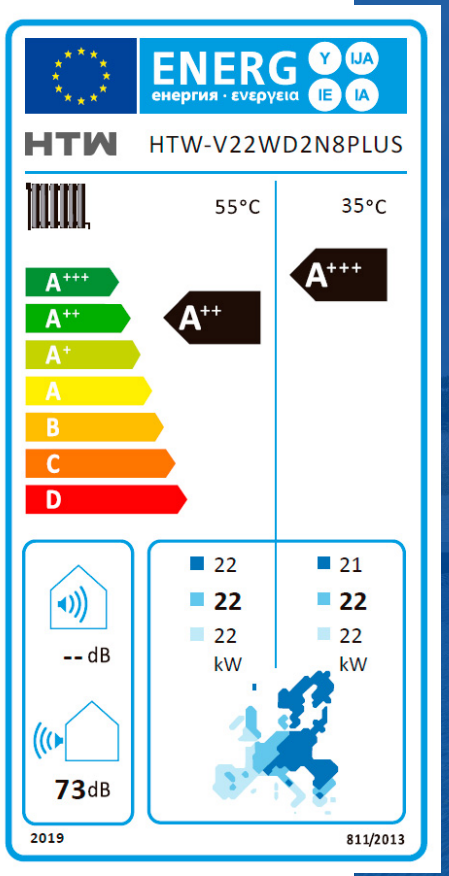


HTW

Eco Thermal certifications

All DC design





ERP

ηs. Energy efficiency of seasonal heating

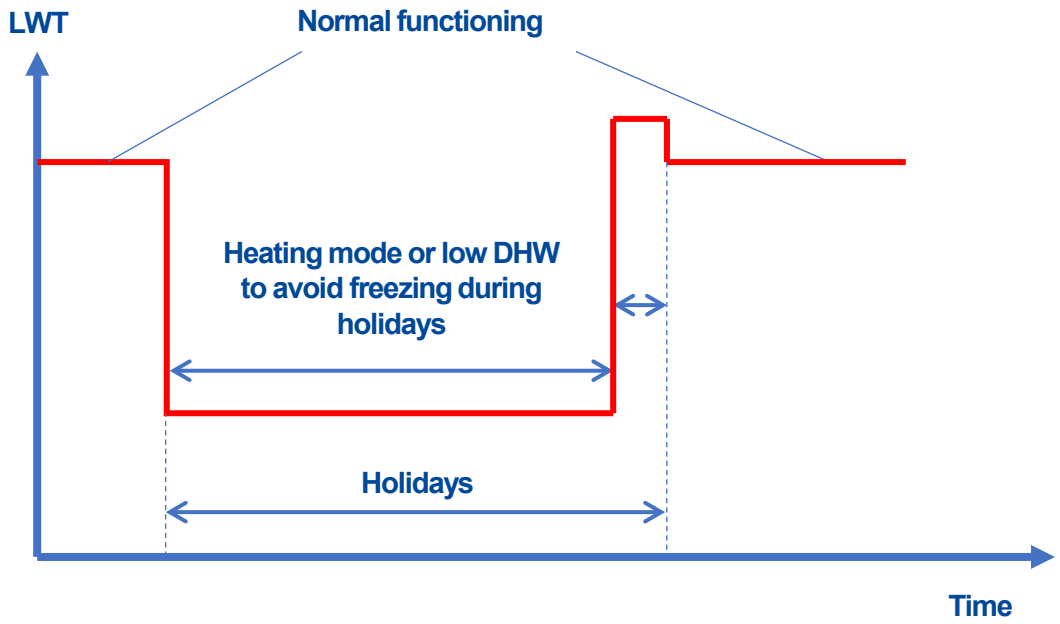
Average ηs up to A+++ to 35ºC

Average ηs up to A++ to 55ºC

***Some data may vary depending on the model.**
Check with technical manual.

Additional advantages of the **Eco-Thermal**

Freeze protection



By activating the vacation mode, the unit protects itself from frost, activating the circulation pump to avoid freezing of the wáter inside the pipes.

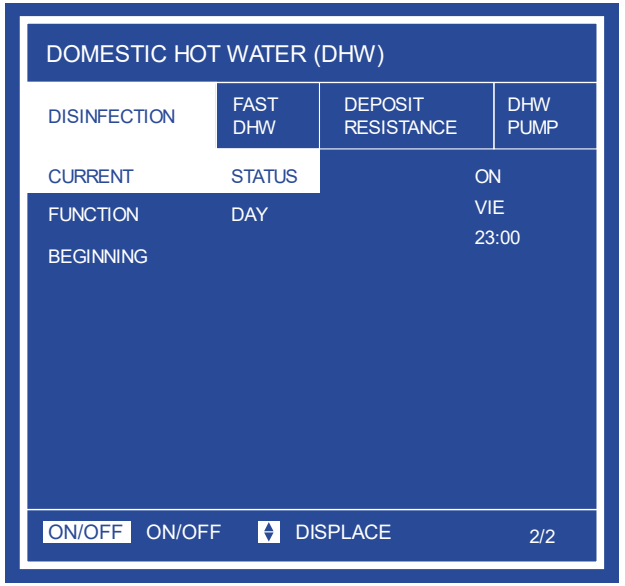
The minimum heating and DHW temperature can be set.

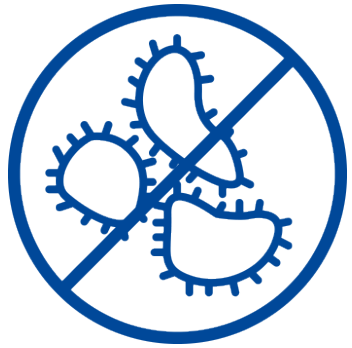
Additional advantages of the **Eco-Thermal**

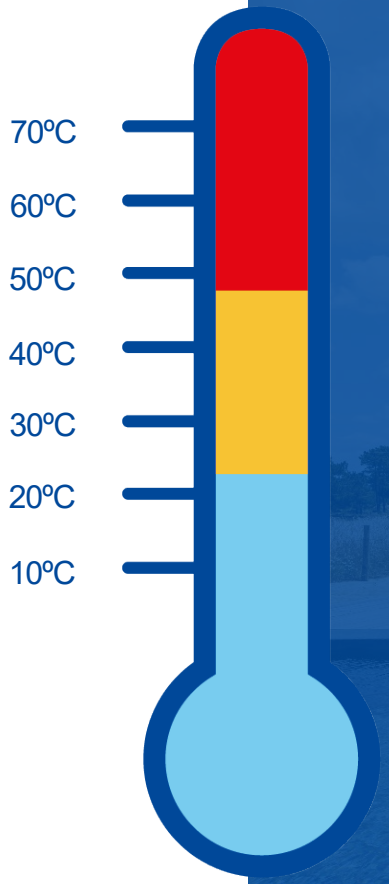
Disinfection mode

- The **disinfection function** is used to kill bacteria by heating the water to **60-70ºC** to ensure health and safety.

- This function can be activated by the **user interface**.







- **Legionella dies immediately.**
- **90% of legionella die in 2 minutes.**
- **90% of legionella die in 2 hours.**
- **Legionella is active**
- **Legionella survives, but is inactive**

HTW

Additional advantages of the **Eco-Thermal**

Smart Grid

Smart Grid that can efficiently integrate the behavior and actions of all users connected to it. In this way, a **sustainable and efficient**, energy system is achieved, with low losses and **security of supply**.

It turns on automatically when the tank temperature is below 69ºC, **providing greater comfort and savings**.



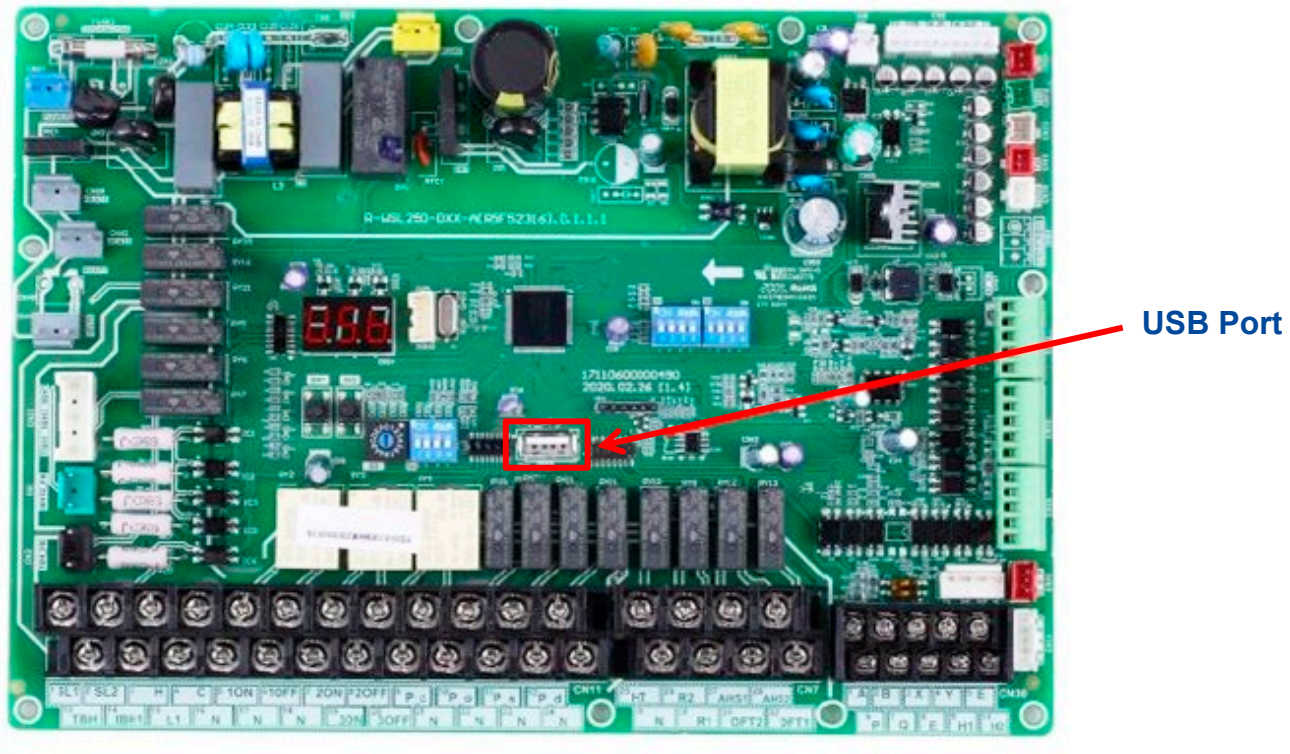
HTW

Additional advantages of the **Eco-Thermal**

USB Port

- Allows you to extract and load drive configuration data*

*Check according to model.



HTW

Additional advantages of the **Eco-Thermal**

Control WiFi & App



Wired control + APP

The **wired control** communicates with the built-in **WIFI module** to receive the control signal from the app.

Through the **app** you can control the energy consumptiion nof the unit.

Additional advantages of the **Eco-Thermal**

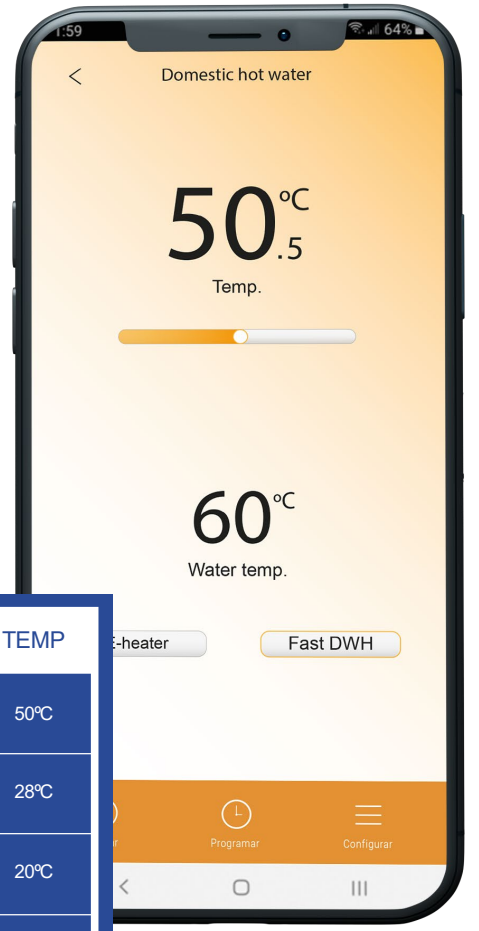
Weekly schedule

Weekly schedule function

Status check function

Power analysis function

2 zone control interface



PROGRAMMING

TIMER | WEEKLY SCHEDULE | TIME

NO.		BEGINNING	END	MODE	TEMP.
4	☐	0:00	0:00	HEAT	0ºC
5	☐	0:00	0:00	HEAT	0ºC
6	☐	0:00	0:00	HEAT	0ºC

DISPLACE 2/2

PROGRAMMING

TIMER | WEEKLY SCHEDULE | TIME

MON	TUE	WED	THU	FRI	SA	SUN
✓	☐	☐	☐	☐	☐	☐

ADJUST CANCEL

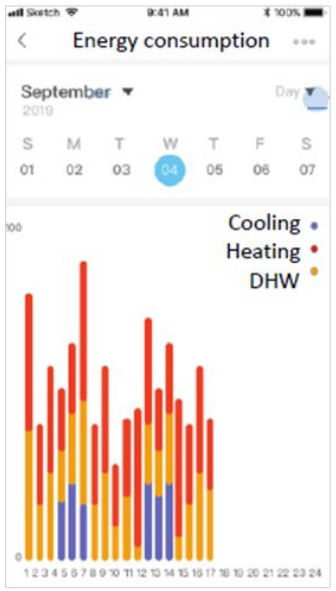
OK MON SELECT DISPLACE

NO.	BEGIN-NING	END	MODE	TEMP
T1	1:00	3:00	ACS	50ºC
T2	7:00	9:00	HEAT	28ºC
T3	11:30	13:30	COOL	20ºC
T4	14:30	16:30	HEAT	28ºC
T5	15:00	19:00	COOL	20ºC
T6	18:00	23:30	ACS	50ºC

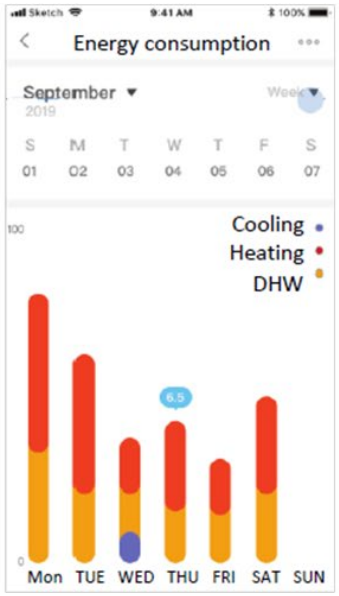
HTW

Additional advantages of the **Eco-Thermal**

Consumption control



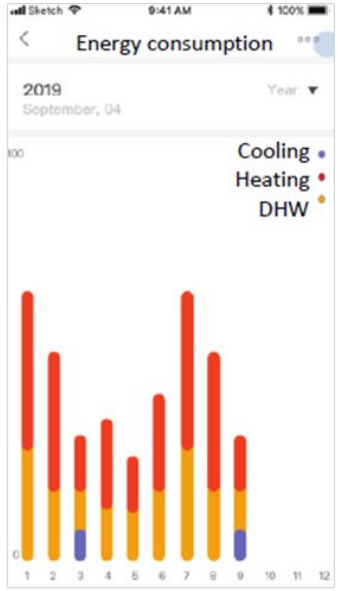
Daily power consumption



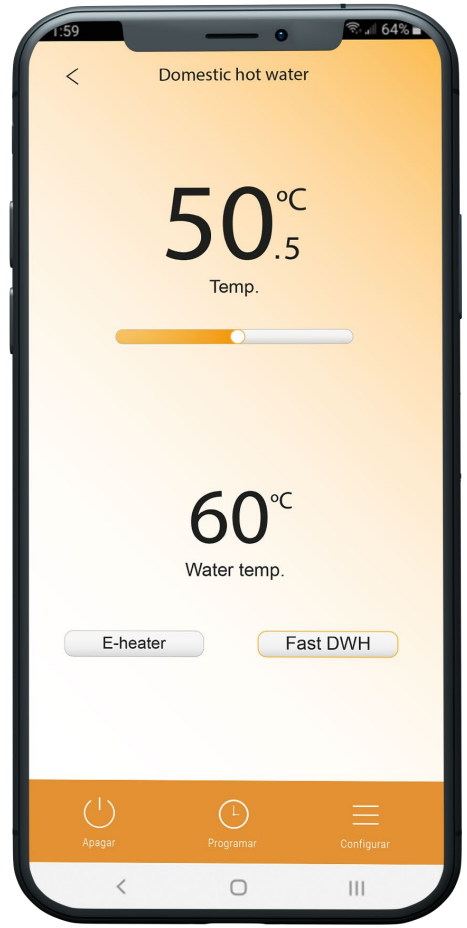
Weekly power consumption



Monthly energy consumption



Annual energy consumption



Product range

Biblock, Monoblock, Integrated tank

▶ Monoblock Plus



▶ Biblock Plus wall-mounted









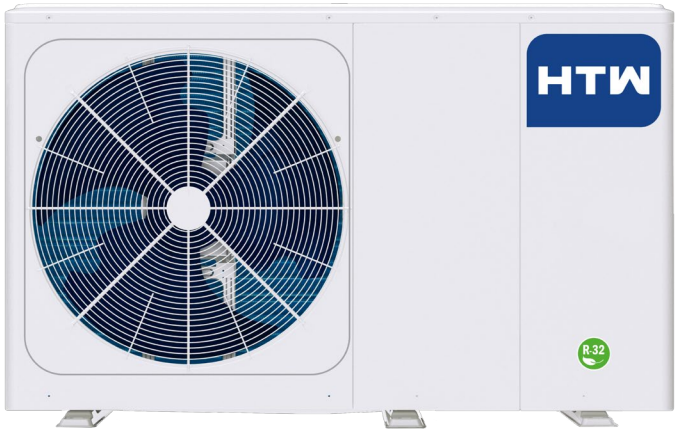


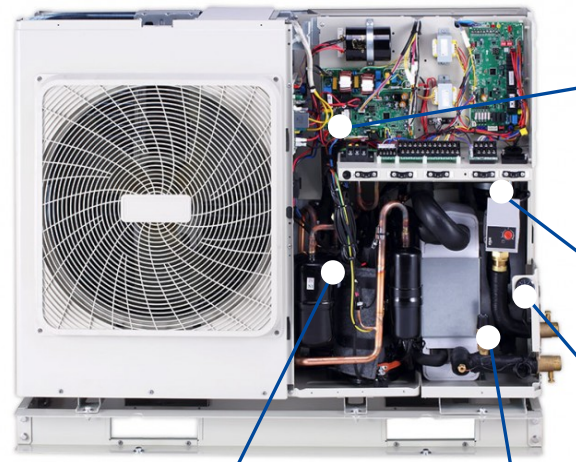


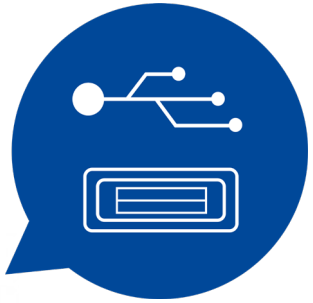
- Air Conditioning
- Domestic Hot Water
- Heating
- Radiating Floor
- Solar energy

Monoblock **Plus**

Compact unit (indoor + outdoor)





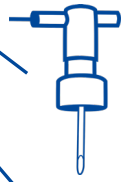


USB Port

It allows to **configure the unit** in a few seconds and carry out diagnostics.



Expansion vessel



Flow switch



Pressure gauge



Heat plate exchanger



Water pump

Features

- **Compact**
- **Easy installation and commissioning.**
- **Intelligent and adaptable system.**
- **Easy maintenance.**
- **Water discharge up to 65ºC.**
- **Low noise level.**

Monoblock **Plus**

Operating scheme

A+++ SCOP

EER 5,5

COP 5,1





Tank for **DHW** system

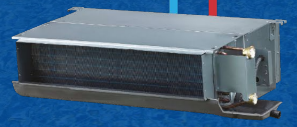
Available powers:
4 kW, 8 kW, 12 kW and 16 kW
(monophase and three-phase).

Compatible with solar energy and backup boiler.

Fancoil air conditioning system







R-32

WiFi INCLUDED

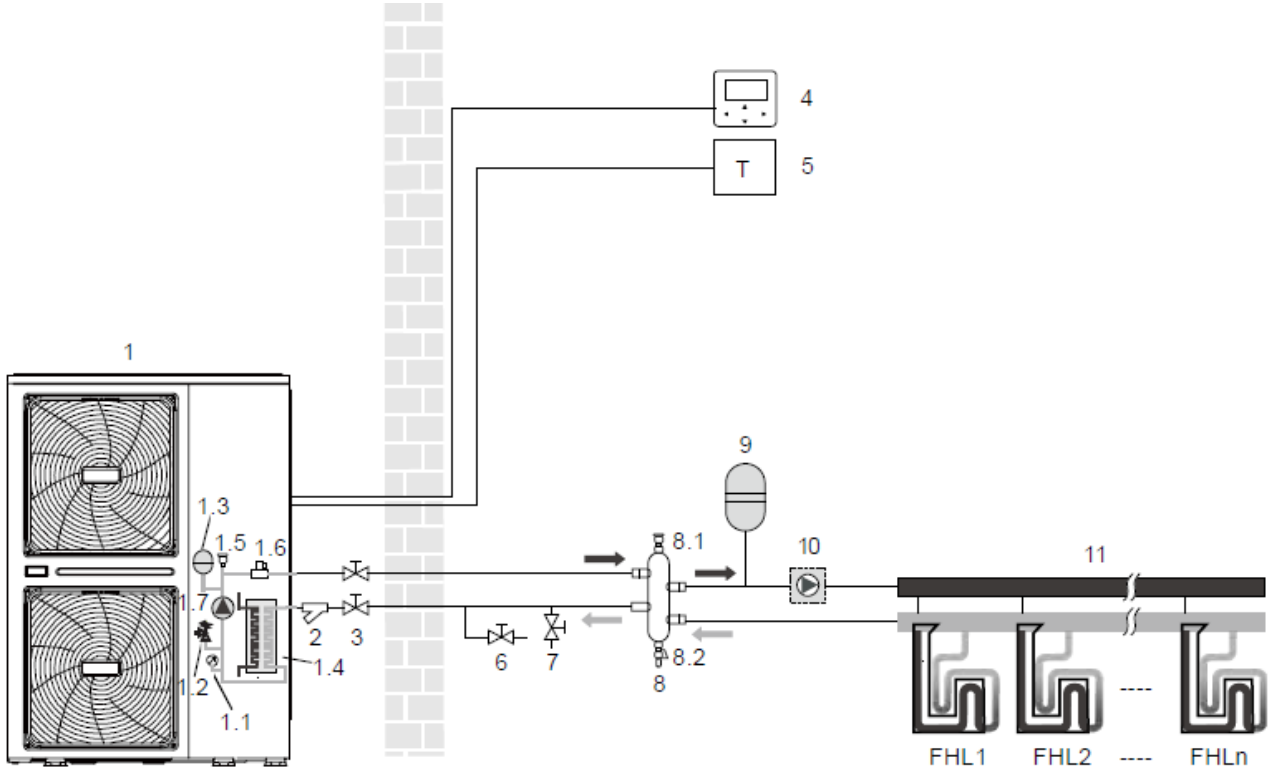
HPWH Eco-Thermal

HTW

Monoblock **Plus**

Operating scheme

- Single connection to air conditioning A single circuit dedicated to air conditioning.



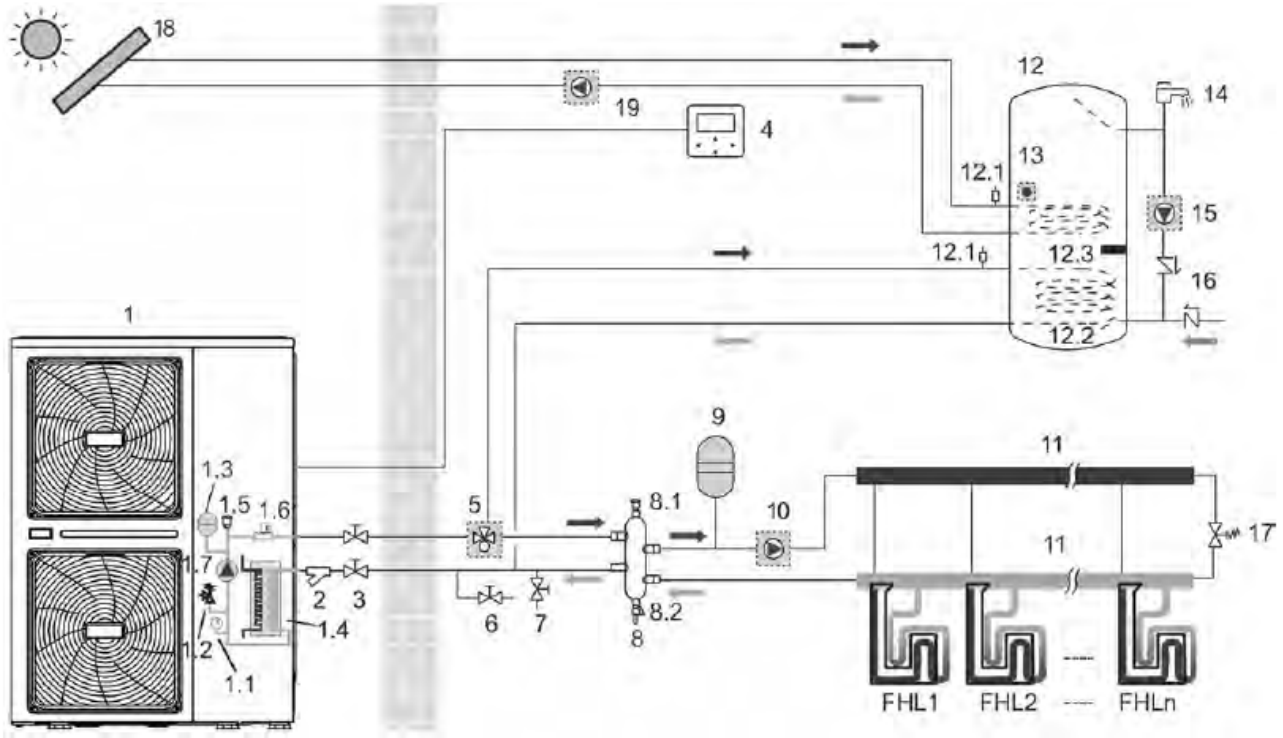
HTW

Monoblock **Plus**

Operating scheme

- Climate and DHW connection.

Not only it can air-condition but also by adding a 3-way valve, we can also heat a tank for the production of DHW.



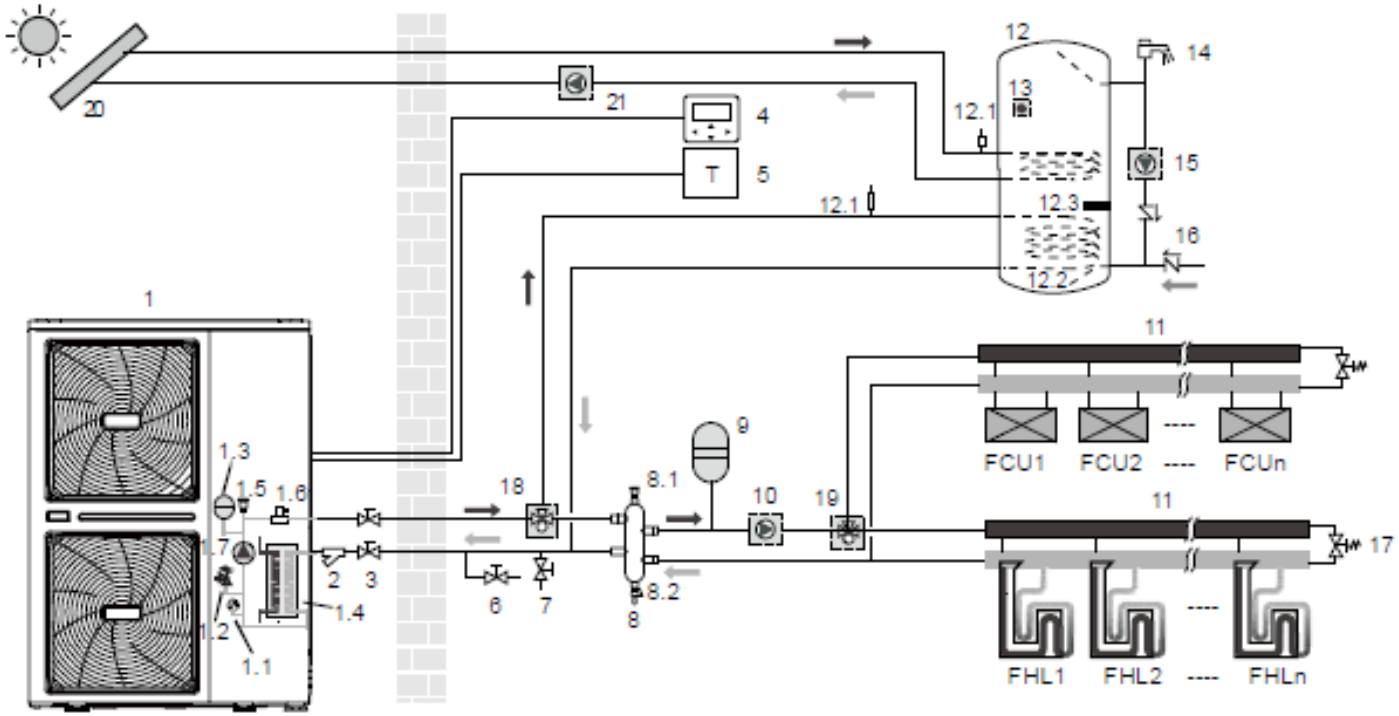
HTW

Monoblock **Plus**

Operating scheme

- Climate connection with out. and DHW

In addition, if we need more power at specific times, we can adapt an external production controlled by our system.



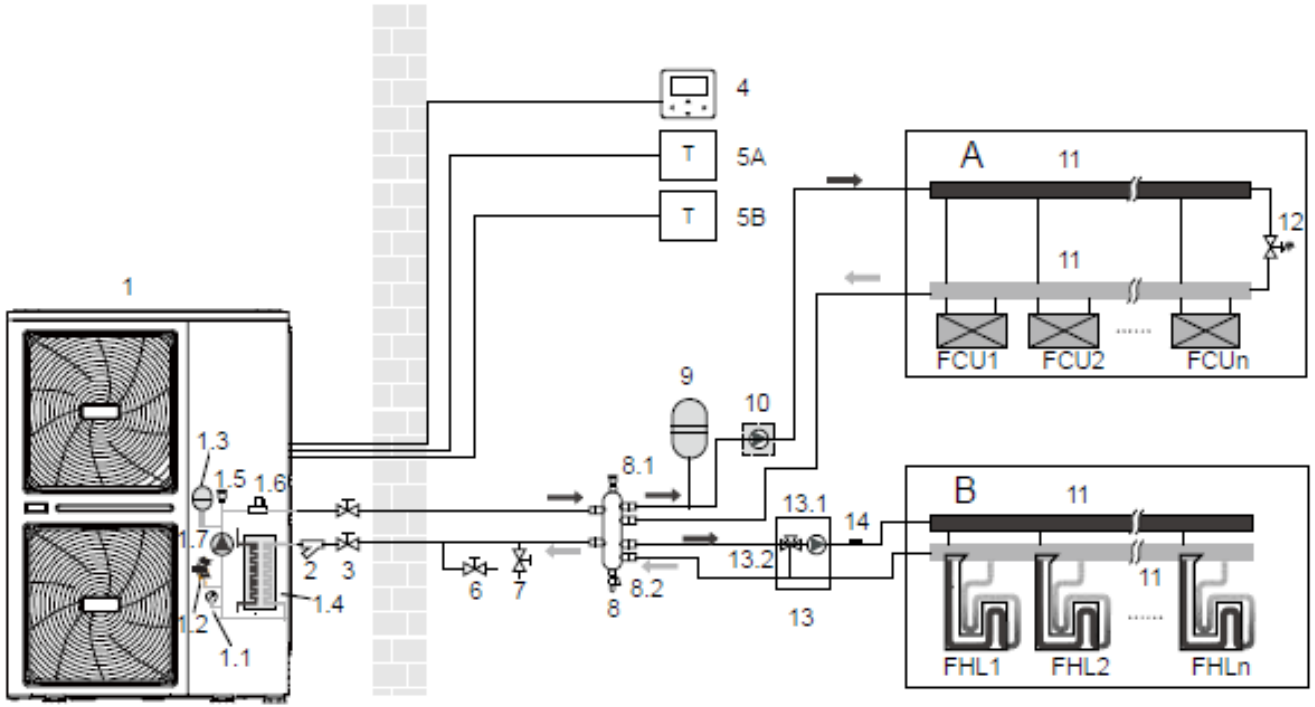
HTW

Monoblock **Plus**

Operating scheme

- Climate Connection (Cold/Heat) and DHW

Sometimes we are interested in having two methods of air conditioning, one for cooling and the other for heating, this unit allows us such control.



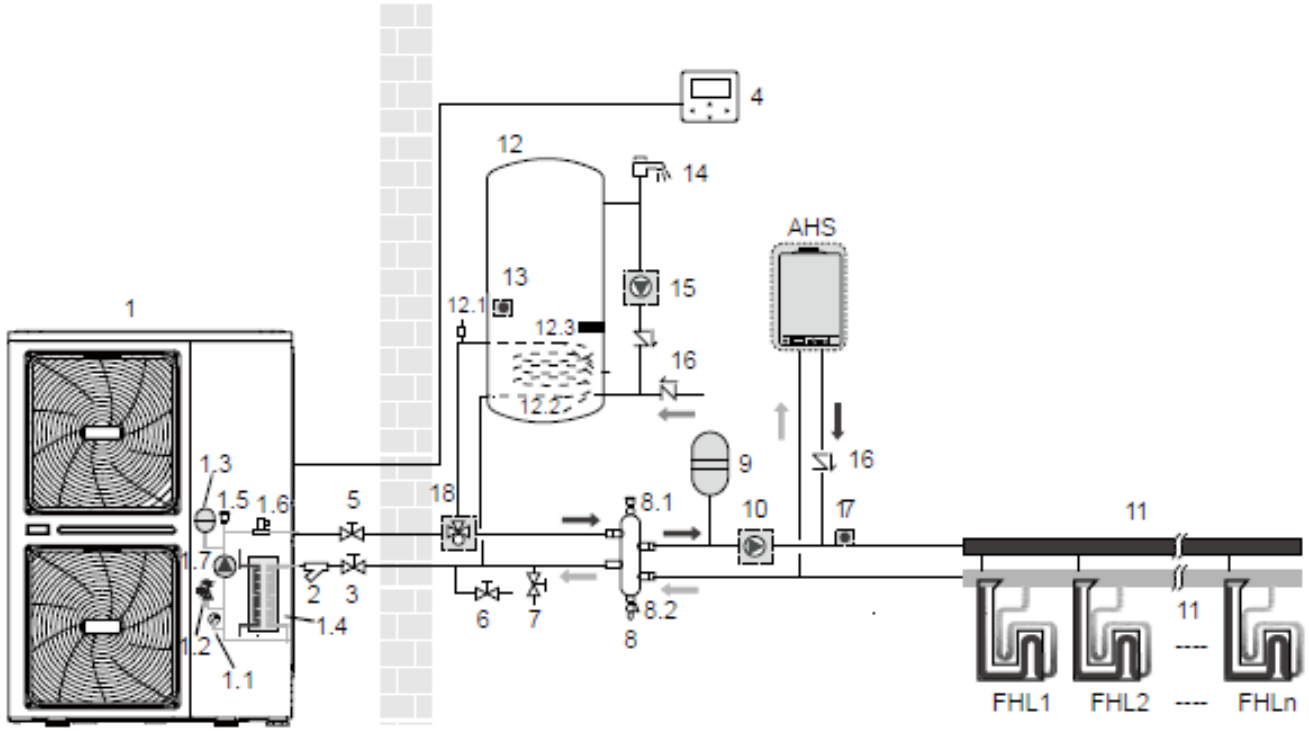
HTW

Monoblock **Plus**

Operating scheme

- Dual Zone Climate Connection

If we use two methods of air conditioning with terminal elements that work at two different temperatures, we can control it with the unit, configuring 2 different supply temperatures.

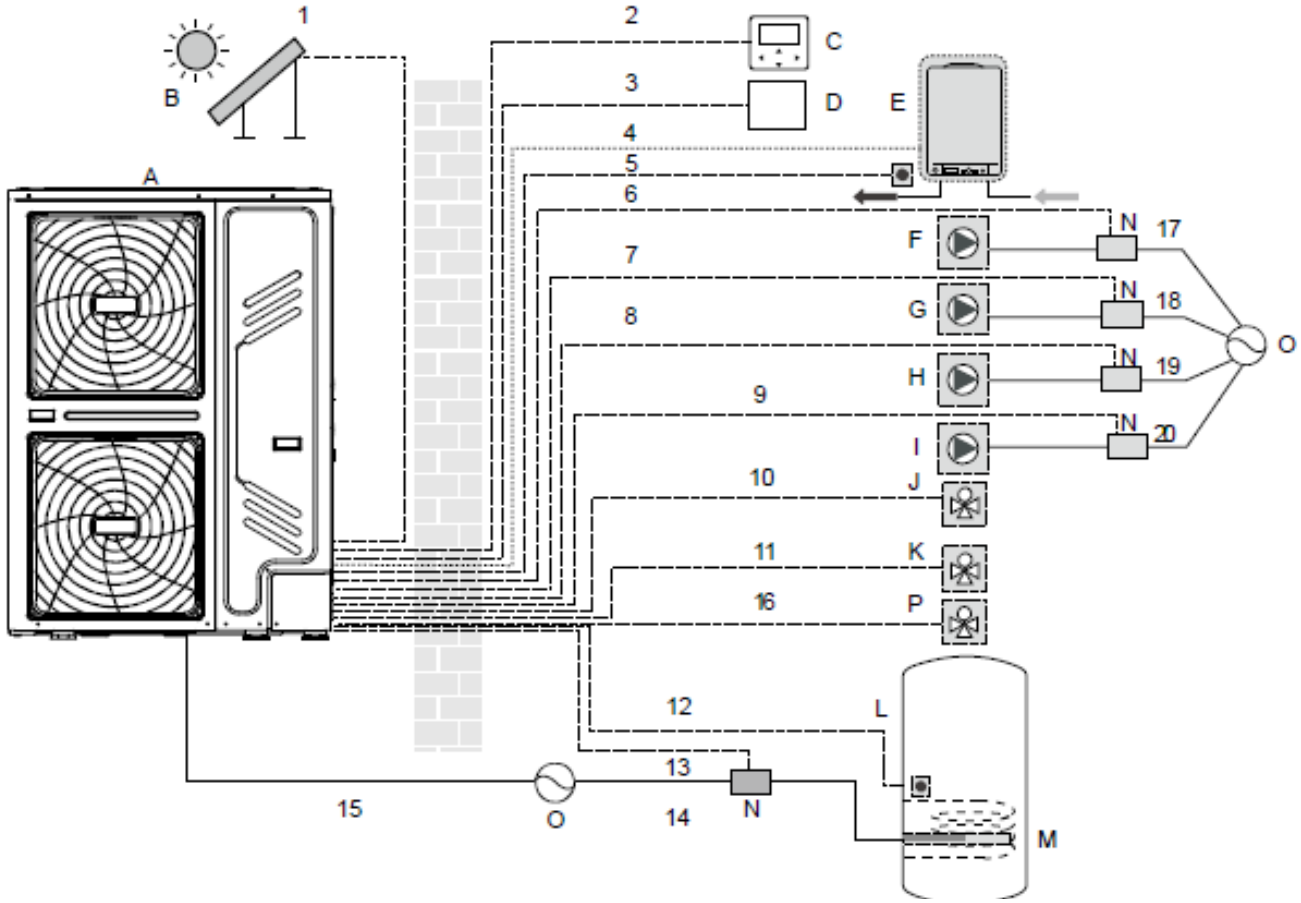


Monoblock **Plus**

Control of External elements

Elements control

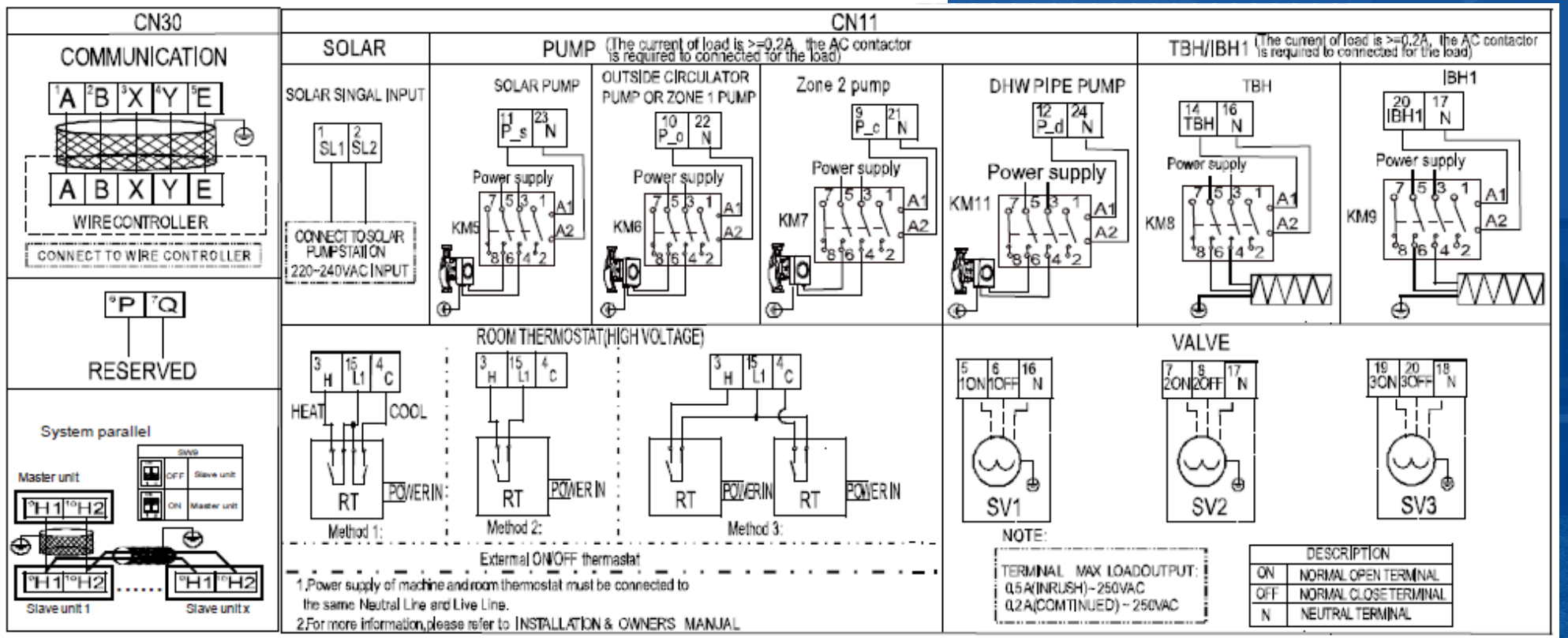
- From the unit we can electrically control the vast majority of elements of the hydraulic circuit.



HTW

Monoblock **Plus**

Electric connection

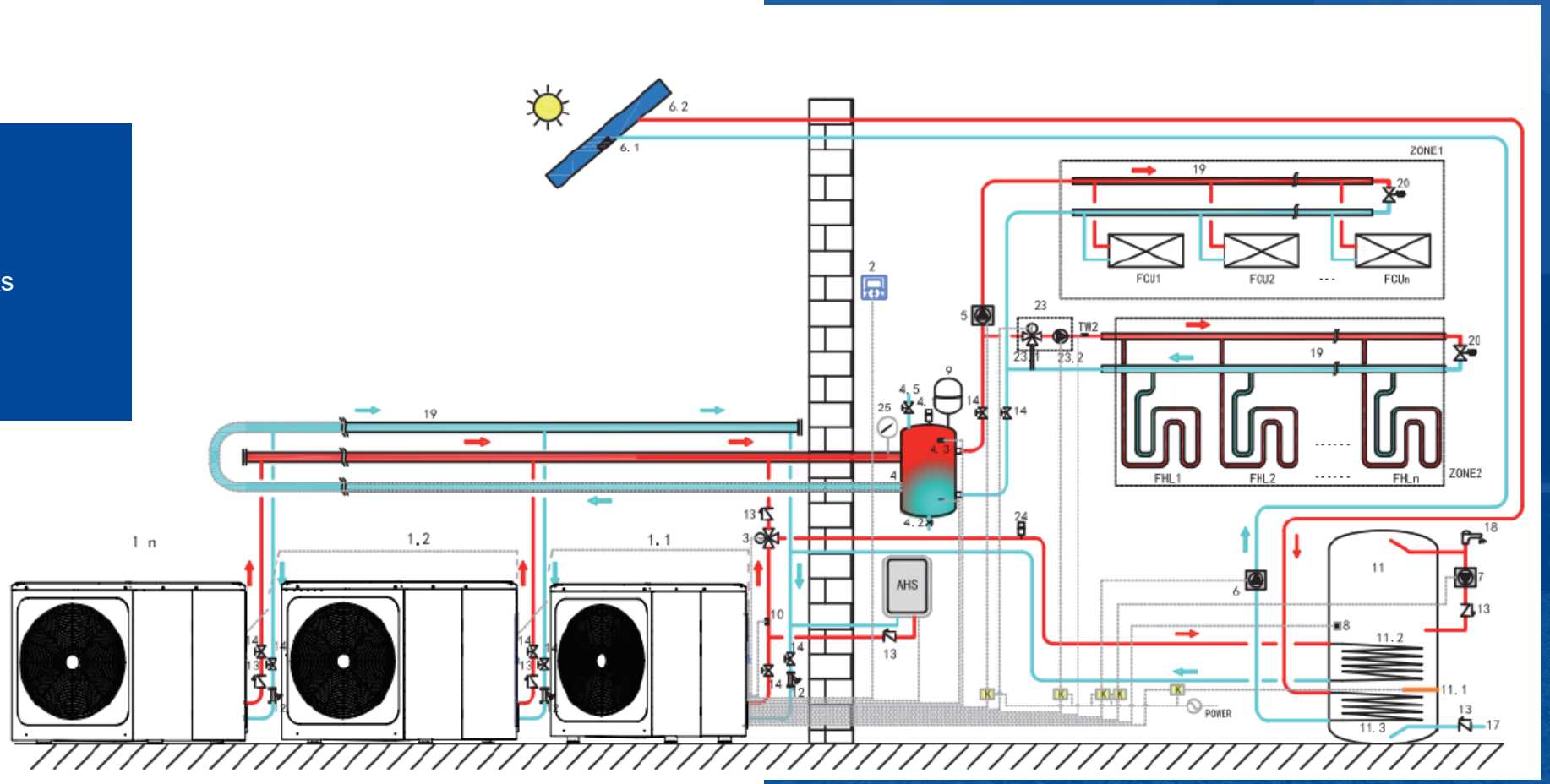


HTW

Monoblock **Plus**

Electric connection

- Power extensión
- Reduce consumption peaks
- Max. group of 6 units.

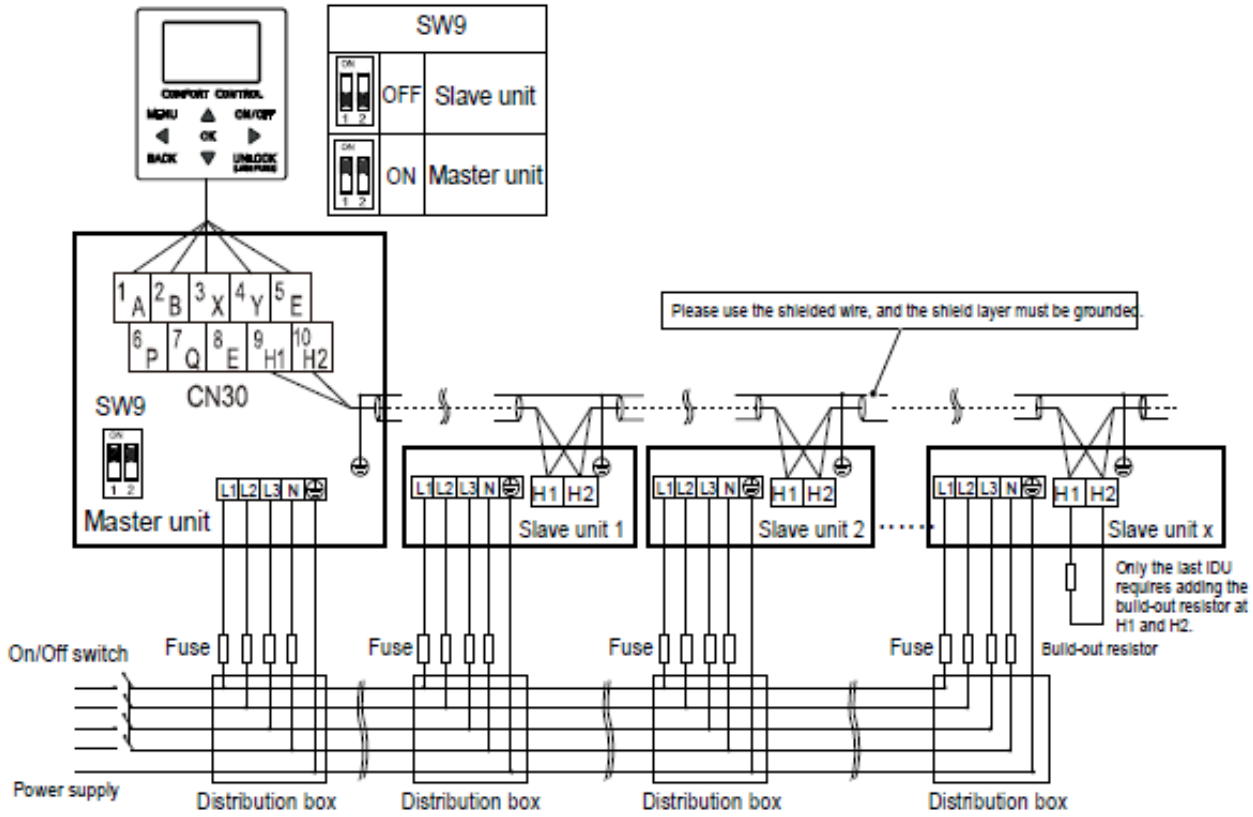


HTW

Monoblock **Plus**

Cascade connection

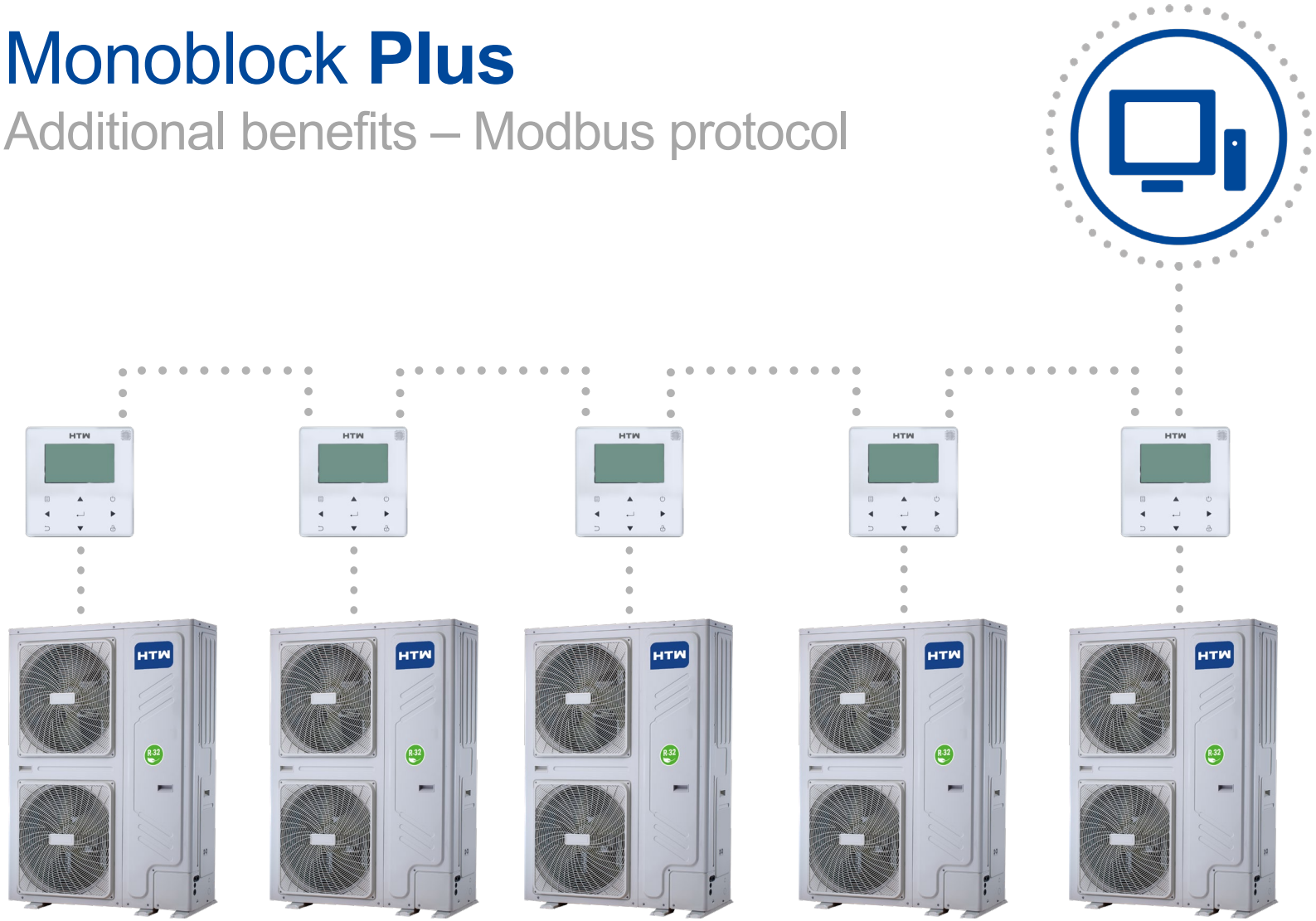
- A single control.
- Interconnection between them.
- Master – Slave configuration.



HTW

Monoblock **Plus**

Additional benefits – Modbus protocol



Modbus BMS

With Modbus RTU communication protocol, up to 16 units can be connected to BMS (field supplied) for comercial premises or home automation systems.

Max.
16 units

Product range

Biblock, Monoblock, Integrated tank

▶ Monoblock Plus



▶ Biblock Plus wall-mounted













- Air Conditioning
- Domestic hot water
- Heating
- Radiating floor
- Solar energy

Biblock **Plus** wall-mounted

Operating scheme

A+++ SCOP

EER 5,55

COP 5,20

Available powers:
4 kW, 8 kW, 12 kW and 16 kW
(monophase and three-phase).

Compatible with solar energy and backup boiler.





Heat water

Cold water

3-way valve

Refrigerant pipe



Tank for **DHW** system



Fancoil air conditioning system



R-32

WiFi INCLUDED

HTW

Biblock **Plus** wall-mounted

Indoor unit – Hydro module



Refrigerant pipe

Water inlet

Water outlet

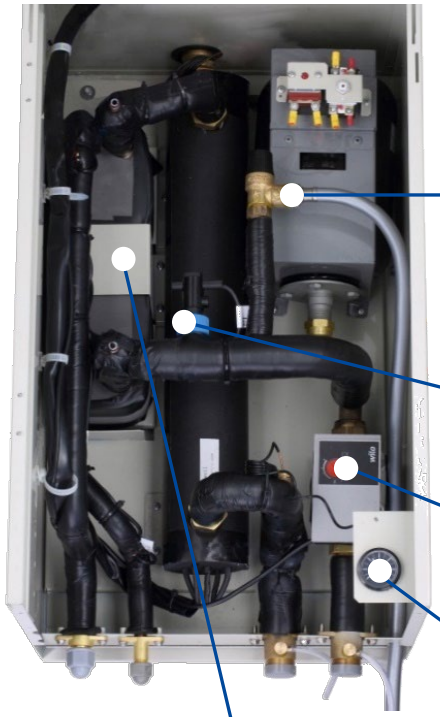


Plate heat exchanger

Expansion vessel

Flow switch

Water pump

Pressure gauge

USB port

It allows to **configure the unit** in a few seconds and carry out diagnostics.

Features

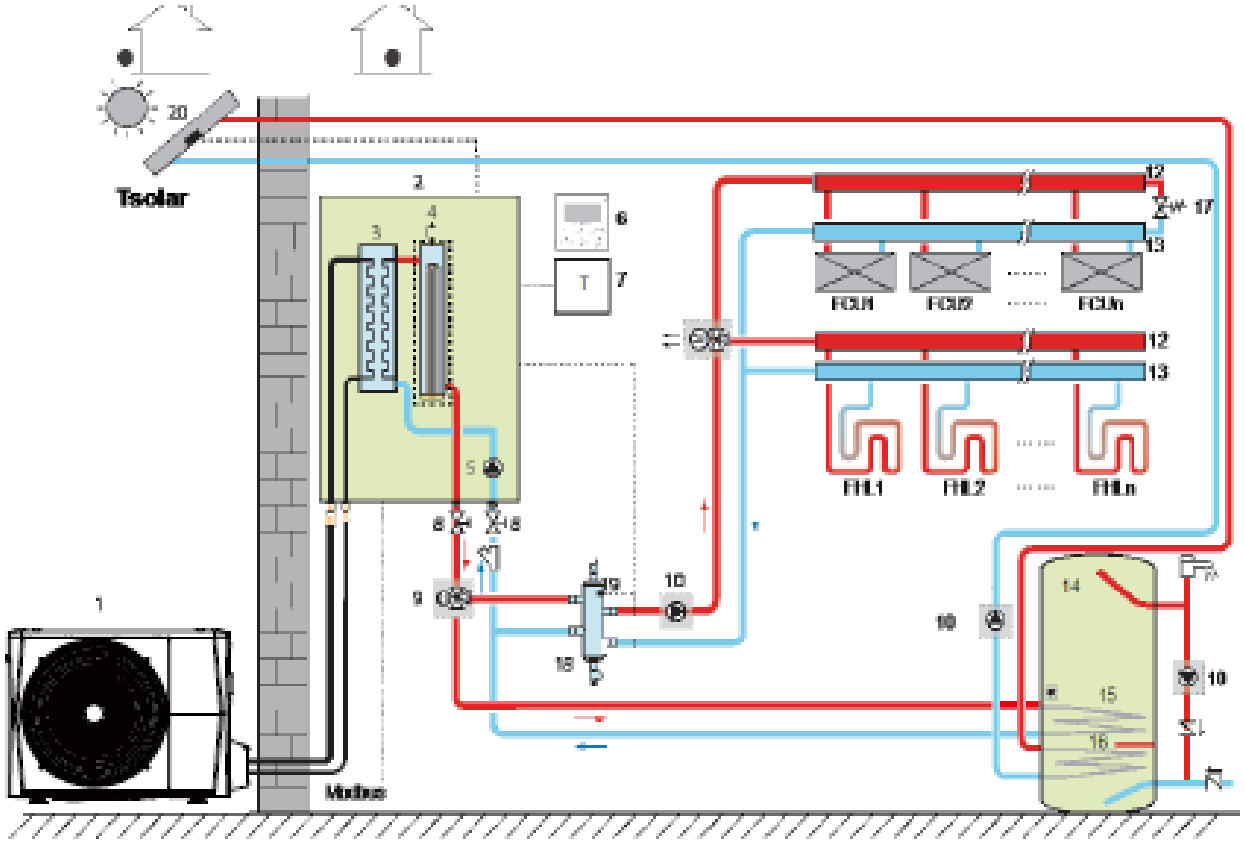
- **Easy installation and commissioning.**
- **Intelligent and adaptable system.**
- **Easy maintenance.**
- **Water discharge up to 65ºC.**
- **Low noise level.**

Biblock **Plus** wall-mounted

Operating scheme

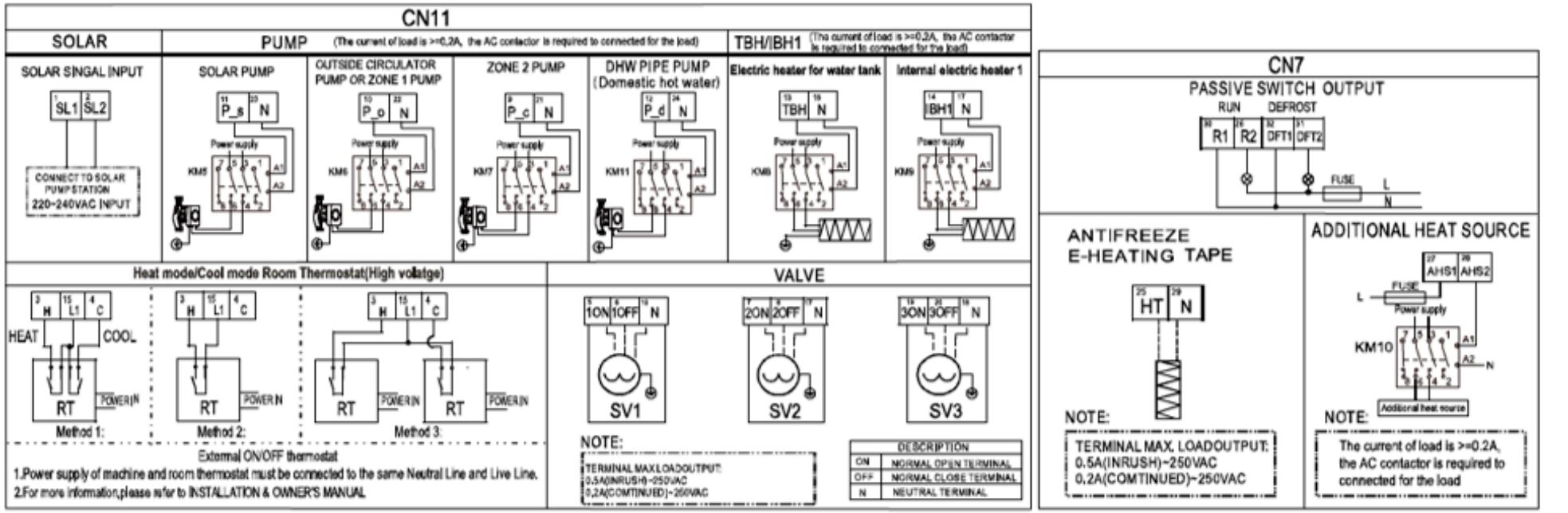
- Climate and DHW production

In this unit we can carry out the same schemes explained in the Monoblock range.



Biblock **Plus** wall-mounted

Additional benefits



HTW

Product range

Biblock, Monoblock, Integrated tank

Monoblock Plus



Biblock Plus wall-mounted













- Air Conditioning
- Sanitary hot water
- Heating
- Radiating floor
- Solar energy

Integrated Biblock **Plus**

Operating scheme

A+++ SCOP

EER 5,55

COP 5,20



Heat water

Cool water

ACS system

Fancoil air conditioning system





Refrigerant pipe

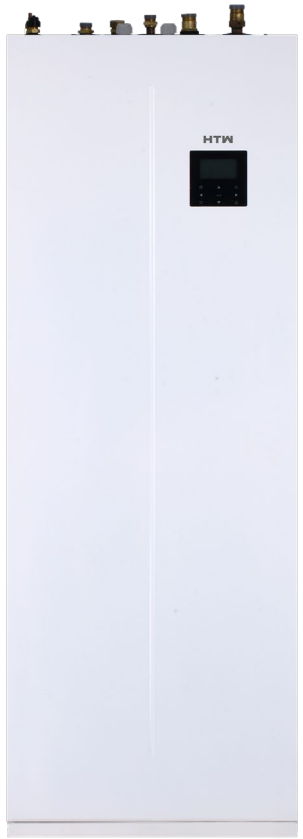
R-32

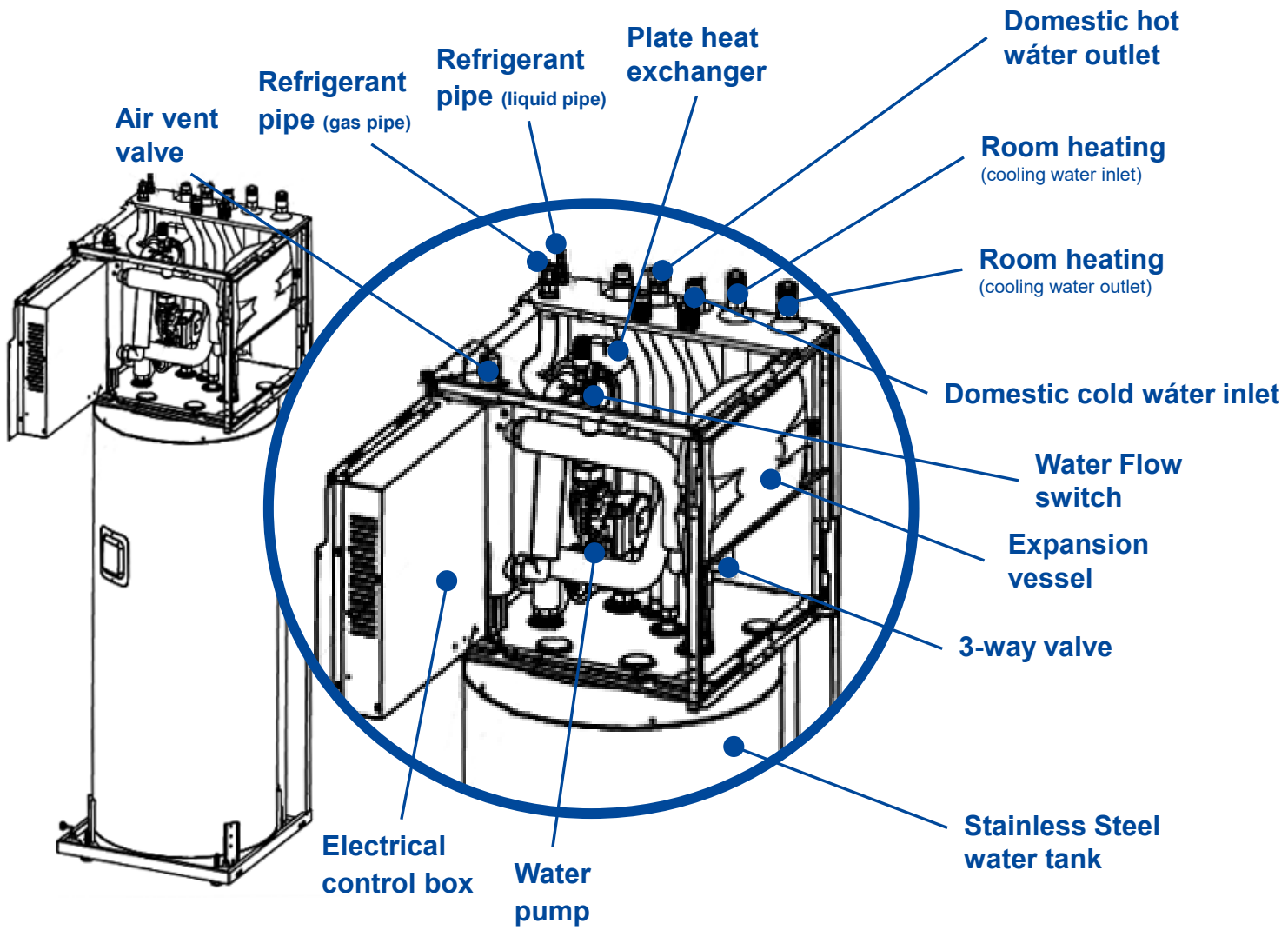
WiFi INCLUDED

HTW

Integrated Biblock **Plus**

Integrated tank



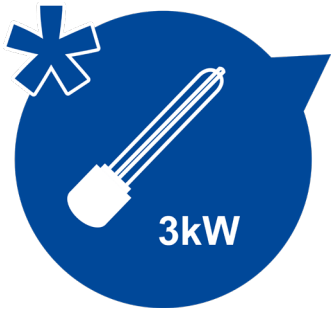


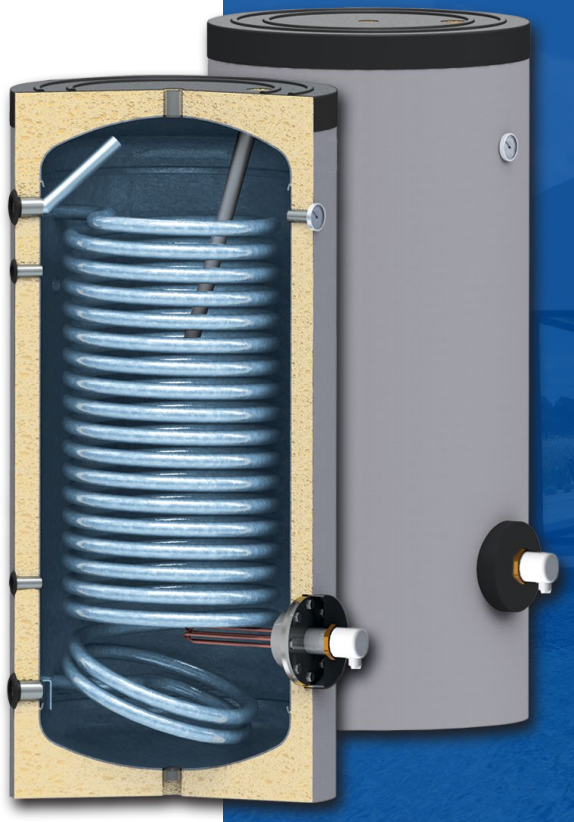
HTW

DHW system for **Eco-Thermal**

Vitrified accumulator

- Available capacities: **150, 200, 300 and 500L.**
- For **domestic and industrial use**.
- **Corrosion protection** with magnesium anode.
- Carbon Steel tank lined inside with a layer of high-quality ceramic vitrification.
- Optional 3kW **backup heater** available.





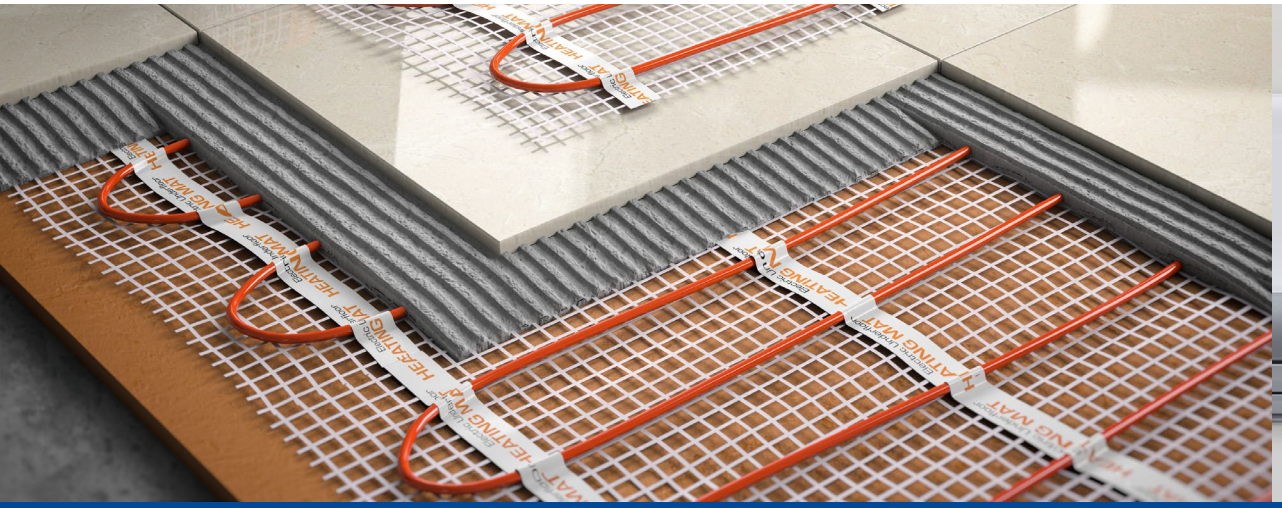
* Optional

HTW

Radiators, fancoils or underfloor heating?

Radiating Floor

- To install it, it is necessary to carry out works, since the floor must be raised.



Fancoil

- It’s installation is **cheaper** and **simpler**.
- The fancoils provide **cold** and **heat**.



Radiators, fancoils or underfloor heating?



Cast iron radiators

55ºC



Copper and aluminium radiators

45ºC



Fancoil units

45ºC



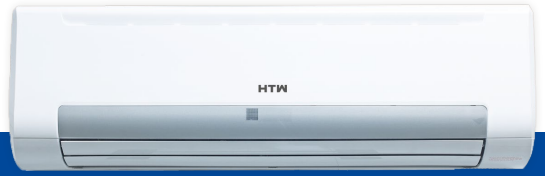
Underfloor heating

35ºC

Fancoils

Air conditioning and heating system

▶ Split



▶ Cassette 2 tubes / 4 tubes



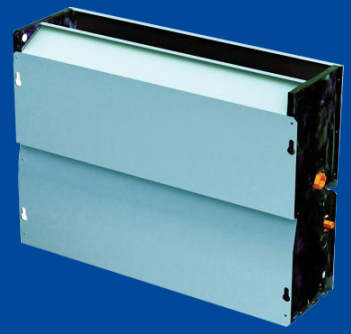
▶ Duct 2 tubes / 4 tubes



▶ Floor ceiling with casing



▶ Floor ceiling without casing



Refrigeration + Heating

Product range

Fancoil



Split



Cassette
2 tubes



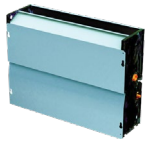
Duct
2 tubes



Ceiling Floor
(Air return from the side)



Ceiling floor
with casing



Ceiling floor
without casing



Cassette
4 tubes



Duct
4 tubes

Fancoils

Power table in kW

	2kW	2,5kW	3kW	4kW	5kW	6kW	6,5kW	7kW	7,5kW	8kW	8,5kW	9kW	9,5kW	11kW	12kW	15kW	20kW	30kW	40kW	50kW
Split		✓	✓	✓	✓	✓														
Cassette 2 tubes			✓	✓	✓															
Duct 2 tubes	✓		✓	✓	✓	✓						✓		✓						
Ceiling floor side return		✓		✓	✓			✓		✓										
Ceiling floor			✓		✓			✓		✓										
Cassette 4 tubes						✓			✓		✓		✓		✓	✓				
Duct 4 tubes																✓	✓	✓	✓	✓

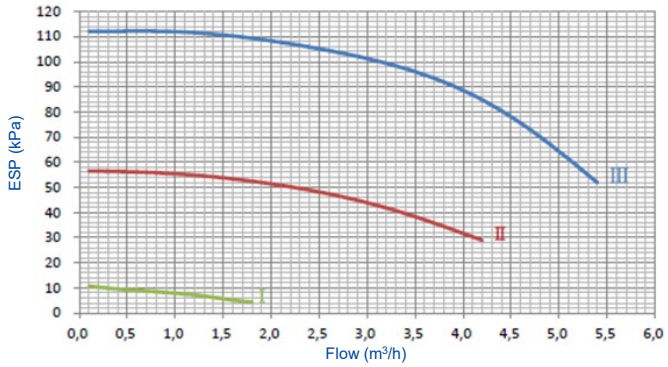
Water pipe sizing and pump selection

For the installation of an **Eco-Thermal** it is very important to calculate the pressure drop in the entire system, to know if the pump that comes is sufficient or if it is necessary to install an **extra pressure group**.

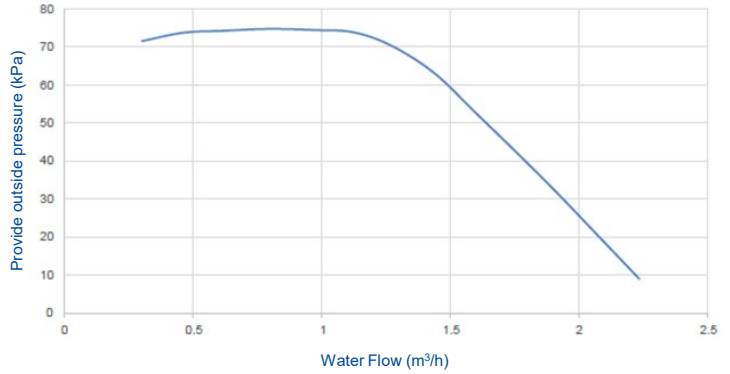


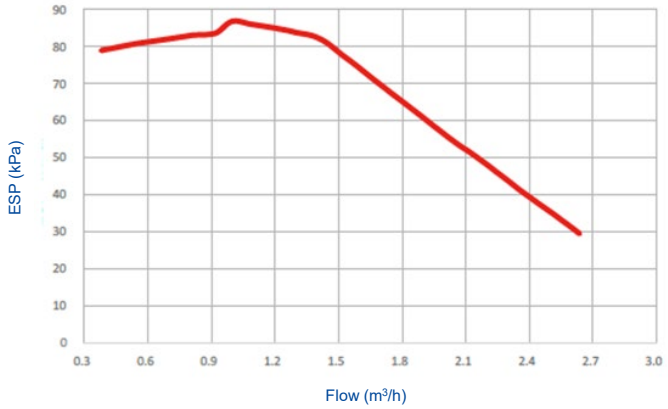
Water pump curve:

Available external static pressure VS Flow rate

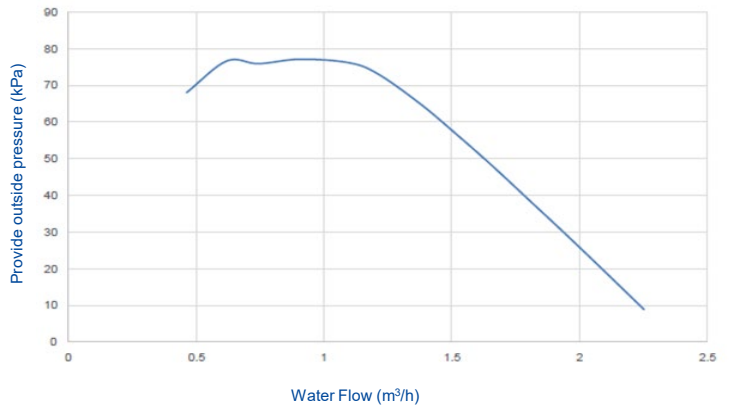


Hydronic module with 190L tank





Hydronic module with 240L tank



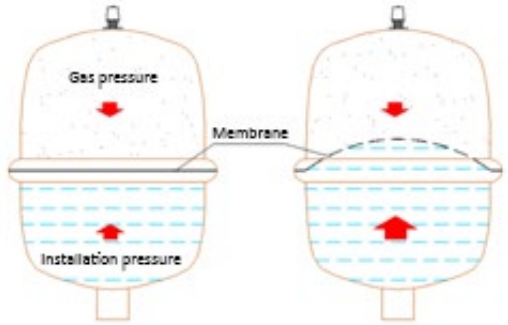
Importance and selection of the expansion vessel

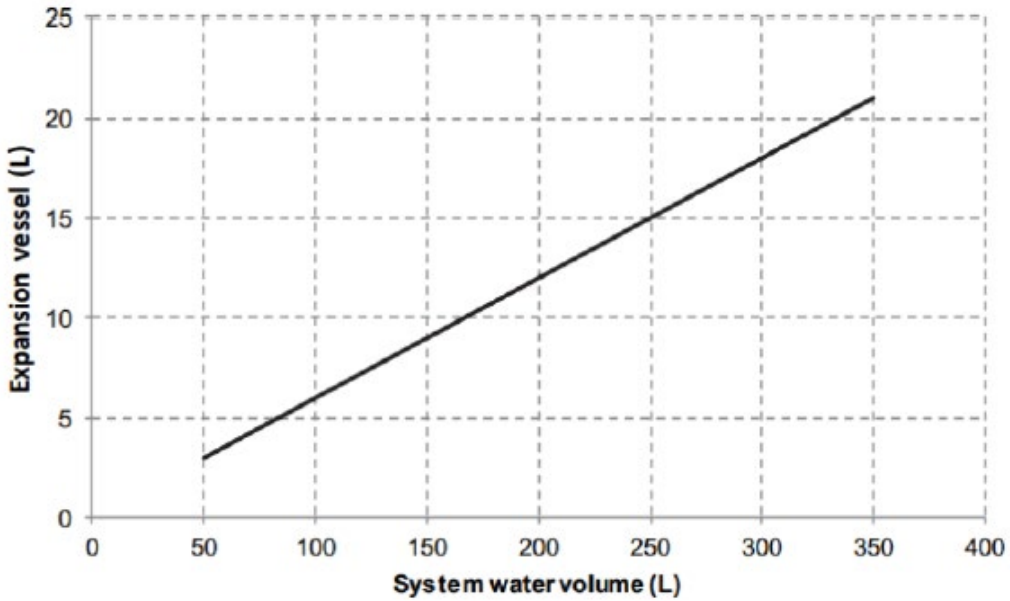
We must take into account that when heating the wáter, the pressure of the circuit also increases.

In order to avoid wáter consumption and losses due to this factor, we must mpunt relief elements such as expansion vessels.

To do this, we must see what volumen of water we have in the system and, if necessary, add an expansión vessel to the circuit.







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