novasfer
FLOW CONTROL SYSTEMS

novazone

NOVAZONE

Compact multi-zone distribution modules for system management

HEATING COOLING

SYSTEMS SOLUTIONS

Solutions for Big Houses / Heat networks Systems

novaheat

NOVAHEAT

Distribution and regulation groups for heating and/or heating/cooling

novahiu

NOVAHIU

Heat Interface Units (HIU) for centralized collective systems

Solutions for Small Houses / Single Houses

novazone

NOVAZONE

Compact multi-zone distribution modules for heating and/or heating/cooling management

novacond

NOVACOND

Two-zone distribution compact modules for condensing boilers

HEATING

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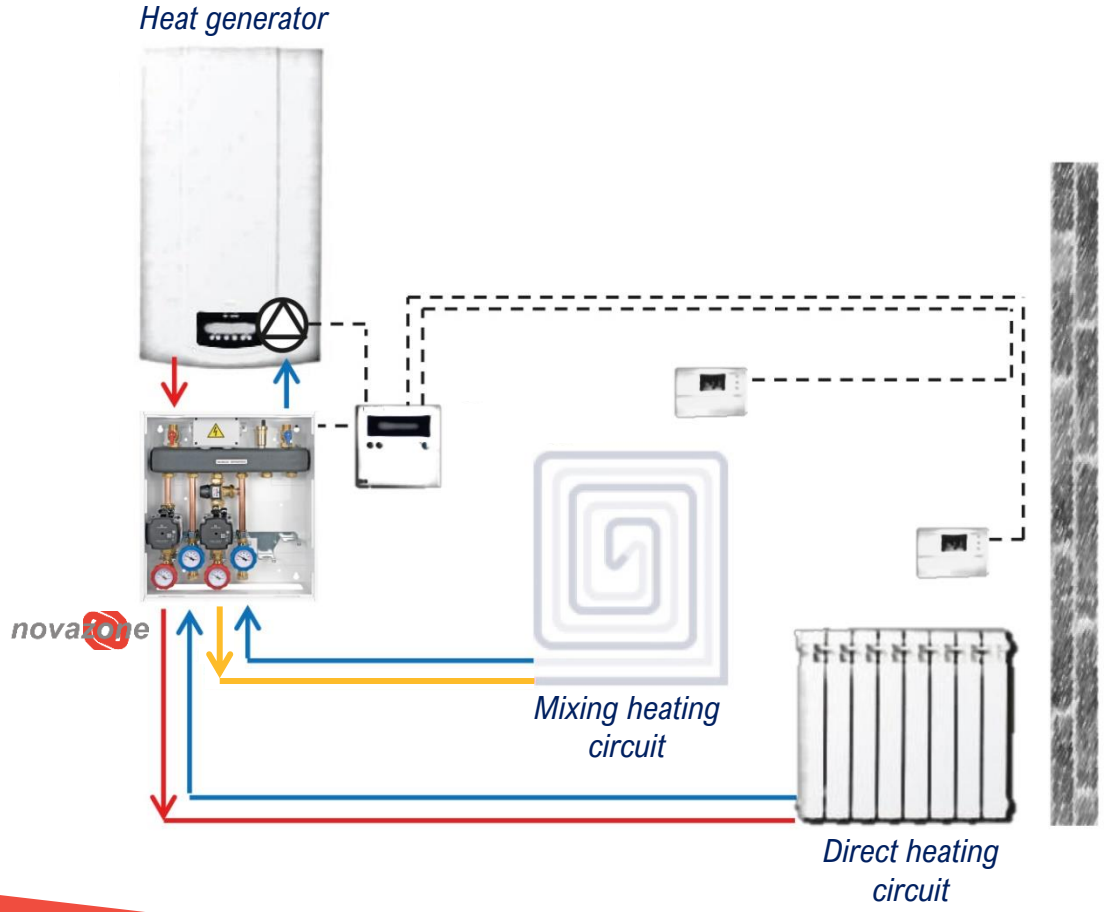
Two-zone distribution compact modules for condensing boilers

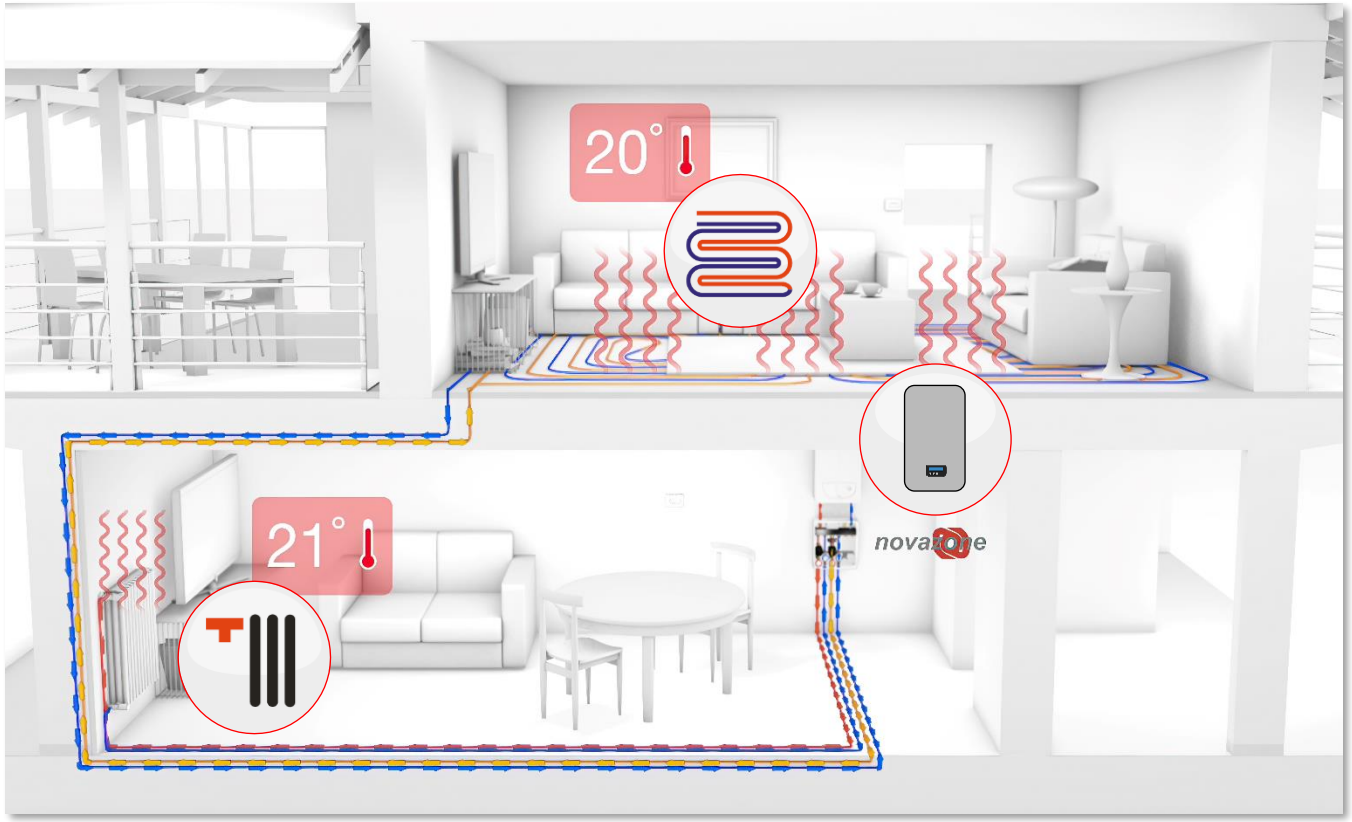
HEATING

COOLING

What is NOVAZONE?

NOVAZONE is a hydraulic module for managing one or more heating / cooling circuits. It allows the circulation of the fluid in each single circuit and, if required, controls the delivery temperature. The hydraulic separator integrated in the module guarantees the hydraulic disconnection of the generator from the circuits downstream of the module, and makes them hydraulically independent.





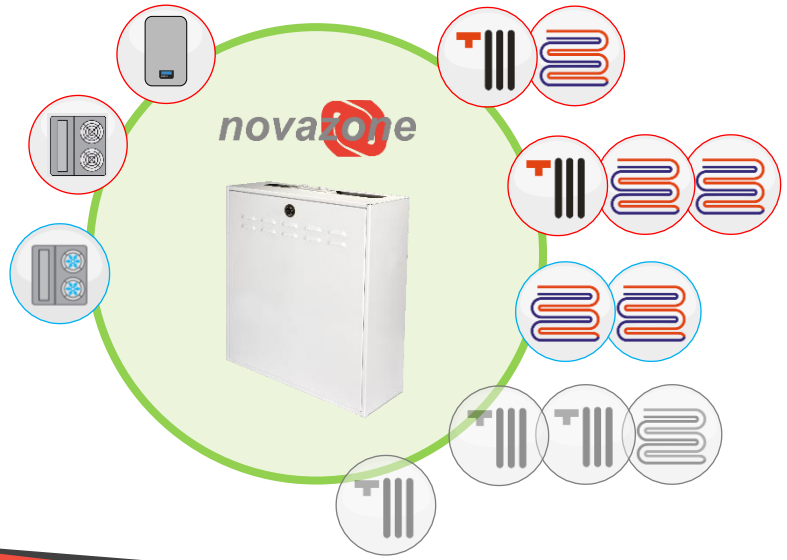
HEATING

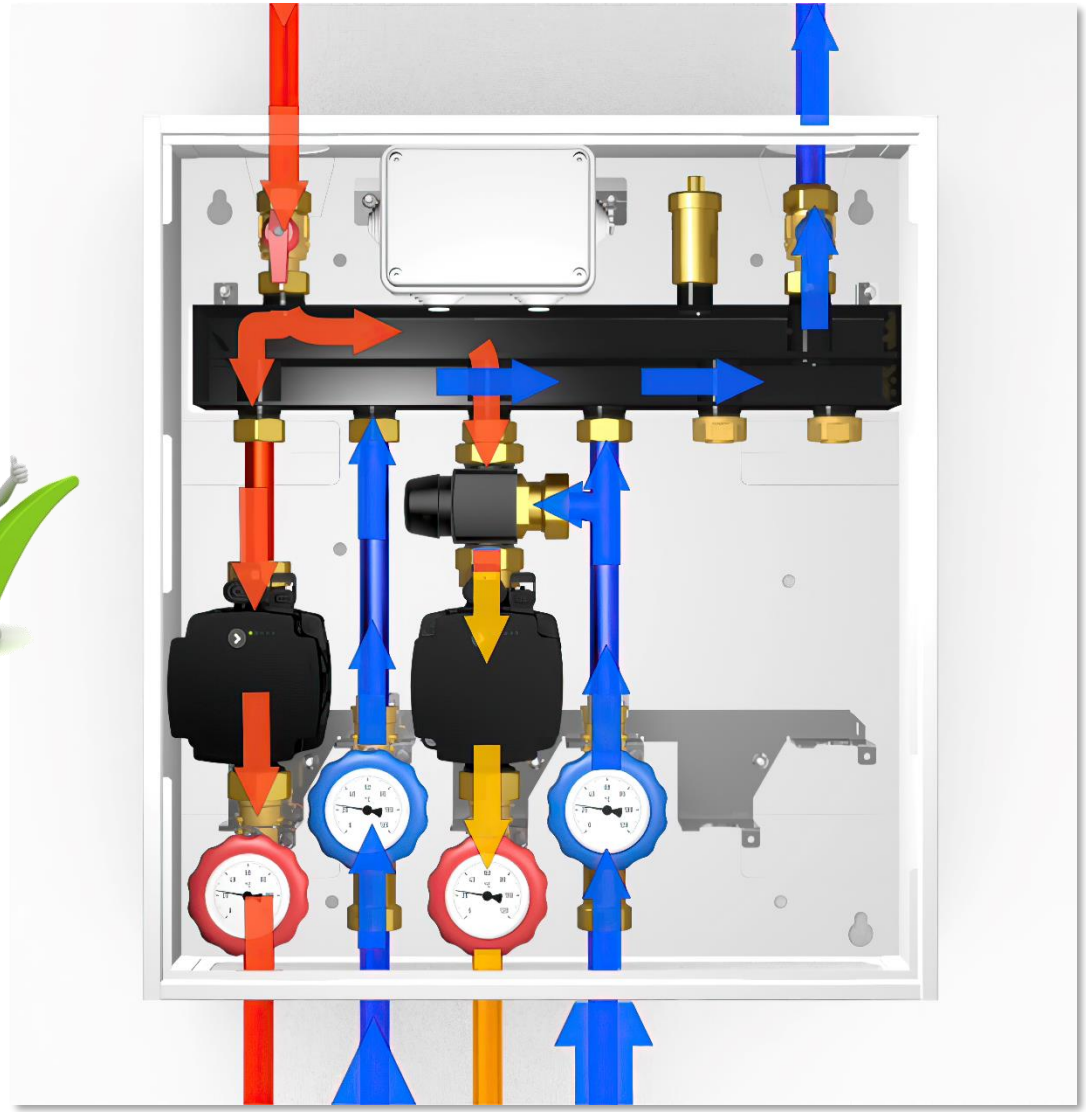
COOLING

Overview

Main functions

- **Heating** and **cooling** management
- Water circulation → **high efficiency pumps on each circuit**
- Management of **direct and mixing circuits** (fixed point - sliding temperature) **with regulation of the delivery temperature of each individual circuit** (temperature sensors)
- Heat generator power management up to 34 kW
- **Manifold** or **Separator** integrated
- Complete **accessory functions**





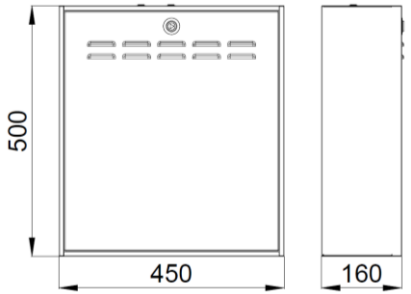
HEATING

COOLING

Insights overview

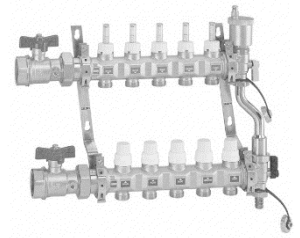
min. 1 circuit
max. 3 circuits

100% tested

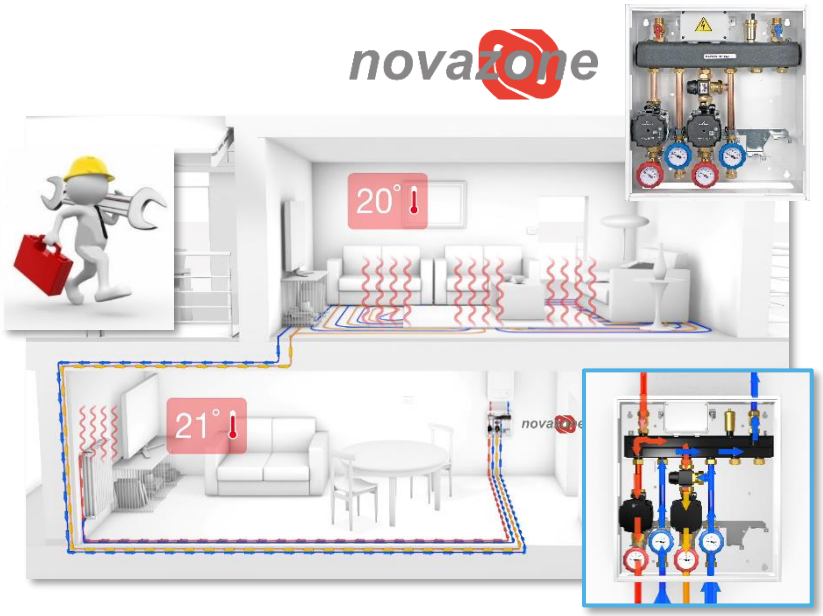


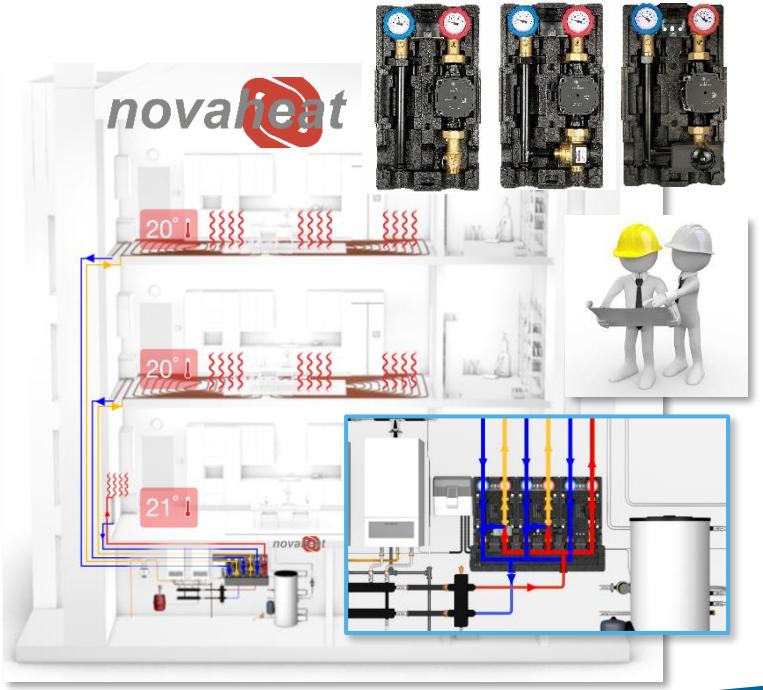
HIGH TEMPERATURE CIRCUIT *

LOW TEMPERATURE CIRCUIT *



* direct circuits or delivery to distribution manifolds; same for cooling

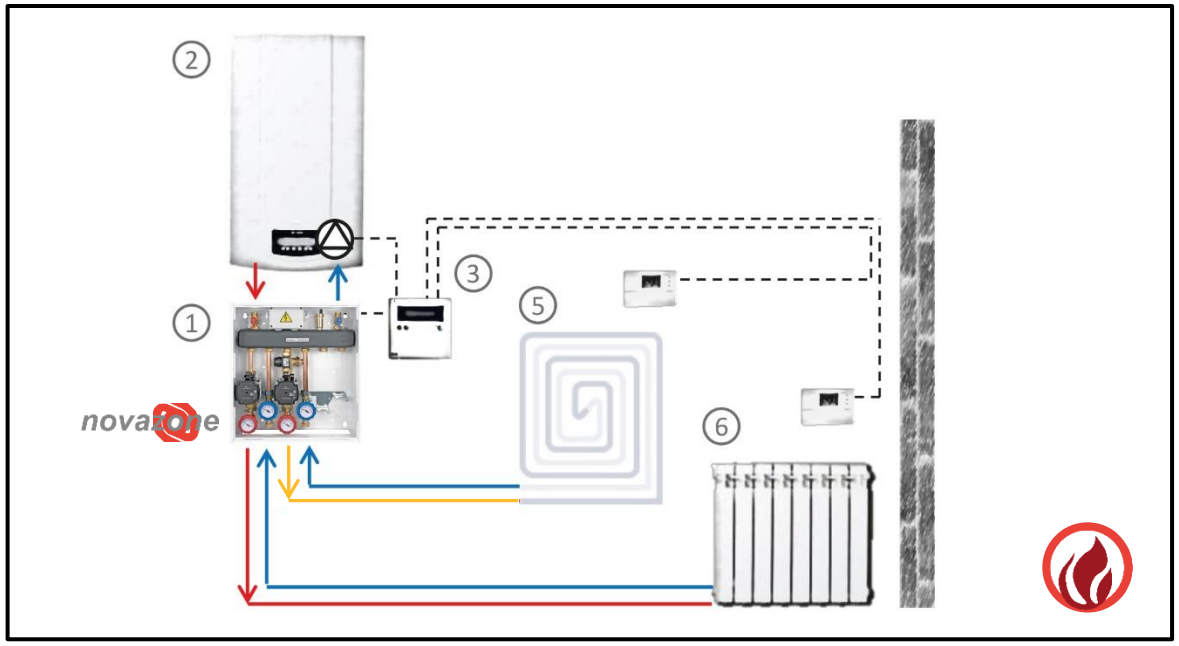




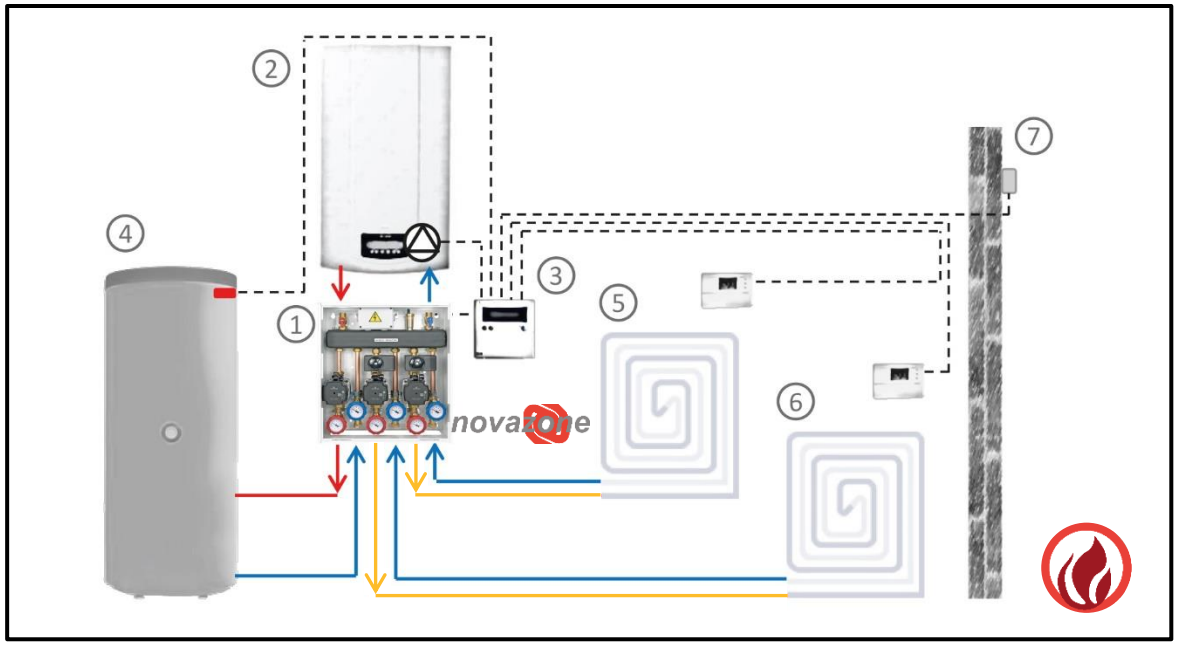
HEATING

COOLING

Examples of indicative installation schemes

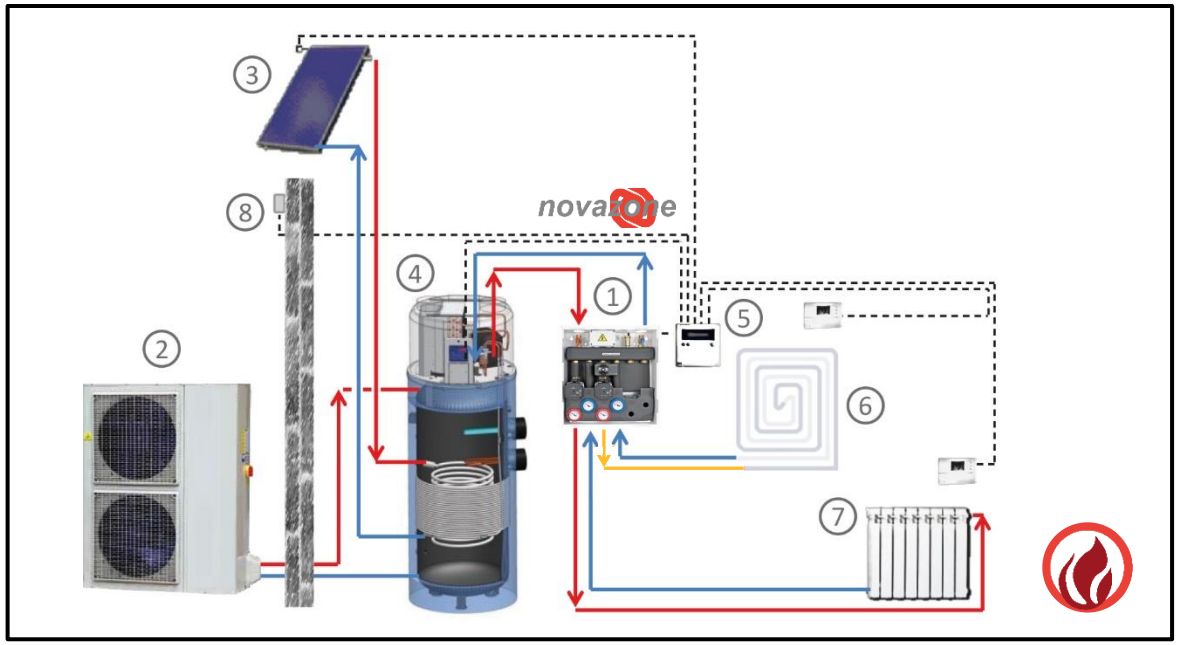


1. Compact multi-zone distribution module for heating management with 1 direct circuit and 1 thermostatic mixing circuit **NOVAZONE DM130** with separator
2. Gas heat generator with integrated pump
3. Control group
5. Low temperature heating circuit
6. High temperature heating circuit

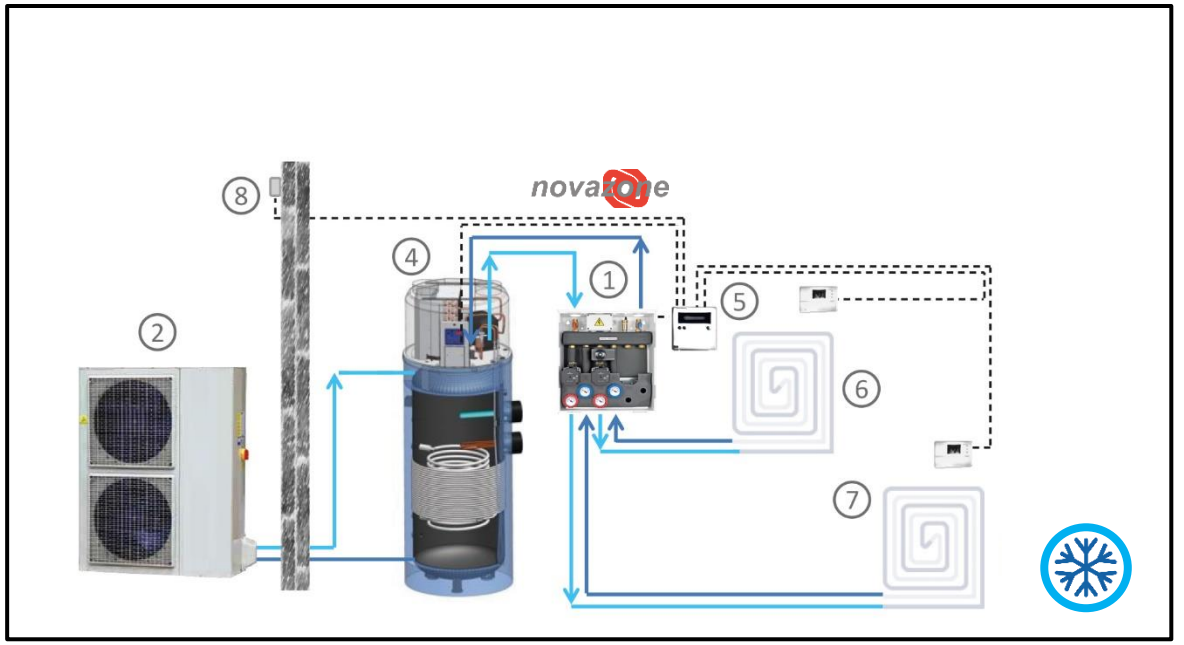


1. Compact multi-zone distribution module for heating management with 1 direct circuit and 2 motorized mixing circuits **NOVAZONE DM122** with separator
2. Gas heat generator with integrated pump
3. Control group
4. Drinking water storage tank
5. Low temperature heating circuit
6. High temperature heating circuit
7. External temperature sensor for thermoregulation

Examples of indicative installation schemes



1. Compact multi-zone distribution module for heating management with 1 direct circuit and 1 motorized mixing circuit **NOVAZONE DMFC120** with manifold
2. Heat pump system
3. Solar system integration
4. Heat tank without integrated pump
5. Control group
6. Low temperature heating circuit
7. High temperature heating circuit
8. External temperature sensor for thermoregulation

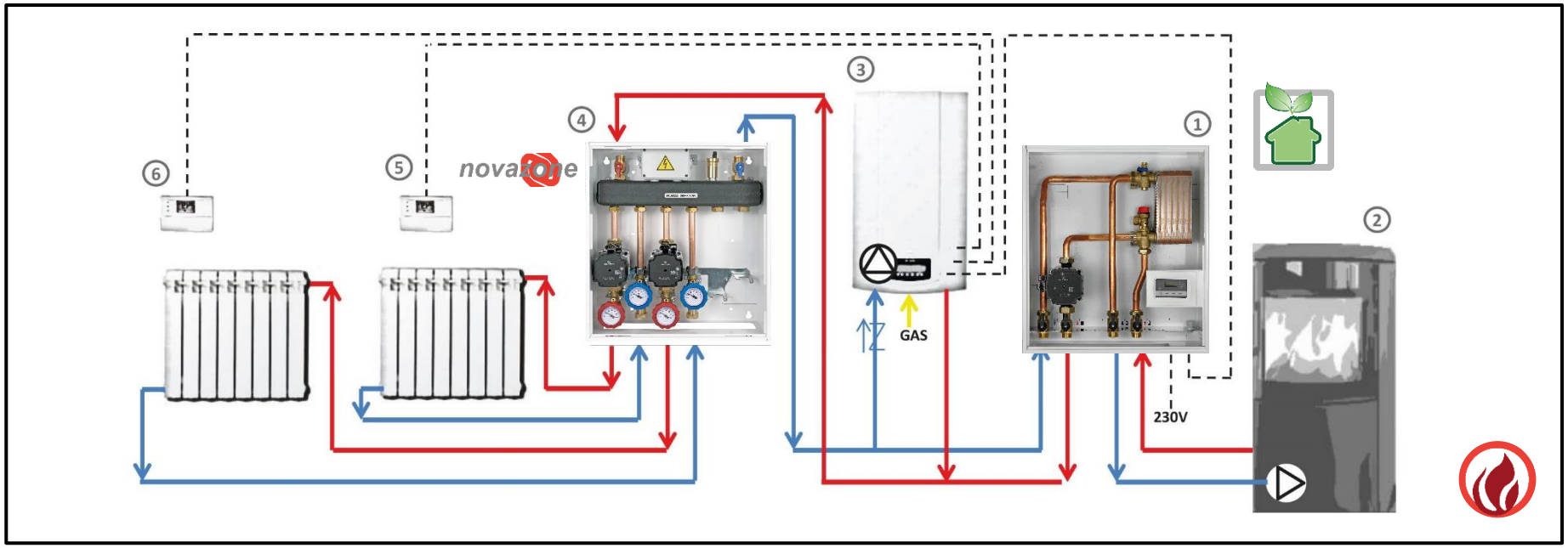


1. Compact multi-zone distribution module for cooling management with 1 direct circuit and 1 motorized mixing circuit **NOVAZONE DMFC120** with manifold
2. Heat pump system
4. Heat tank without integrated pump
5. Control group
6. Cooling circuit
7. Cooling circuit
8. External temperature sensor for thermoregulation

HEATING

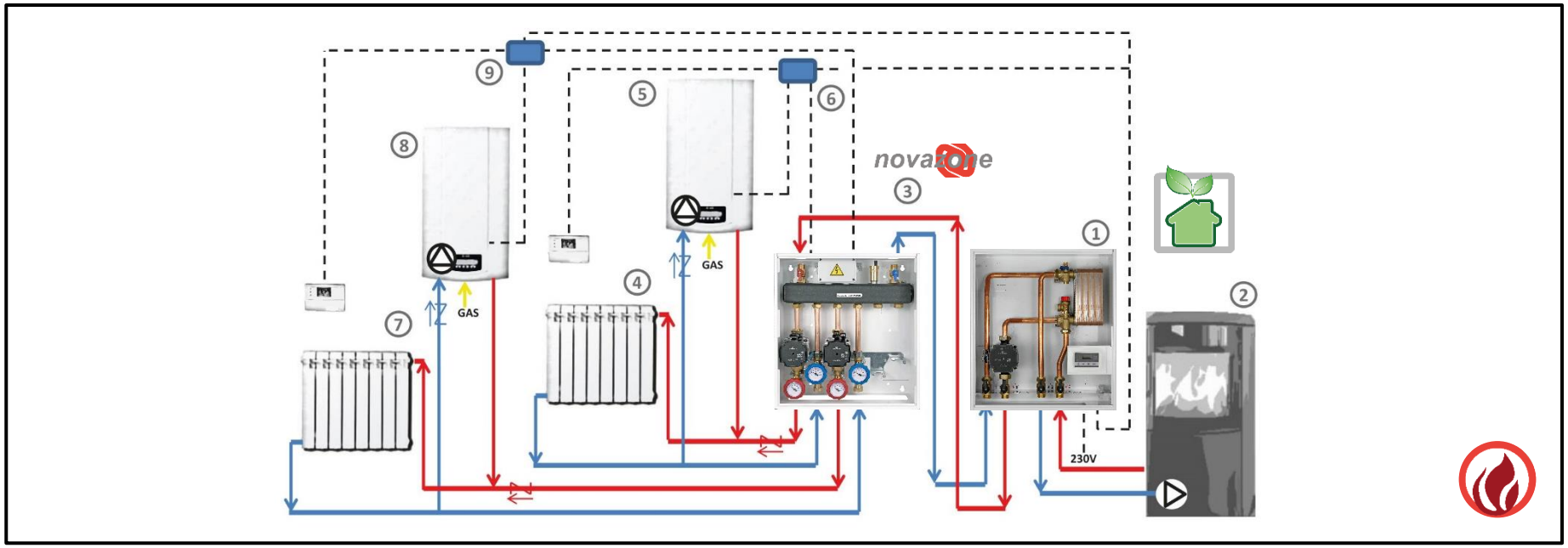
COOLING

Examples of indicative installation schemes



1. Hydraulic separation module **NOVABOX 110**
2. Biomass generator with integrated pump
3. Gas heat generator for integration
4. Compact multi-zone distribution module for heating management with 2 direct circuits **NOVAZONE DM110** with separator
5. High temperature heating circuit
6. High temperature heating circuit

Examples of indicative installation schemes



1. Hydraulic separation module **NOVABOX 110**
2. Biomass generator with integrated pump
3. Compact multi-zone distribution module for heating management with 2 direct circuits **NOVAZONE DM110** with separator
4. Zone 1 high temperature heating circuit
5. Zone 1 gas heat generator integration
6. Zone 1 management relay
7. Zone 2 high temperature heating circuit
8. Zone 2 gas heat generator integration
9. Zone 2 management relay

2 family of products

NOVAZONE DM

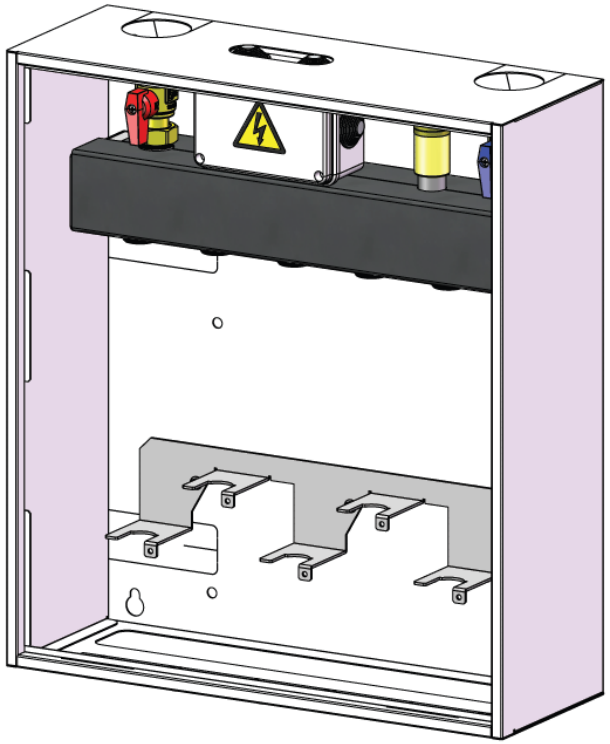
NOVAZONE DMF

HEATING

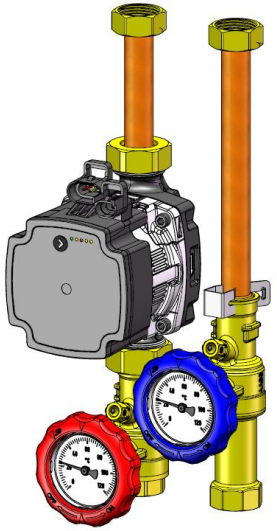
COOLING

Models layout

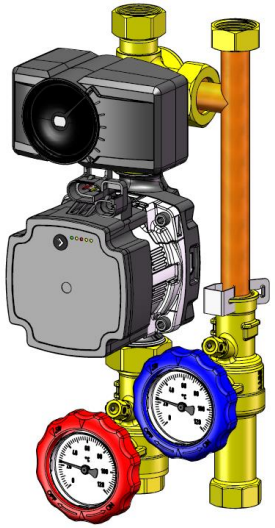
BOX AND COMPONENTS



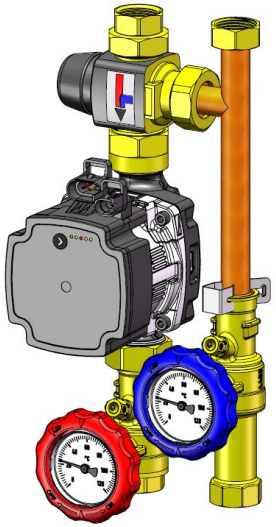
1 DIRECT CIRCUIT



2 MOTORIZED MIXING CIRCUIT



3 THERMOSTATIC MIXING CIRCUIT



NOVAZONE DMYXXX

Y = _ → SEPARATOR

Y = C → MANIFOLD

X = 1 → DIRECT CIRCUIT

X = 2 → MOTORIZED MIXING CIRCUIT

X = 3 → THERMOSTATIC MIXING CIRCUIT

X = 0 → NO CIRCUIT

XXX

CORRECT SEQUENCING OF THE CIRCUITS IN NOVAZONE

Models layout

100

110

111

120

112

122

300

130

113

«PREASSEMBLED» LOGIC + 100% tested

1 CODE = 1 PRODUCT

novazone

max. 3 circuits

330

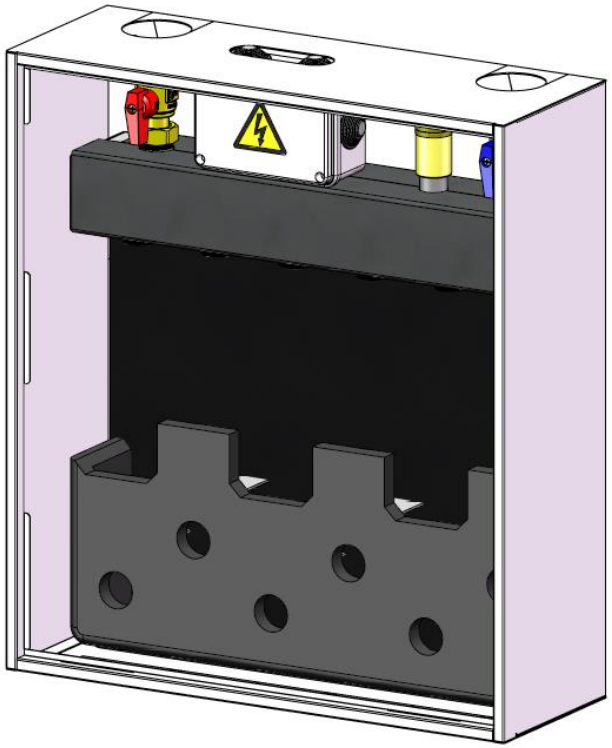
133

example

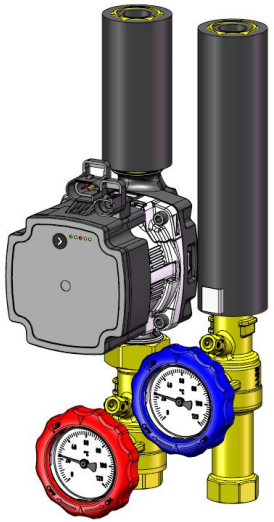
NOVAZONE DM133
or
NOVAZONE DMC133

Models layout

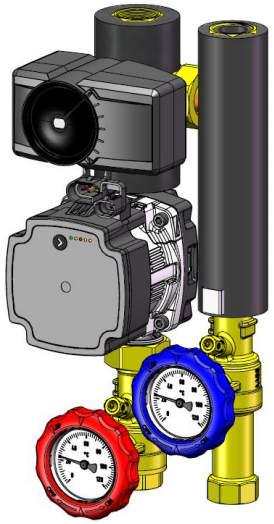
BOX AND COMPONENTS



1 DIRECT CIRCUIT



2 MOTORIZED MIXING CIRCUIT



Insulation compliant to EnEV2014

NOVAZONE DMF**Y****XXX**

Y = **S** → SEPARATOR

Y = **C** → MANIFOLD

X = **1** → DIRECT CIRCUIT

X = **2** → MOTORIZED MIXING CIRCUIT

X = **0** → NO CIRCUIT

XXX
CORRECT SEQUENCING OF THE CIRCUITS IN NOVAZONE

HEATING

COOLING

Models layout

110

111

120

122

example

NOVAZONE DMFS122
or
NOVAZONE DMFC122

«PREASSEMBLED» LOGIC + 100% tested

1 CODE = 1 PRODUCT

novazone

max. 3 circuits

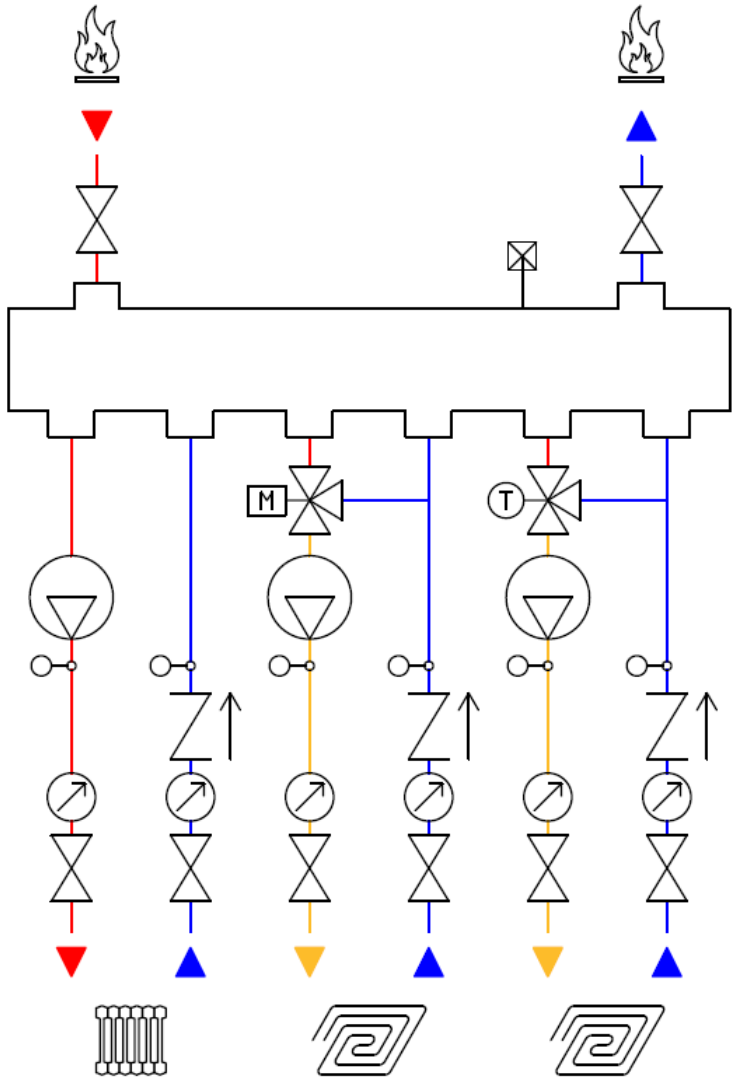
HEATING

COOLING

Hydraulic scheme

NOVAZONE configuration example with:

- ❑ 1 direct zone
- ❑ 1 motorized mixing zone
- ❑ 1 thermostatic mixing zone




Manifold; Separator


Automatic air vent

Motorized mixing valve

Thermostatic mixing valve


Pump


Check valve


Temperature sensor


Analog thermometer

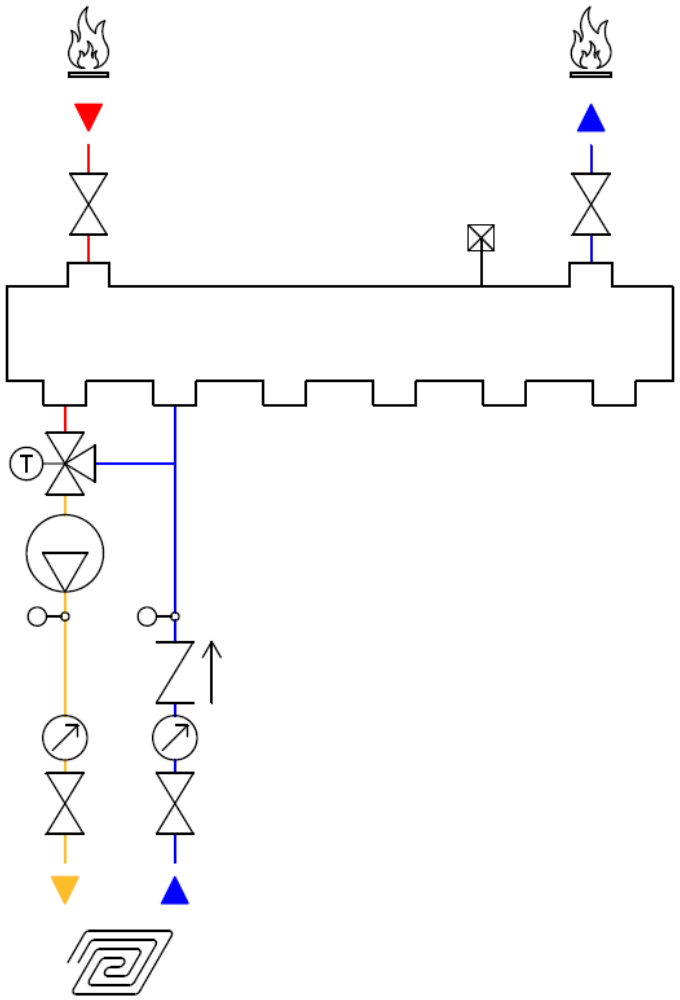

Shut-off valve

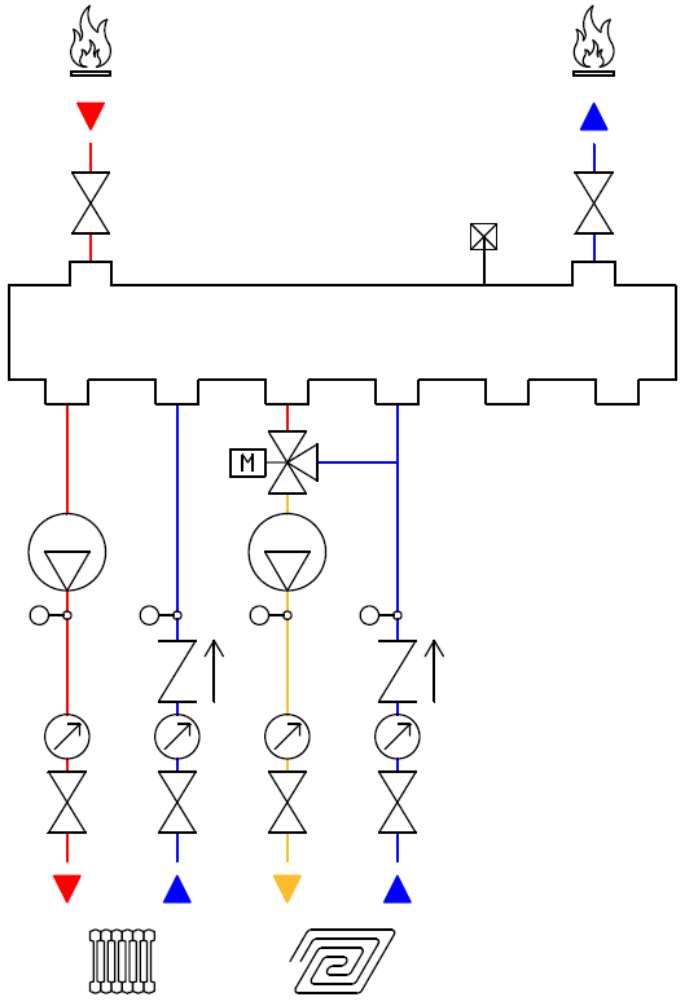

Heat generator

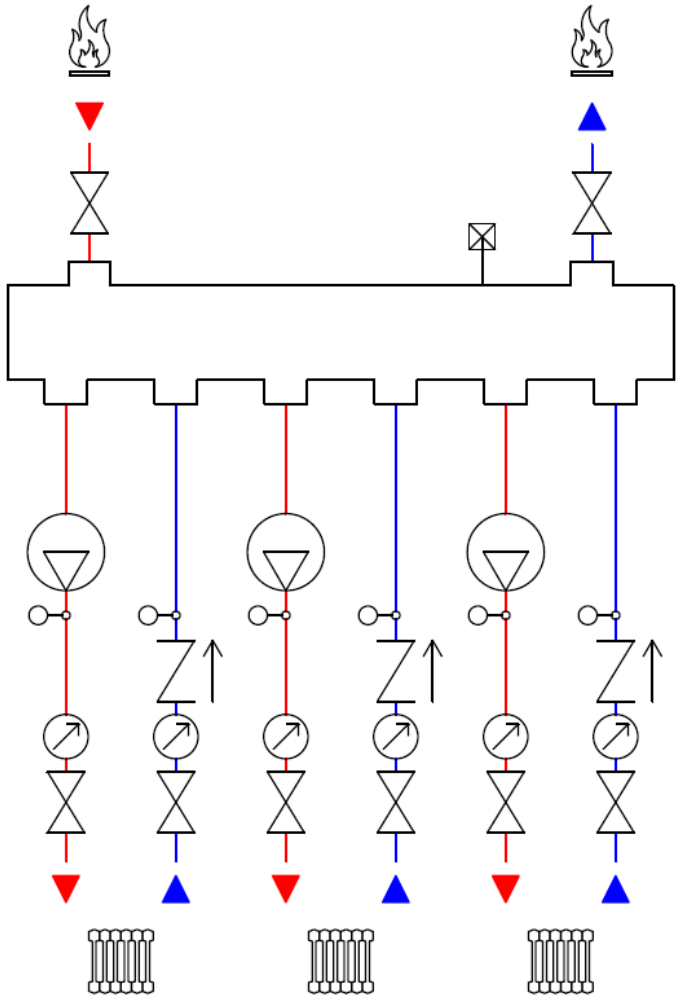

Direct heating circuit


Mixing heating circuit

Examples of possible configurations



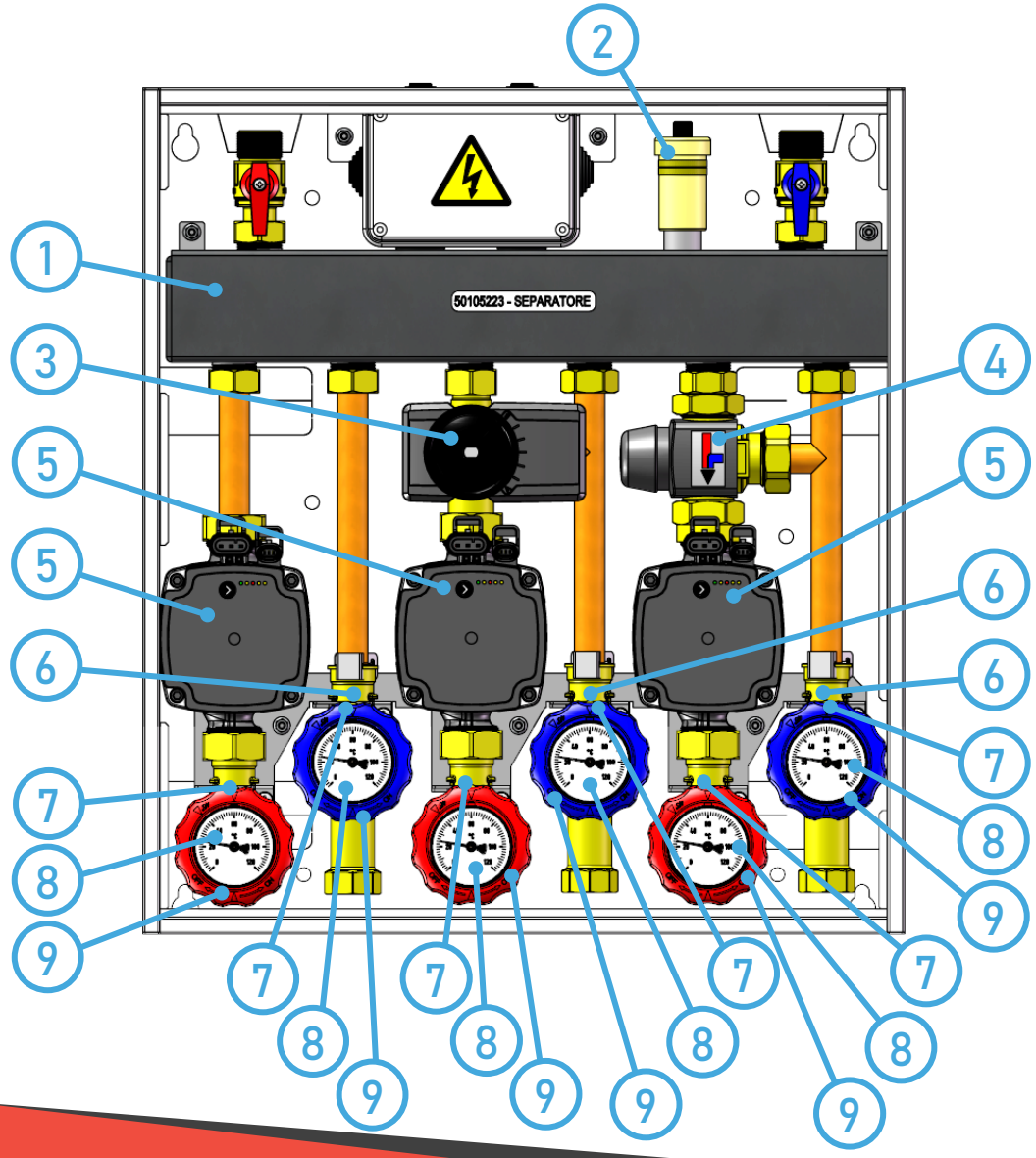




HEATING

COOLING

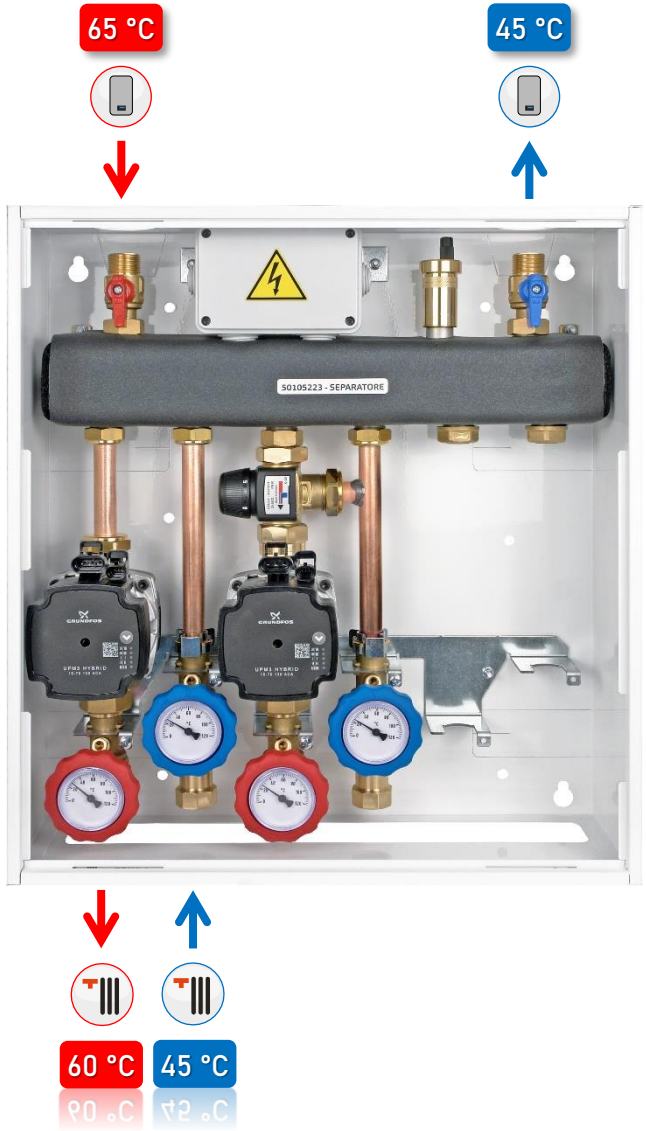
BOM

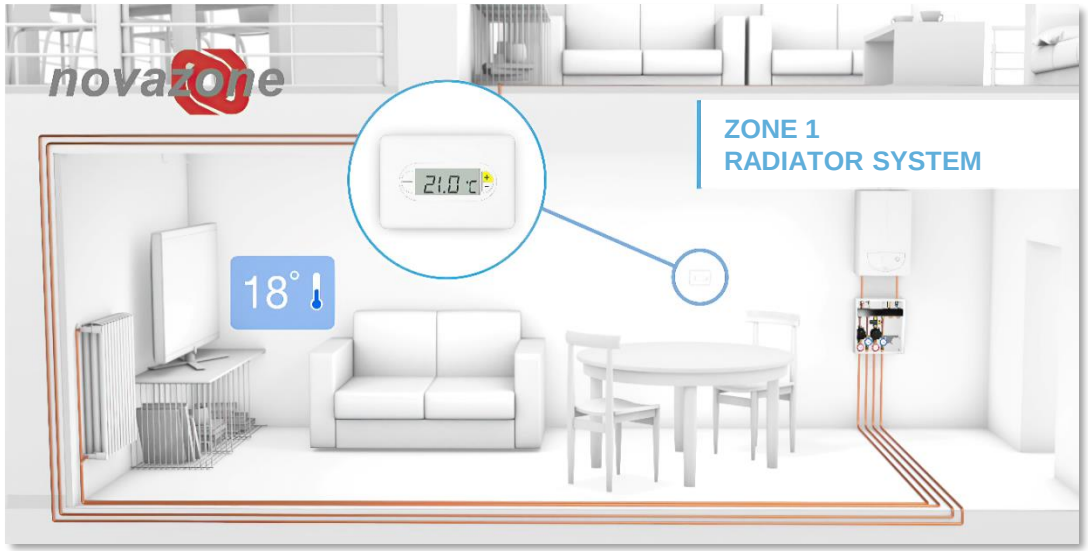


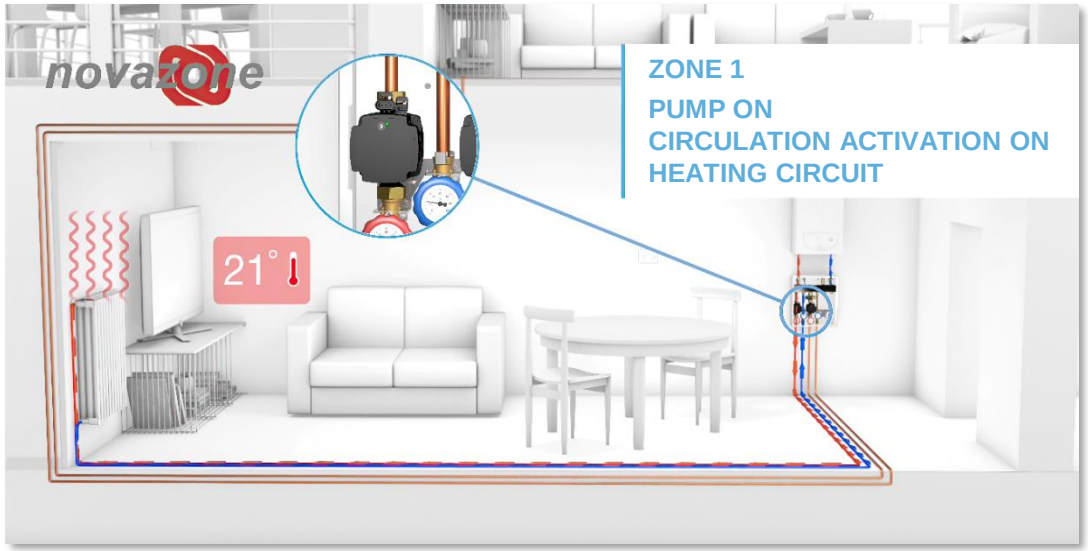
1. *Manifold; Separator*
2. *Automatic air vent*
3. *Motorized mixing valve*
4. *Thermostatic mixing valve*
5. *Pump*
6. *Check valve*
7. *Temperature sensor*
8. *Analog thermometer*
9. *Shut-off valve*

Application example

- Request from the room thermostat for zone 1
  → user setting 21 °C
- Pump ON in the NOVAZONE circuit 1
- Thermoregulation





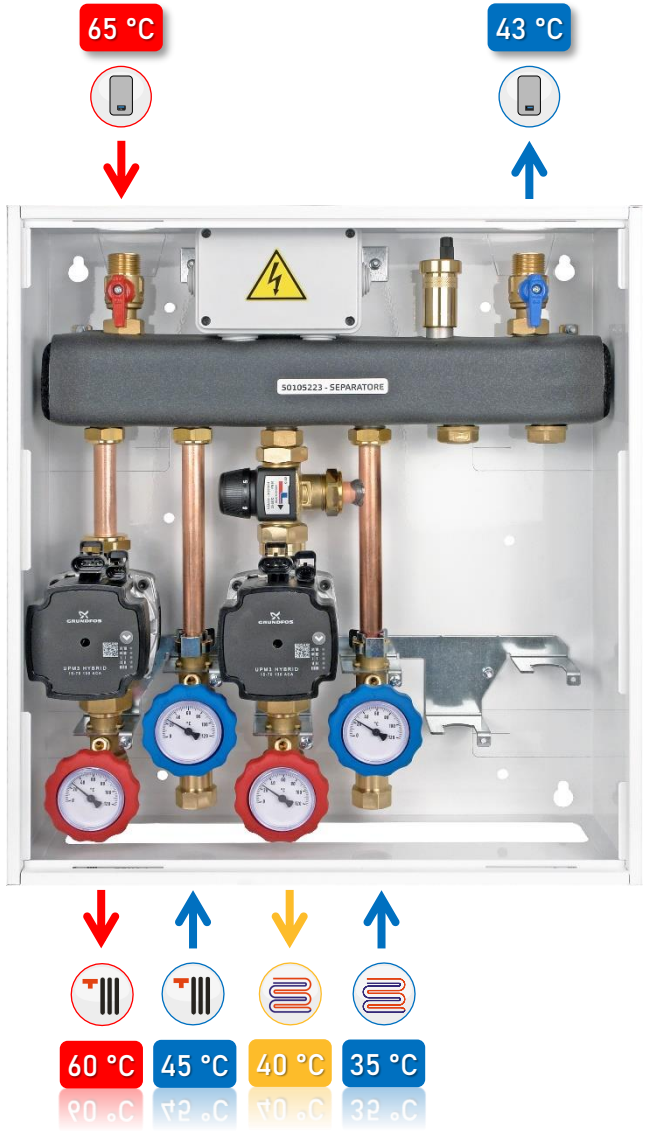


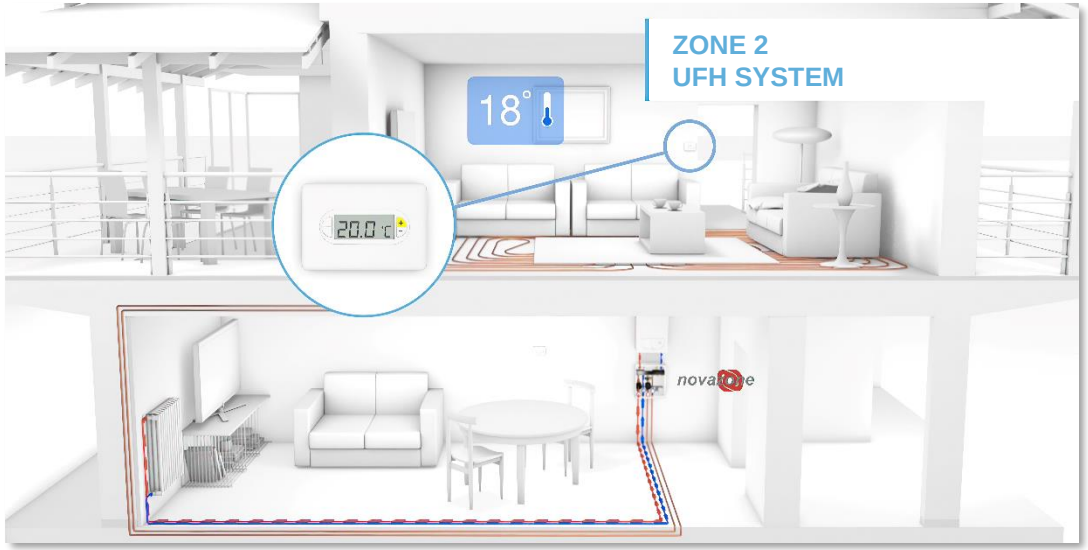
HEATING

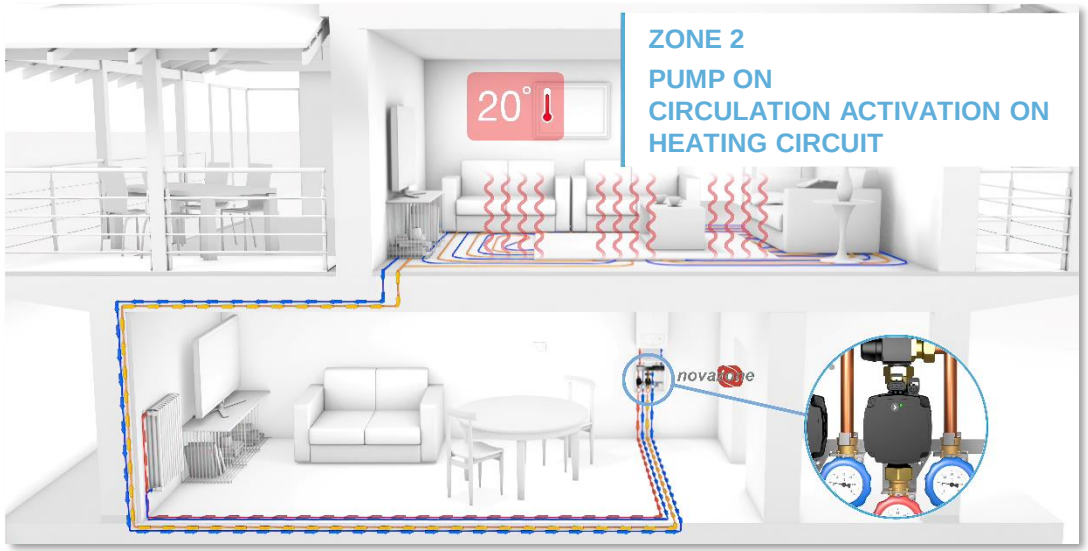
COOLING

Application example

- Request from the room thermostat for zone 2 → user setting 20 °C
- Pump ON in the NOVAZONE circuit 2
- Mixing circuit user setting 40 °C
- Thermoregulation
- Circuit 1 remains active if is necessary



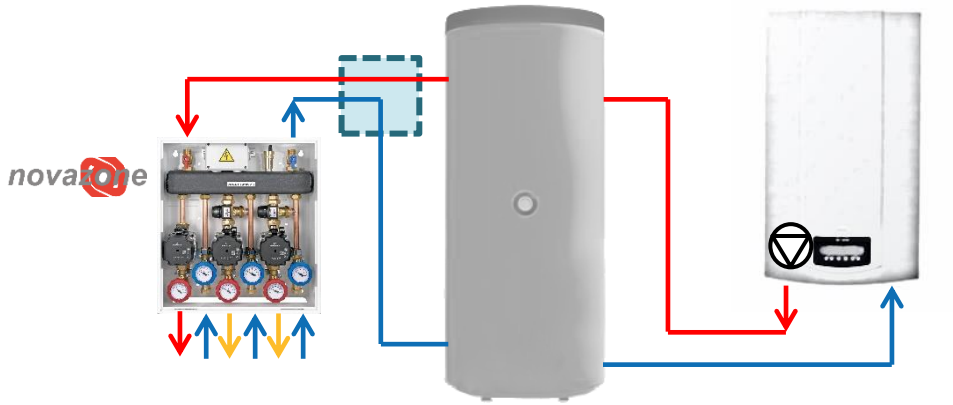




HEATING

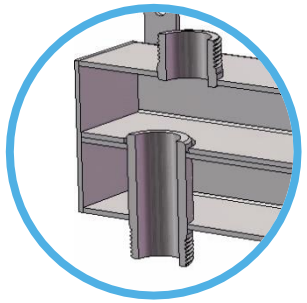
COOLING

Manifold or Separator?

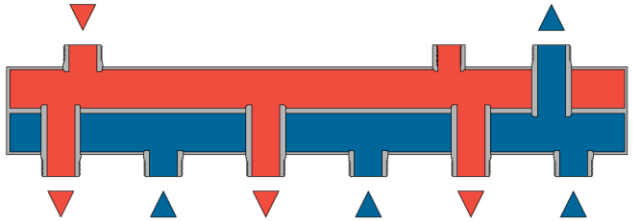


NO PUMP BEFORE THE NOVAZONE

NOVAZONE with **MANIFOLD**

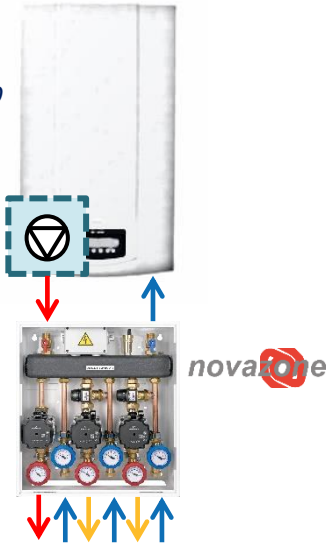


Manifold → **"separate chambers"**; configuration necessary when upstream of the manifold there is no pump that serves it directly

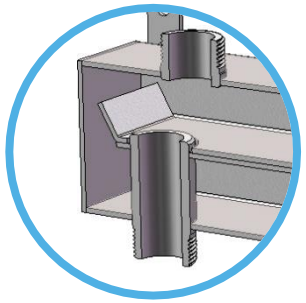


Heat generator pump

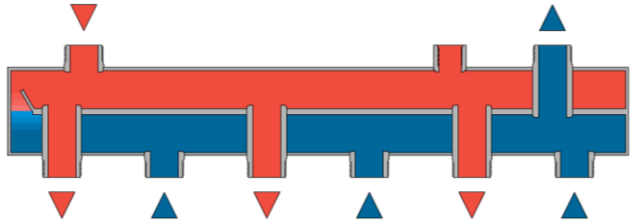
YES PUMP BEFORE THE NOVAZONE



NOVAZONE with **SEPARATOR**



Separator → **"communicating chambers"**; the communication between the delivery and return chambers allows to manage a system with several pumps that can work simultaneously upstream and downstream of the separator; the separator makes the pumps totally independent from each other



HEATING

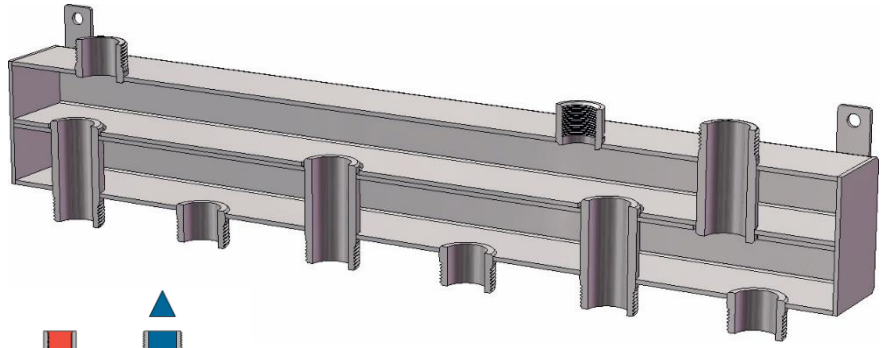
COOLING

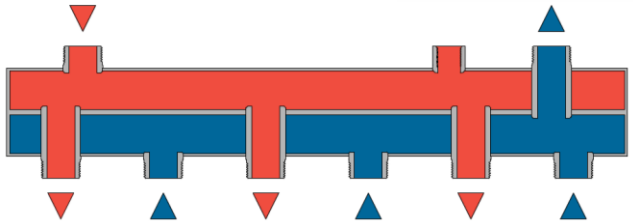
Manifold / Separator

Hydraulic management of various secondary circuits in the presence of a single heat generator or refrigeration unit

- ❑ Automatic air vent
- ❑ Insulation compliant to EnEV2014
- ❑ Connections 3/4" M - DN20
- ❑ Chambers DN50
- ❑ Volume 1,5 L
- ❑ Max. pressure 6 bar
- ❑ Painted steel

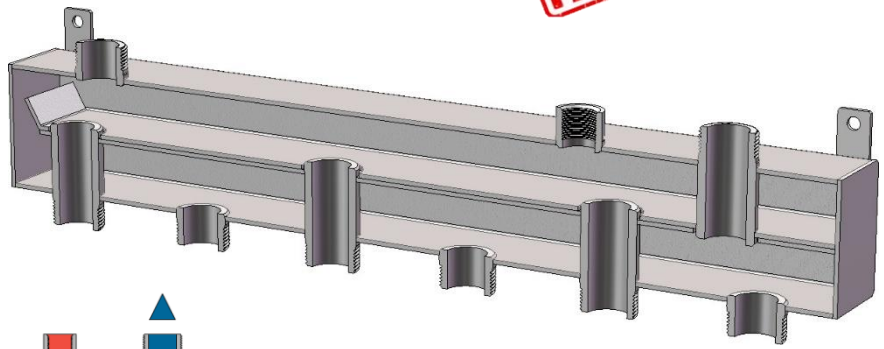
MANIFOLD

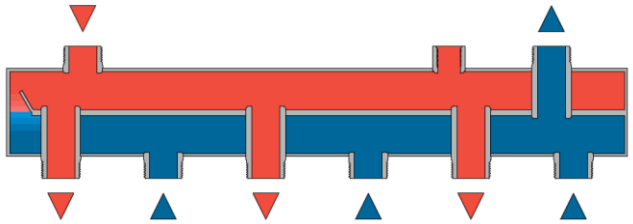




PATENT PENDING

SEPARATOR





HEATING

COOLING

Why use the Separator?

Study of interference between circuits in systems

Situation with pumps stopped (Fig. 1)

Without considering the natural circulation phenomenon, in this situation the system fluid remains stationary and the Δp is zero (pressure difference between the manifold chambers).

Switch ON of pump 1 (Fig. 2)

The pump circulates the fluid in its circuit and increases the Δp in the manifold. This growth is equal to the pressure that the pump must supply to make the fluid circulate from the return chamber to the delivery one: that is, through the boiler circuit. **The same Δp also exists locally at the connections of circuits 2 and 3 with the pump stopped, and can therefore activate parasitic circulations in them: circulations in the opposite direction to those of normal operation**, since the active pump works in suction on the delivery chamber of the manifold.

Switch ON of pump 2 (Fig. 3)

To make the fluid in its circuit circulate in the right direction, this pump must first exceed the opposite Δp_1 induced by the pump. Its activation then involves a further increase in the Δp in the chambers, as the flow rate of the boiler circuit increases, and therefore the pressure that must be spent to circulate the fluid through this circuit.

Switch ON of pump 3 (Fig. 4)

To make the fluid in its circuit circulate in the right direction, the pump must exceed the opposite Δp_2 induced by pumps 1 and 2. The effort required could be so demanding that the pump is unable to adequately serve its circuit. Activating the pump, however, involves a further increase in Δp_3 for the same reasons mentioned above.

Fig. 1

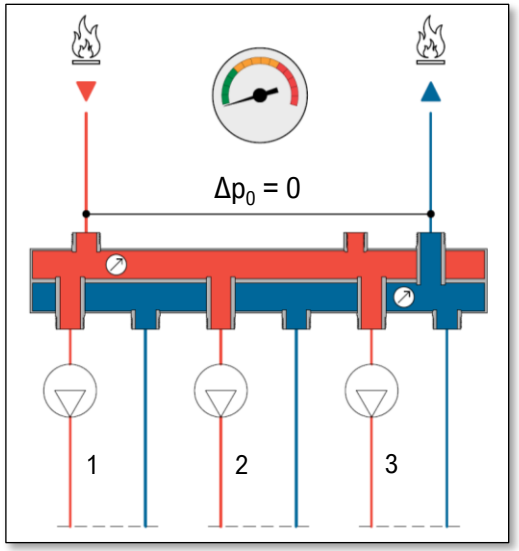


Fig. 2

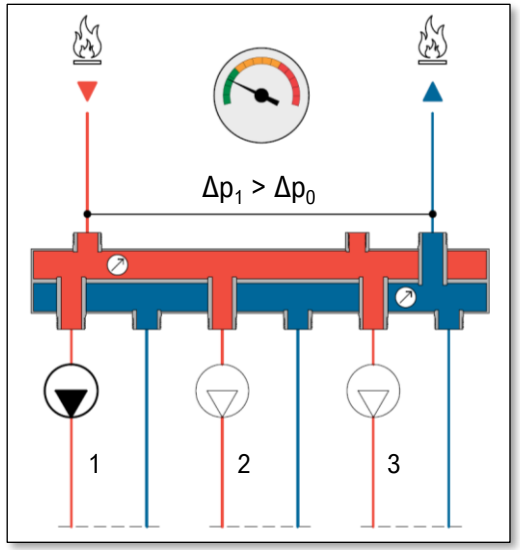


Fig. 3

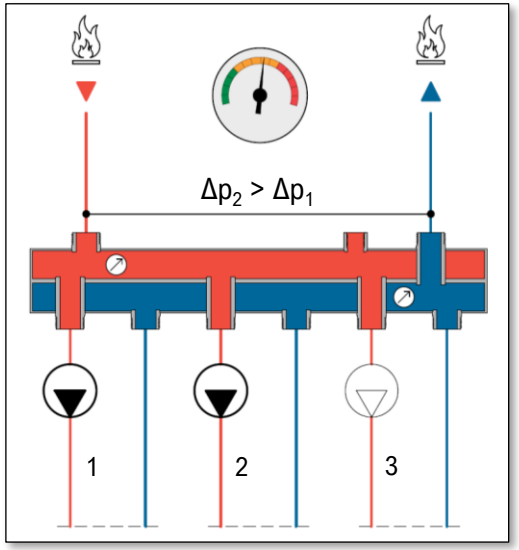
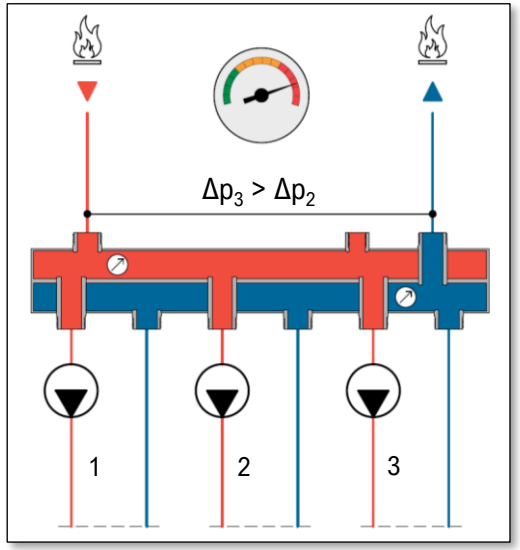


Fig. 4



Why use the Separator?

In a system with manifold, therefore, as the pumps are switched ON, grows both the Δp between the manifold chambers and the mutual disturbance (i.e. the level of interference) between the pumps of the various circuits.

Drawbacks connected to high Δp values

Pumps failing to deliver the required flow rate

It is a serious malfunction that occurs especially in systems where there are both big and small pumps. In fact, in these systems, **small pumps often fail to fulfill their task because they have to spend too much energy to overcome the opposite action of the big pumps**. They can do it only if one or more pumps of the other circuits are deactivated, that is, only if the opposite Δp induced by the other pumps decreases. But this is certainly not a generally feasible solution.

Pumps fail electrically easily

It is a malfunction linked to the fact that interference between the circuits can cause the pumps **to work out of the working range**.

Hot radiators even when the pump is stopped

As already seen, the anomaly is due to the reverse parasitic currents generated by the active pumps. It should be considered that similar phenomena can also occur due to natural circulation or circulation in the by-pass with closed regulation valves. However, when it is due to a high Δp between the chambers of manifold, this anomaly has specific characteristics that make it easily recognized: **the radiators have irregularly hot surfaces and their return connections are warmer than the delivery ones: a logical consequence of the fact that the radiators are heated with fluids circulating in the opposite direction to that of normal operation**.

Fig. 1

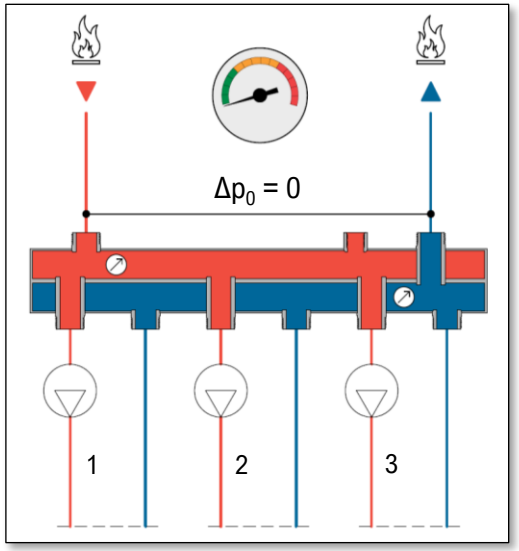


Fig. 2

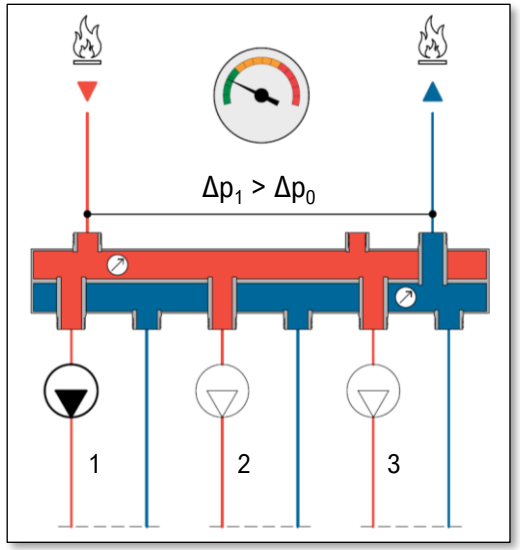


Fig. 3

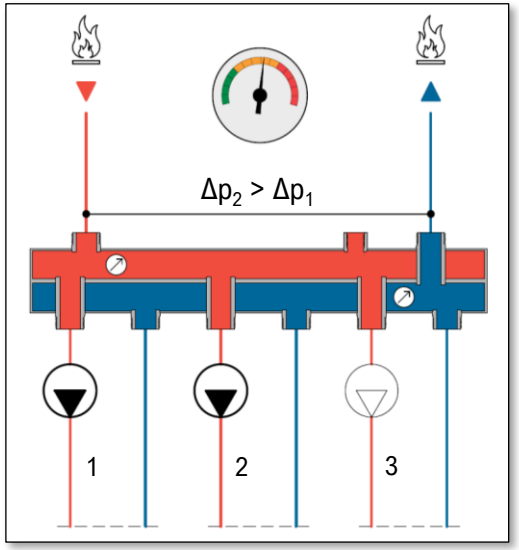
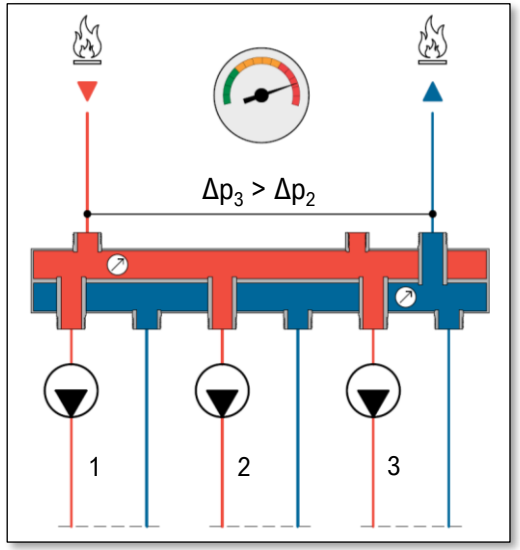


Fig. 4



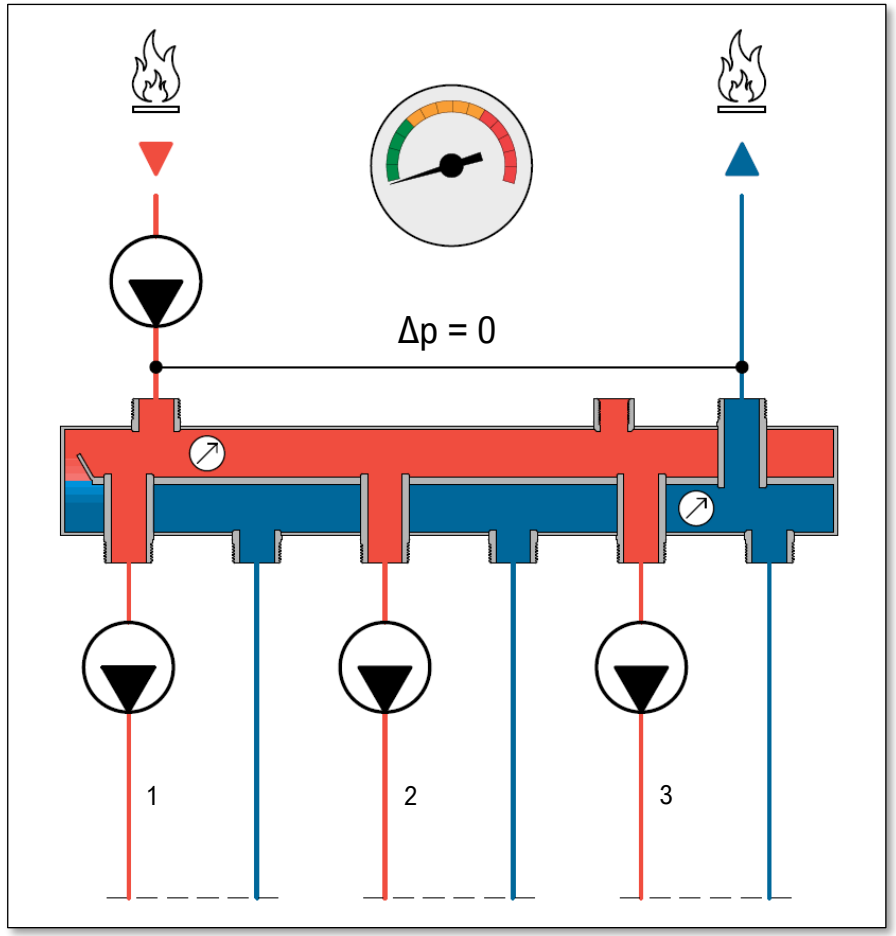
Why use the Separator?

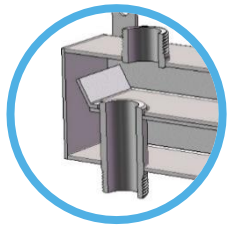
No interference between circuits in systems with SEPARATOR

The Δp between the separator chambers is practically always equal to zero. In fact, as seen previously, with active pumps the Δp between the separator chambers is equal to the pressure that the pumps have to use to circulate the fluid from the return chamber to the delivery chamber: pressure which, in the case in question, **is practically equal to zero, because the fluid, in order to circulate from one chamber to another, must overcome only the resistances of the common section obtained between the chambers in the separator, i.e. substantially zero resistances, since this common section in the separator is nothing more than a large by-pass between the chambers of the separator**. Therefore, it is possible to avoid, in a very simple way, the birth of any interference between the circuits and therefore all the connected problems can be avoided.

Brief recap

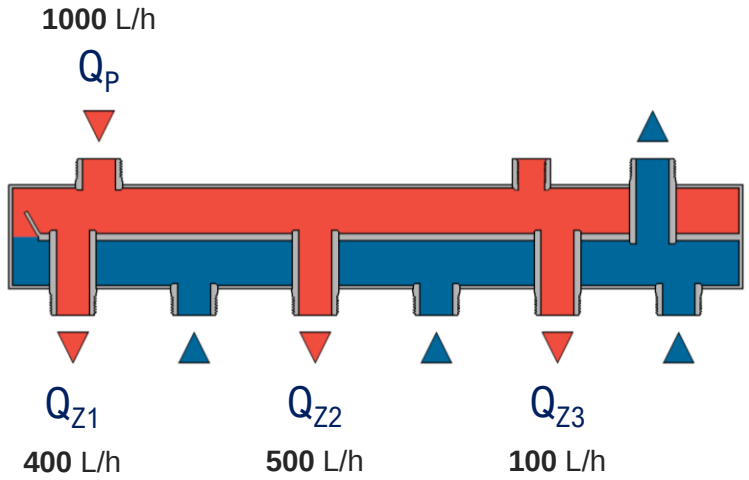
When in the same system there is both a primary production circuit equipped with its own pump and a secondary user circuit with one or more distribution pumps, there may be operating conditions of the system for which the pumps interact, creating anomalous variations of the flow rates and heads to the circuits. **The hydraulic separator creates an area with reduced pressure drop, which allows the primary and secondary circuits connected to it to be hydraulically independent; the flow in one circuit does not create flow in the other circuits if the pressure drop in the common section is negligible.**





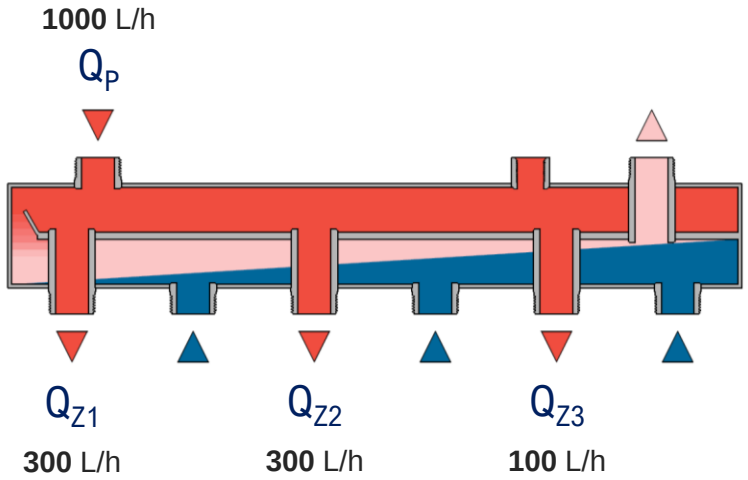
Why use the Separator? Flow rates

In the case of the separator, the flow rate that circulates through the respective circuits depends exclusively on the flow characteristics of the pumps.
The flow rate in the secondary circuit is circulated only when the relative pump is ON, allowing the system to meet the specific load requirements at the required time. When the secondary pump is OFF, there is no circulation in the corresponding circuit; the entire flow rate of the primary pump is by-passed through the opening inside the separator.
With the hydraulic separator it is possible to have a constant flow production circuit and a variable flow distribution circuit, operating conditions typically used in modern systems.



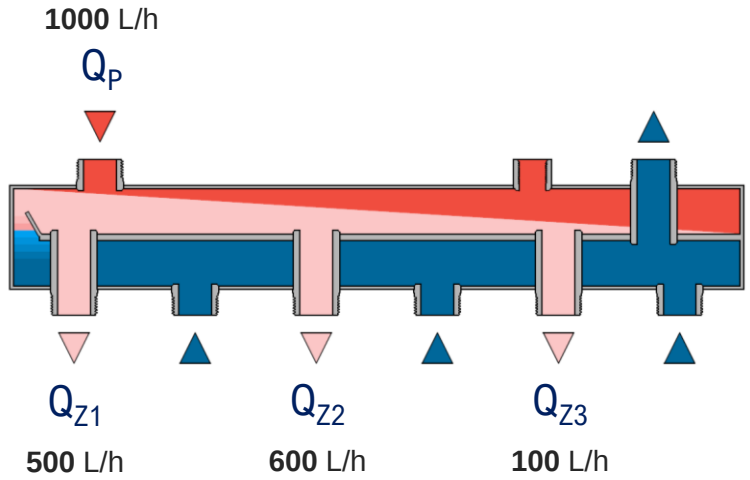
$Q_{Primary} = Q_{Secondary} (Q_{Z1} + Q_{Z2} + Q_{Z3})$

1000 L/h **=** **1000** L/h (**400** L/h + **500** L/h + **100** L/h)



$Q_{Primary} > Q_{Secondary} (Q_{Z1} + Q_{Z2} + Q_{Z3})$

1000 L/h **>** **700** L/h (**300** L/h + **300** L/h + **100** L/h)



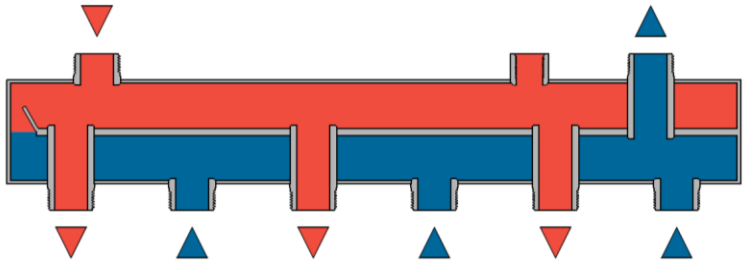
$Q_{Primary} < Q_{Secondary} (Q_{Z1} + Q_{Z2} + Q_{Z3})$

1000 L/h **<** **1200** L/h (**500** L/h + **600** L/h + **100** L/h)

Why use the Separator? Temperatures

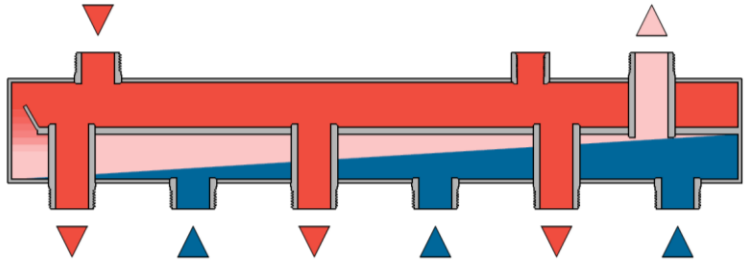
Significant mixing phenomena can take place in hydraulic separators. Thus, for example, it may happen that the "hot" fluid coming from the boiler is cooled (before reaching the terminals) by the "cold" fluid returning from the terminals themselves. In this case, the terminals must be sized taking this cooling into account and not, as normally happens, on the basis of the maximum operating temperature with which the fluid leaves the boiler. Or it may happen that the "cold" fluid returning from the terminals is heated (before reaching the boiler) by the "hot" fluid coming from the boiler itself. This possibility can be adequately exploited (especially in panel systems) to raise the return temperature to the boiler above the values that involve the condensation of the fumes (useful for biomass boilers).

$$Q_{Primary} = Q_{Secondary} (Q_{Z1} + Q_{Z2} + Q_{Z3})$$



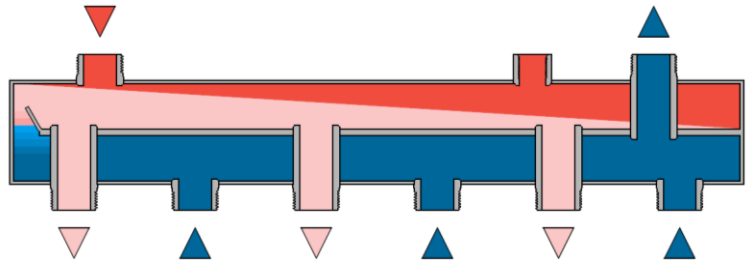
This is the typical situation of traditional systems, given that in them the primary pump is generally chosen with a flow rate equal to the sum of the secondary flows. So it is a case in which the separator does not alter the temperatures normally involved. ***The terminals can therefore be sized based on the maximum operating temperature with which the fluid leaves the generator***

$$Q_{Primary} > Q_{Secondary} (Q_{Z1} + Q_{Z2} + Q_{Z3})$$



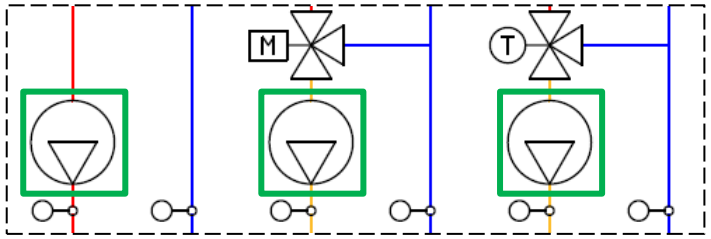
With the primary flow rate higher than the secondary flow rate, low temperature systems are especially designed, and in particular UFH circuits. This can serve to raise the return temperature to the boiler and thus avoid the problems associated with fumes condensation. ***Therefore the primary return temperature (i.e. the return to the boiler) is higher than the secondary return temperature***

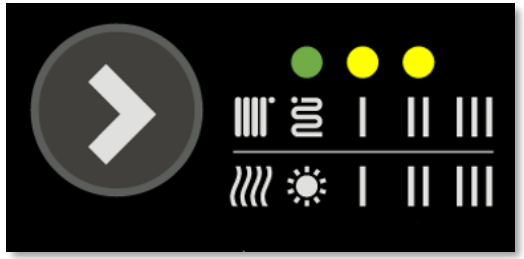
$$Q_{Primary} < Q_{Secondary} (Q_{Z1} + Q_{Z2} + Q_{Z3})$$



This is a situation that can be found in systems with one or more boilers when their internal pumps are too small to satisfy the thermal power required at the terminals. It is also a situation that can be found in systems with remote substations, when you want to keep the flow rate of the primary low to contain the construction costs and the operating costs of the pumps. ***Therefore the secondary delivery temperature (i.e. the maximum temperature of the fluid sent to the terminals) is lower than the primary delivery temperature***

High efficiency pumps!!!





Example of operating panel

Pump **GRUNDFOS** model **UPM3 HYBRID** → the HYBRID version is the top of the range of UPM3 series, and allows significant operational advantages, as it makes **all possible modes and operating curves available for each system configuration**

These pumps can be controlled externally via PWM signal or can be controlled internally in the following modes:

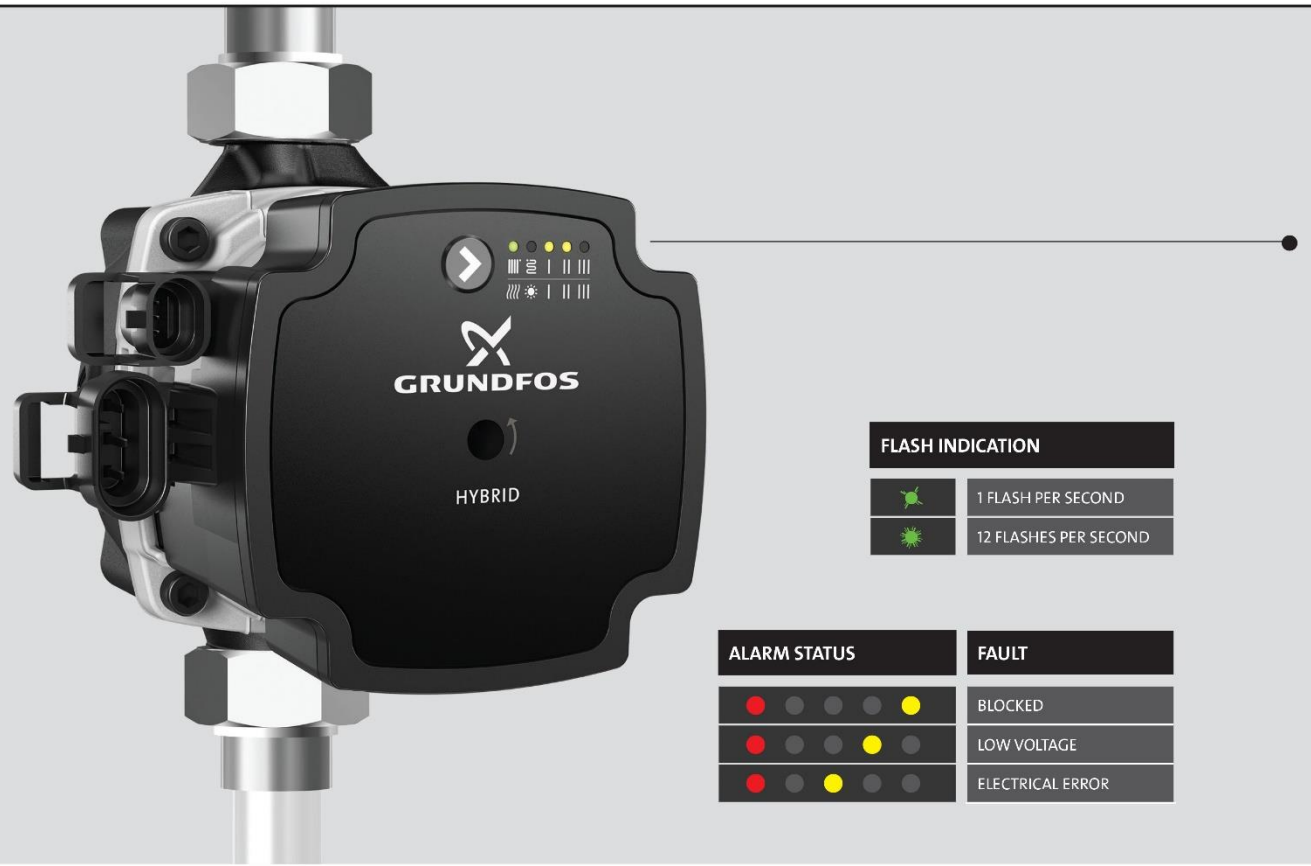
- ❑ **Proportional Pressure** (3 speeds and Autoadapt)
- ❑ **Constant Pressure** (3 speeds and Autoadapt)
- ❑ **Constant Curve** (3 speeds)

The pump also has a self-diagnostics system to reveal any possible operating problems → any problem detected is shown by a sequence of LEDs (alarm status)

By default, the pump mode is with the maximum proportional pressure characteristics.
To change the characteristic, hold down the front key for more than 2 seconds and then press the same key repeatedly until reaching the required characteristics (next page). Having identified the required characteristics (pressure - flow rate chart in next page) wait for about 10 seconds for the setting to be accepted by the pump

A long press of the front key (>10 s) locks the pump setting, preventing possible incorrect modifications of the curve. Unlocking can be done in the same way, with a long press (>10 s) of the front key

High efficiency pumps!!!

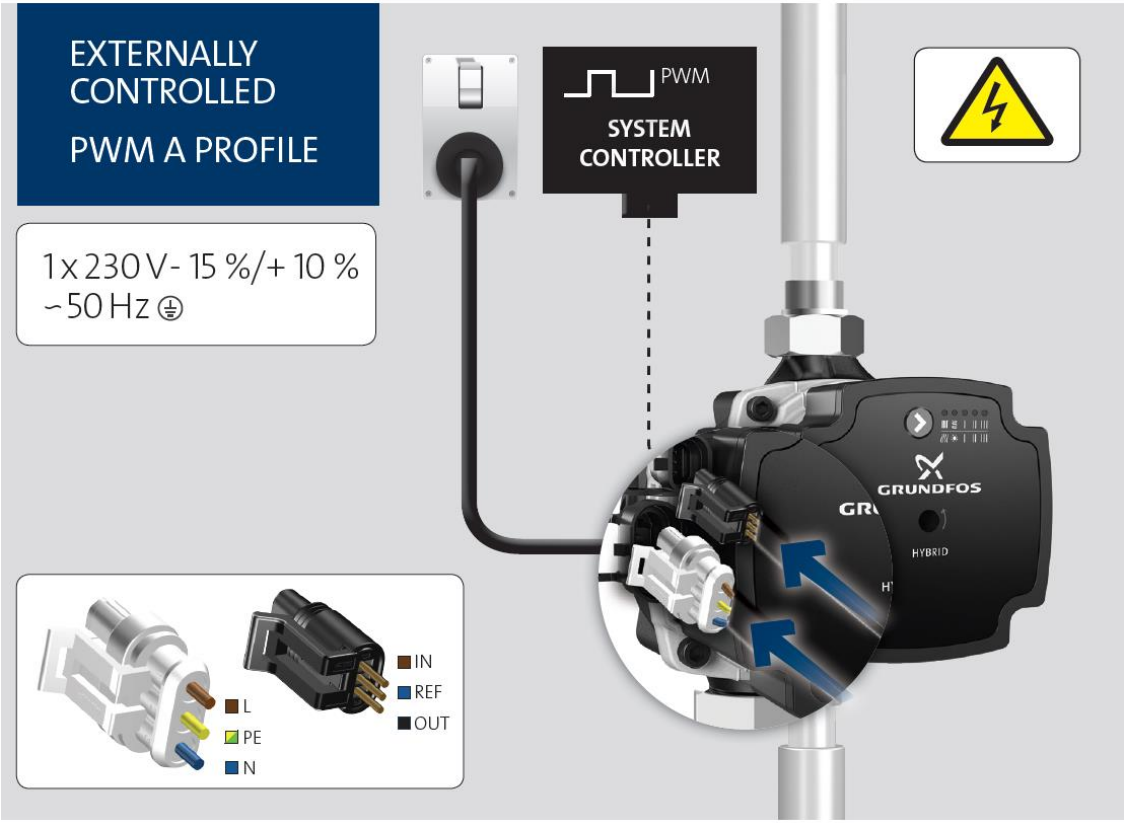


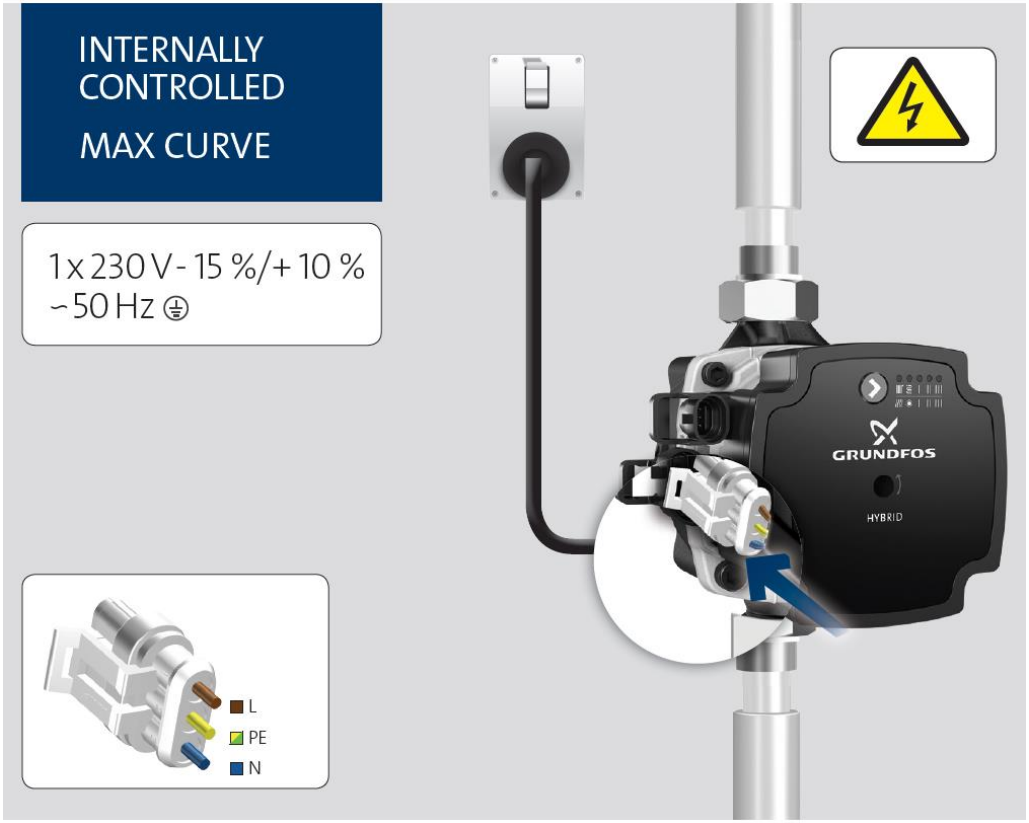
FLASH INDICATION	
	1 FLASH PER SECOND
	12 FLASHES PER SECOND

ALARM STATUS	FAULT
	BLOCKED
	LOW VOLTAGE
	ELECTRICAL ERROR

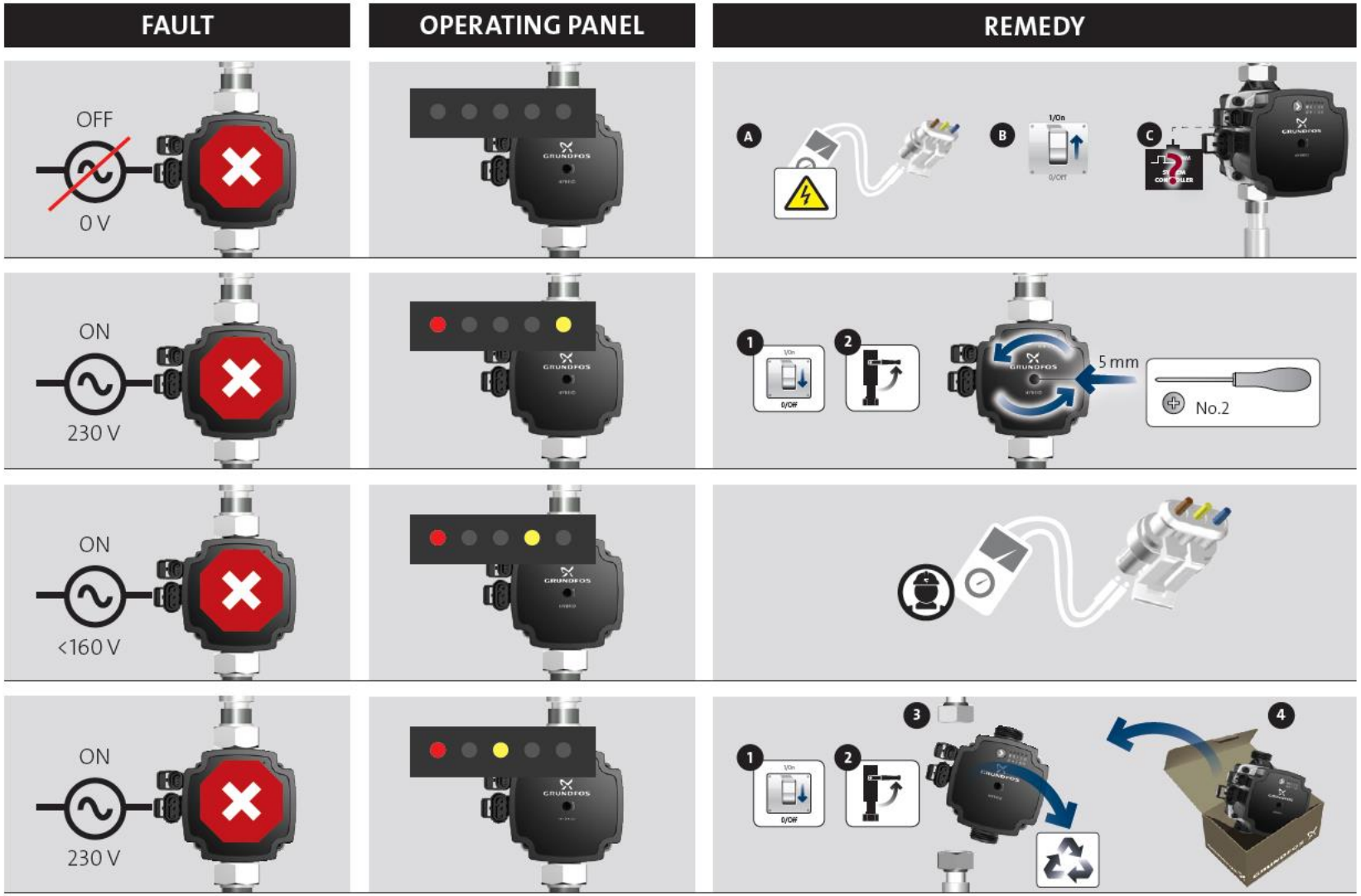
	OPERATING PANEL	CONTROL MODE
0		PROPORTIONAL PRESSURE AUTO ADAPT
1		CONSTANT PRESSURE AUTO ADAPT
2		PROPORTIONAL PRESSURE 1
3		PROPORTIONAL PRESSURE 2
4		PROPORTIONAL PRESSURE 3 - MAX
5		CONSTANT PRESSURE 1
6		CONSTANT PRESSURE 2
7		CONSTANT PRESSURE 3 - MAX
8		CONSTANT CURVE 1
9		CONSTANT CURVE 2
10		CONSTANT CURVE 3 - MAX
11		PWM PROFILE C - SIGNAL OFF
		PWM PROFILE C - SIGNAL ON
12		PWM PROFILE A 1 - SIGNAL OFF
		PWM PROFILE A 1 - PWM SIGNAL ON
13		PWM PROFILE A 2 - SIGNAL OFF
		PWM PROFILE A 2 - PWM SIGNAL ON
14		PWM PROFILE A 3 - SIGNAL OFF
		PWM PROFILE A 3 - PWM SIGNAL ON

High efficiency pumps!!!

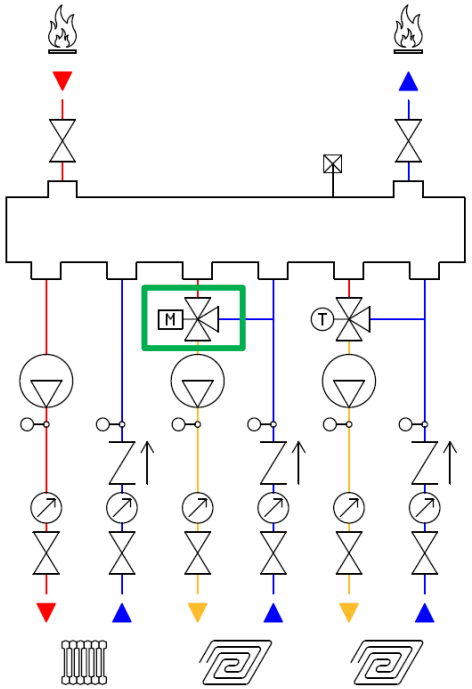


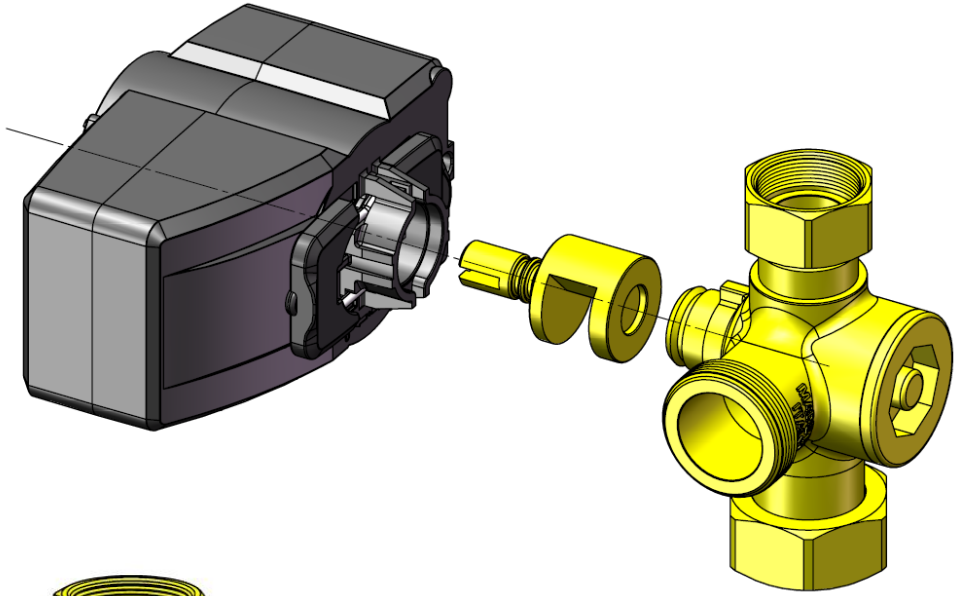


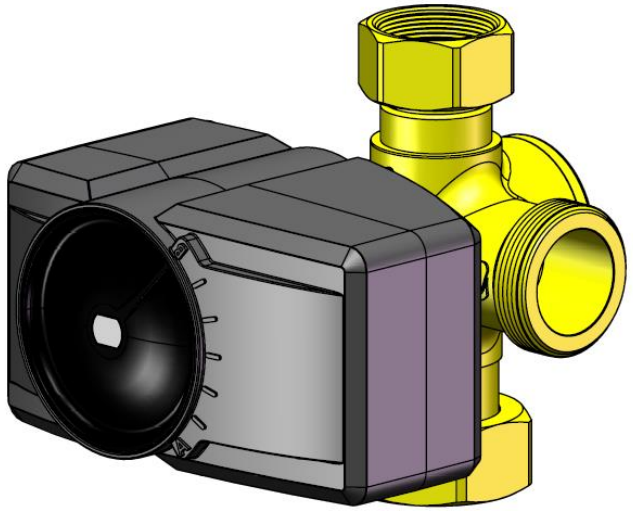
High efficiency pumps!!!

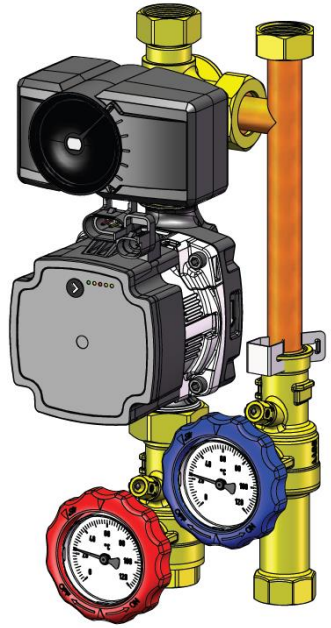


Motorized mixing valve





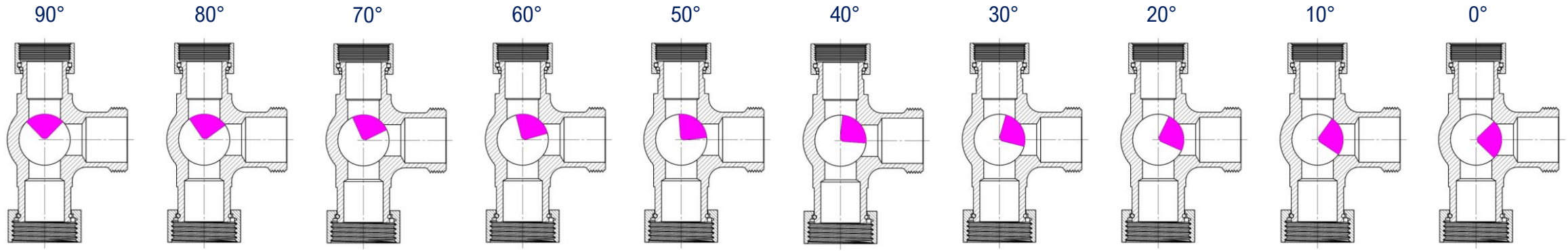




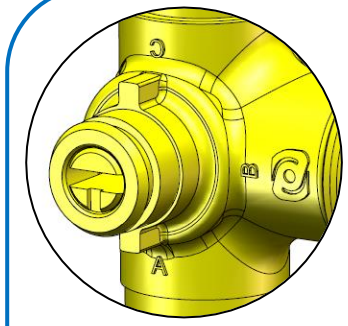
FOCUS

The delivery temperature to the mixing heating circuit is regulated by the motorized mixing valve according to the feedback received from the temperature sensor on the delivery heating circuit. The mixing valve, based on the thermal demand of the system, mixes the hot fluid with the cold fluid returning from the mixing heating circuit in order to provide the user set temperature

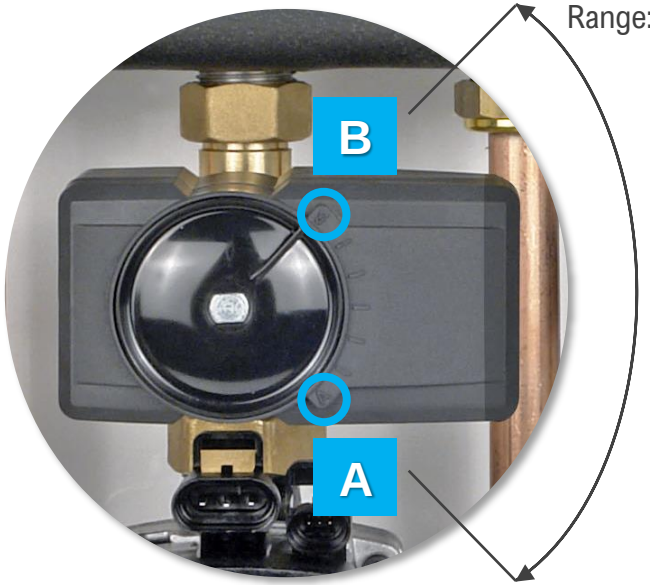
Rotation range 0÷90°



Position 90°

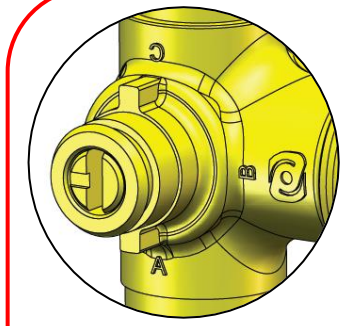


rod position



Range: 0÷90°

Position 0°

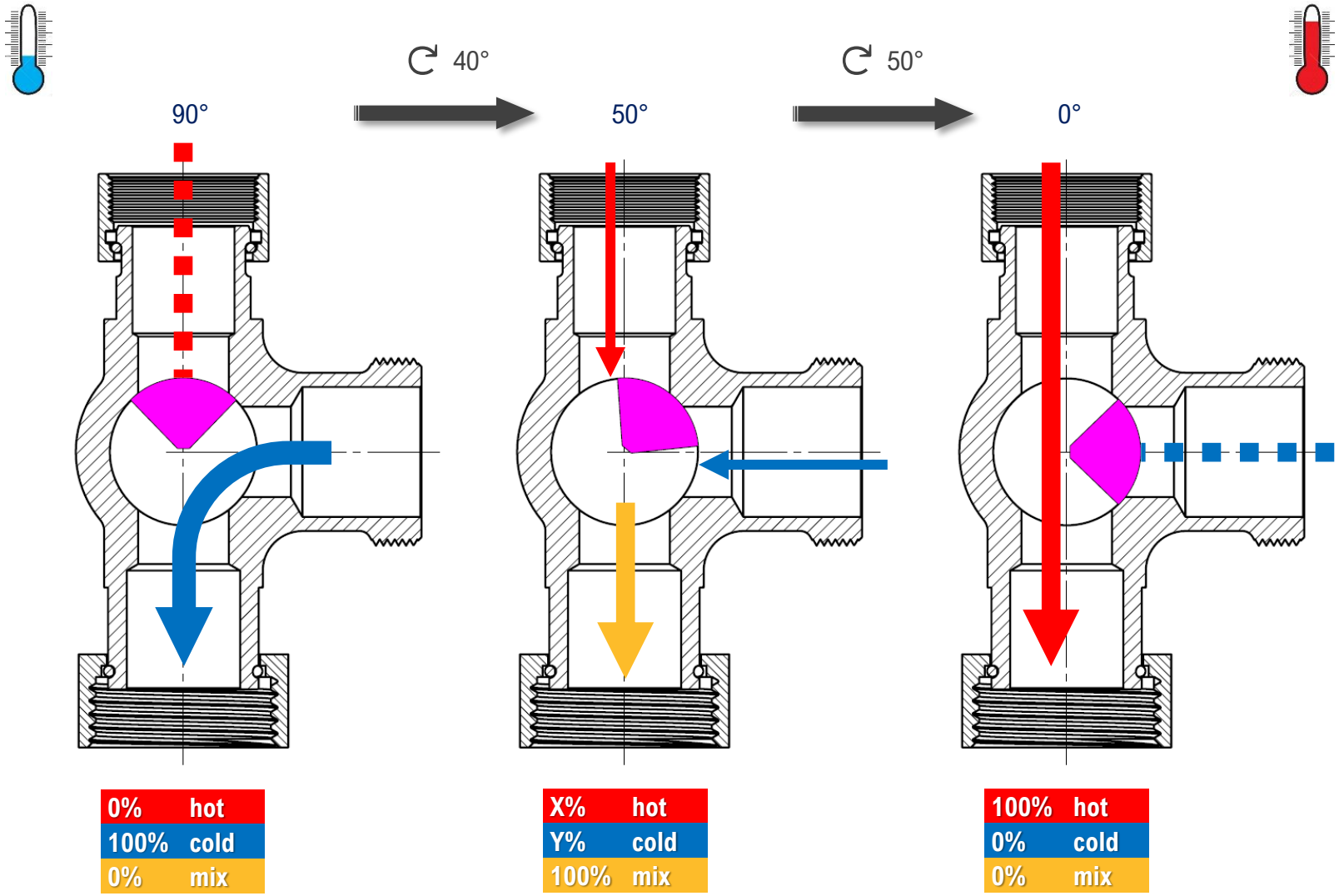


rod position

HEATING

COOLING

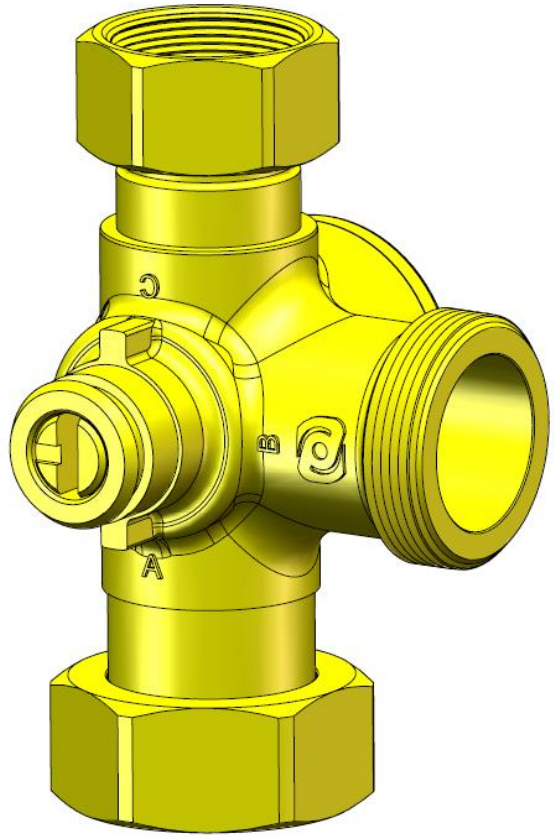
Exemple: start from 100% cold water



0%	hot
100%	cold
0%	mix

X%	hot
Y%	cold
100%	mix

100%	hot
0%	cold
0%	mix



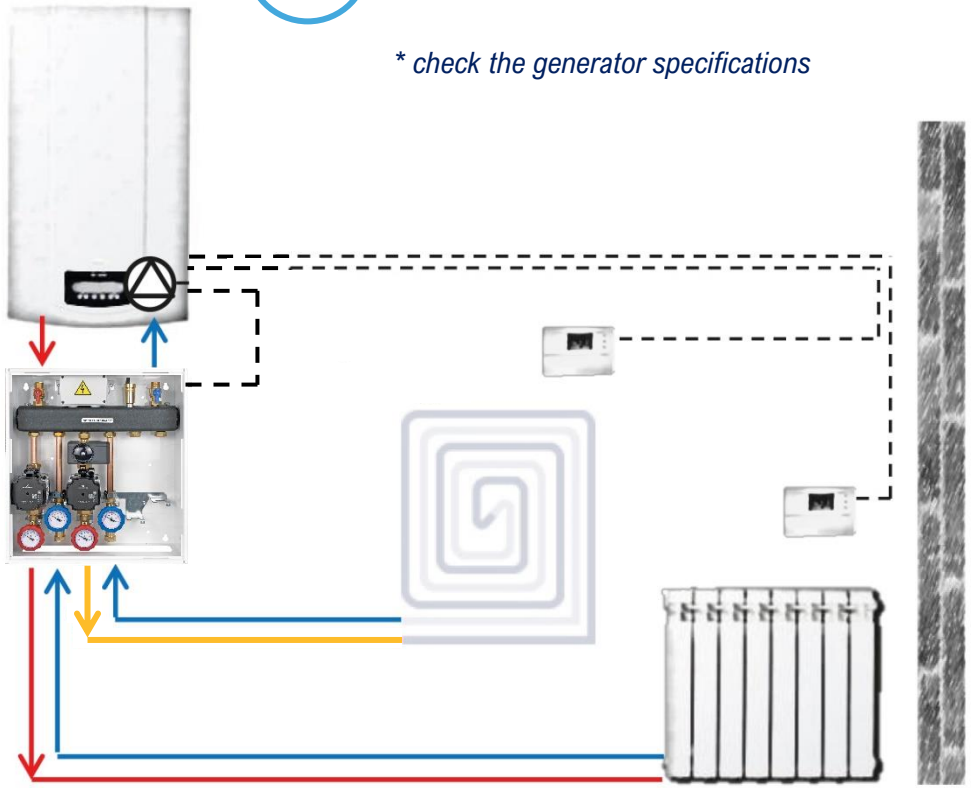
HEATING

COOLING

Control Logic

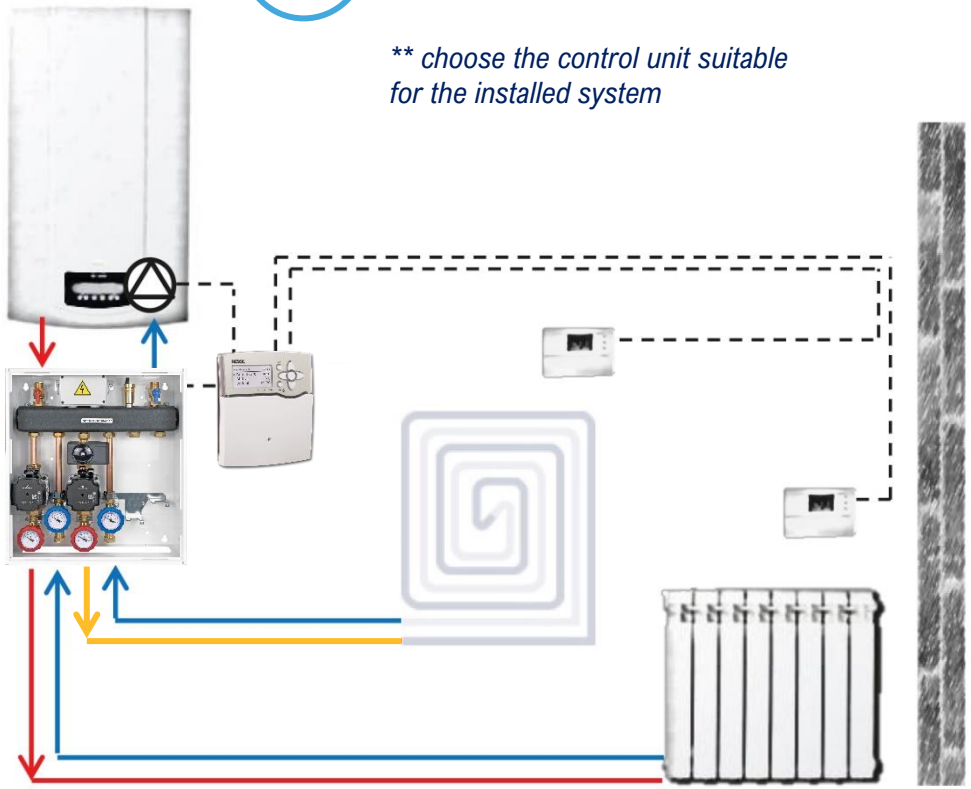
CL1 The generator directly controls the system *

** check the generator specifications*



CL2 A control unit manages the system **

*** choose the control unit suitable for the installed system*



2 possible configurations – Mixing circuits

NOVAZONE WITH MIXING VALVE
and SERVOMOTOR 3-point
or SERVOMOTOR 0÷10 V

+

EXTERNAL CONTROL UNIT

example external control unit:
regulator / boiler internal regulation

Note: control unit choice based on the number of circuits to be managed!!!

max. 3 circuits

NOVAZONE WITH MIXING VALVE
and CONSTANT TEMPERATURE CONTROLLER
or WEATHER COMPENSATED CONTROLLER

NEW

COMING SOON!

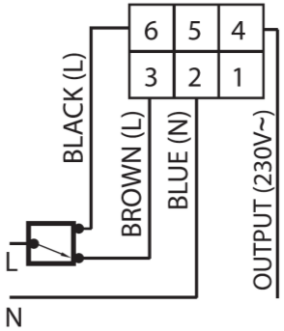
1 motorized mixing circuit = 1 controller
2 motorized mixing circuits = 2 controllers
3 motorized mixing circuits = 3 controllers

HEATING

COOLING

Servomotors - 2 options

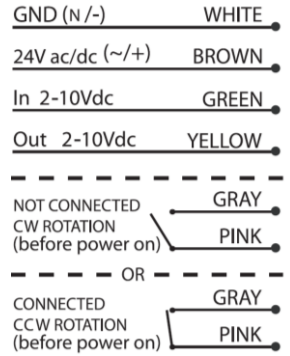
SERVOMOTOR NVM01 3-points



Servomotor to be combined with an external control unit	
Control signal	3-point
Electric supply	230 V - 50 Hz
Power consumption	4,5 VA
Rotation and operating time	90° x 30 s
Max. torque	10 Nm
Cable with Molex *	length 1 m

** In case of motorized mixing zone on 1° position, the servomotor has an integrated cable*

SERVOMOTOR NVM07 0(2)÷10 V



Servomotor to be combined with an external control unit	
Control signal	0(2)÷10 V
Electric supply	230 V - 50 Hz
Power consumption	5 W
Rotation and operating time	90° x 60 s
Max. torque	10 Nm
Integrated cable	length 1 m

Controller – 1° option

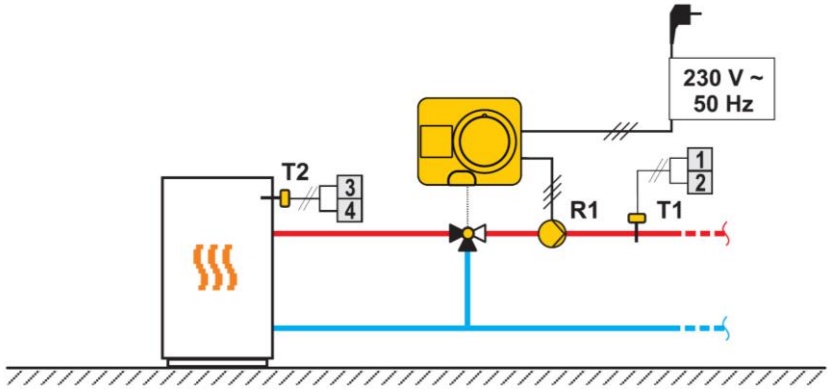
CONSTANT TEMPERATURE CONTROLLER

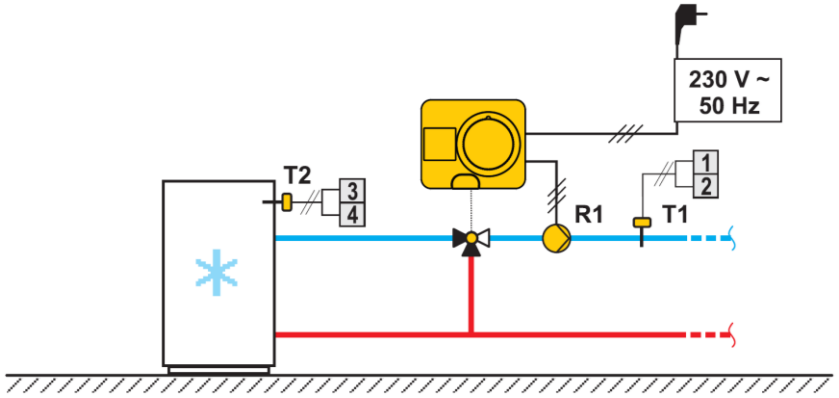
NEW

CE

Controller = servomotor + control unit	
Heating setting	10÷90 °C
Cooling setting	5÷40 °C
Electric supply	230 V - 50 Hz
Max. own consumption	5 W
Rotation and operating time	90° x 120 s
Max. torque	6 Nm
Temperature sensors	Pt1000

- Display of notifications and warnings
- Display of actual temperature and other operation data
- Overview of temperatures for the past week
- Indication of valve turning direction
- Control and indication of circulation pump operation
- Possibility of USB connection to a PC
- Color graphic display





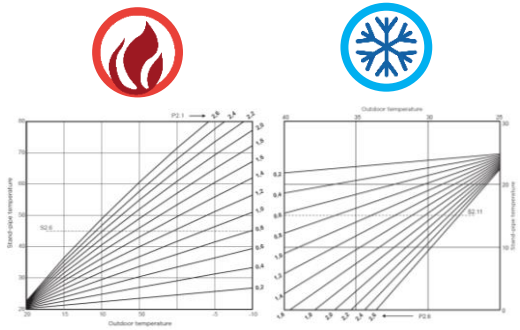
HEATING

COOLING

Controller – 2° option

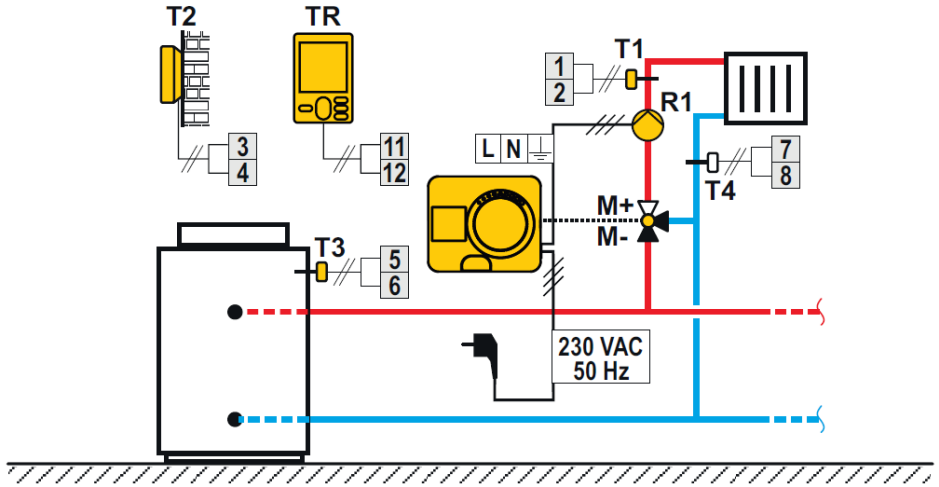
WEATHER COMPENSATED CONTROLLER

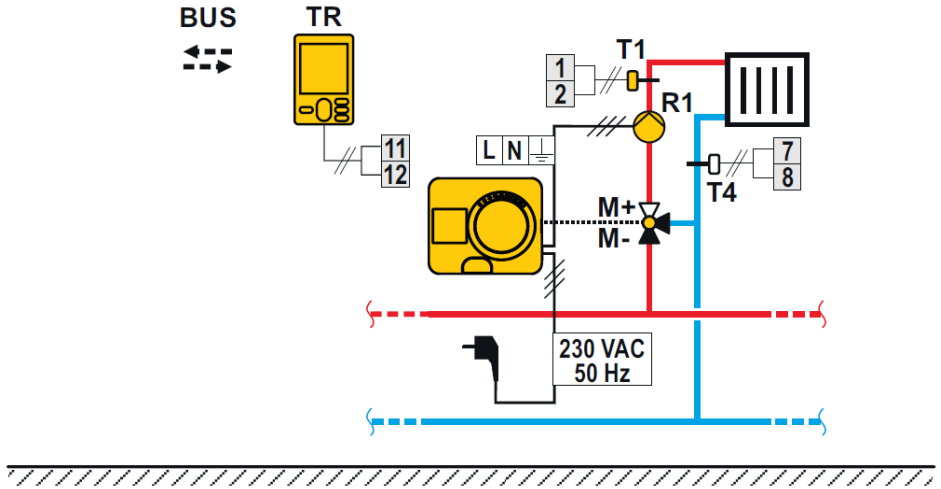
COMING SOON!



Controller = servomotor + control unit	
Heating curve steepness	0,1÷2,6
Cooling curve steepness	0,1÷2,6
Electric supply	230 V - 50 Hz
Max. own consumption	5 W
Rotation and operating time	90° x 120 s
Max. torque	6 Nm
Temperature sensors	Pt1000

- 2 operating modes, weather compensated (by outdoor temperature) or thermostatic (by room temperature)
- BUS connection
- Display of notifications and warnings
- Display of actual temperature and other operation data
- Overview of temperatures for the past week
- Signalling of valve rotating direction
- Control and signalling of circulation pump operation
- Possibility of USB connection to a PC
- Color graphic display

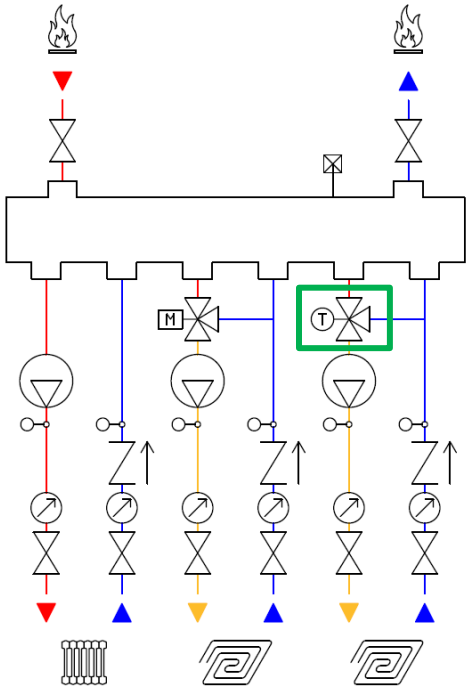


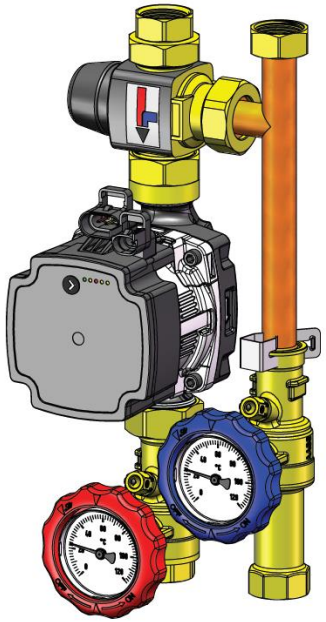


HEATING

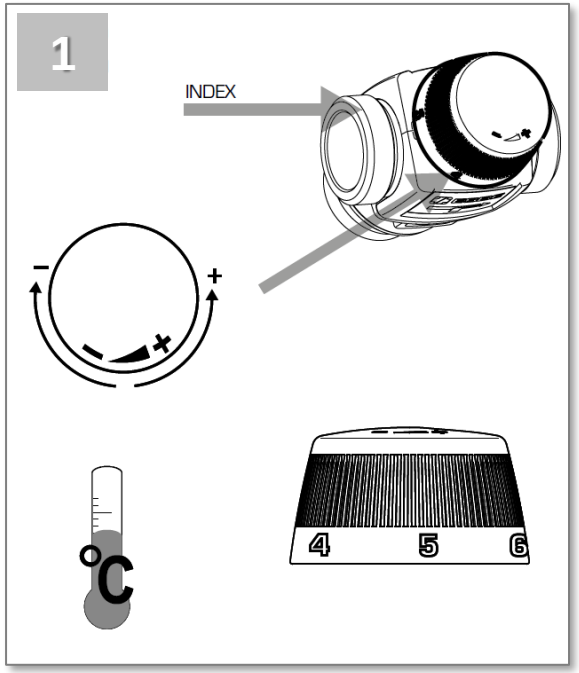
COOLING

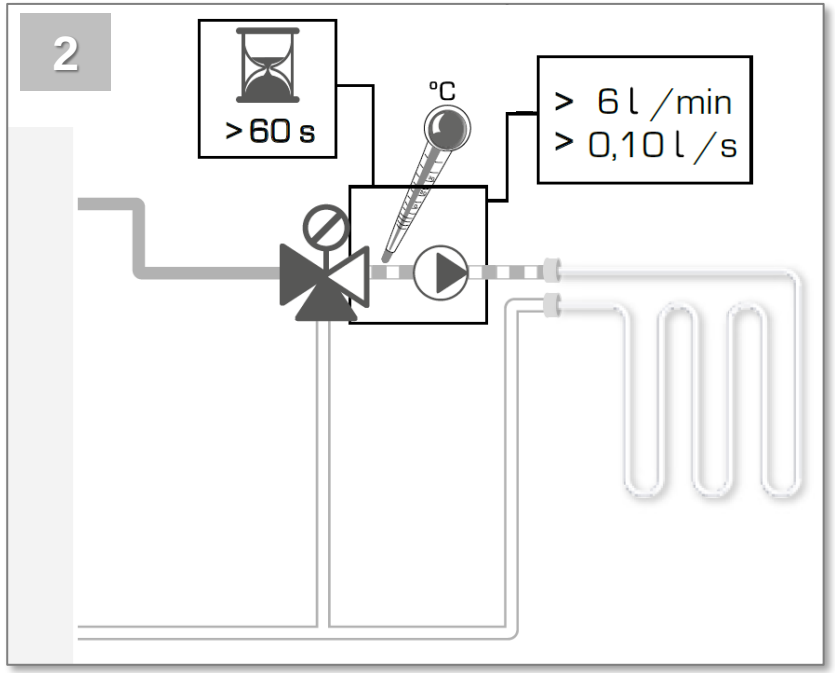
Thermostatic mixing valve





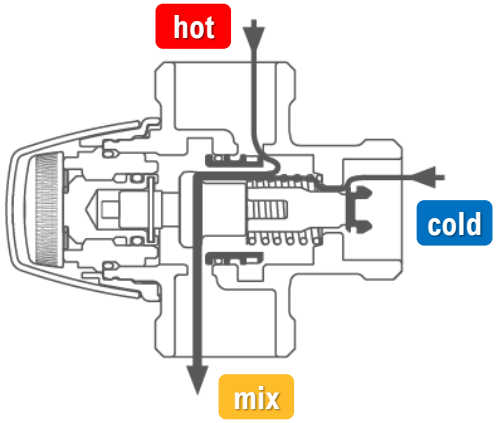
MIXING TEMPERATURE REGULATION



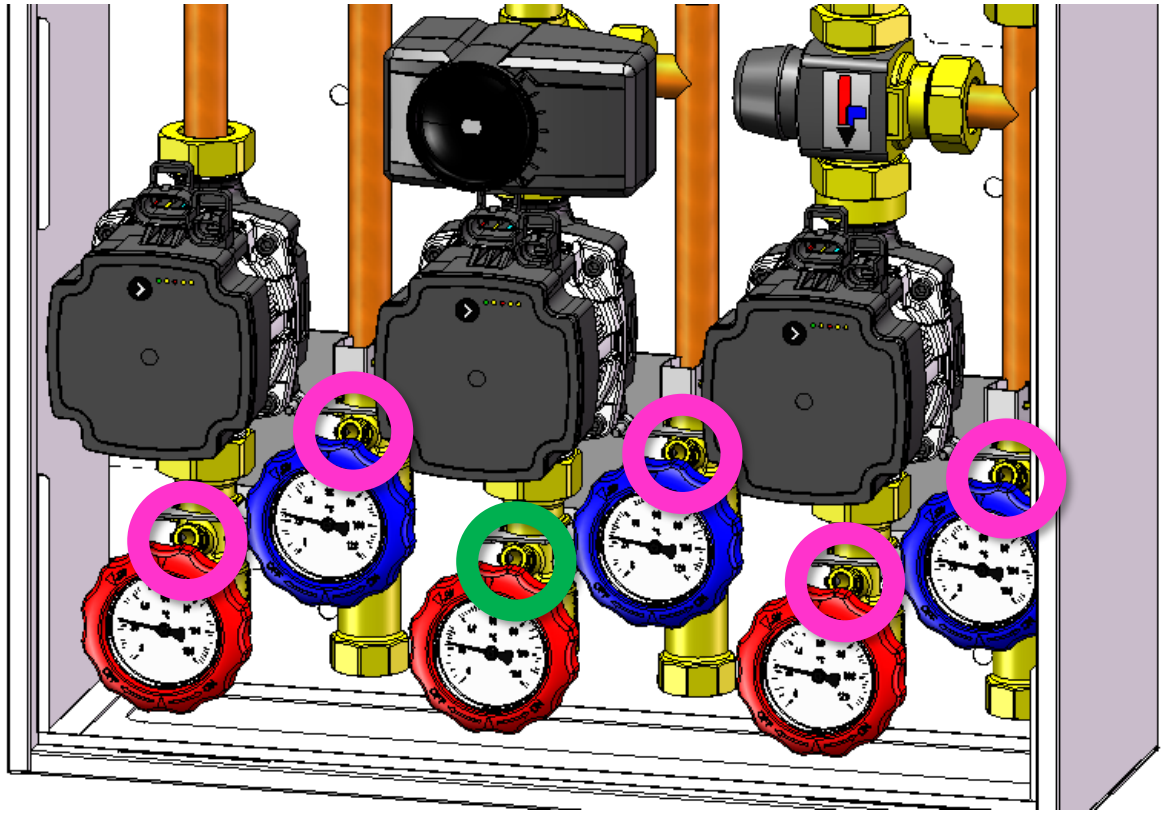


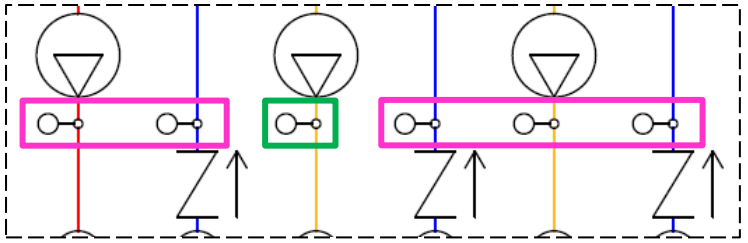
- Anti-scald function *
- Mixing temperature regulation: **20÷55 °C**
- Knob for setting: 6 positions

** The anti-scald function automatically stops the supply of hot water in the event of a fault in the cold water circuit*



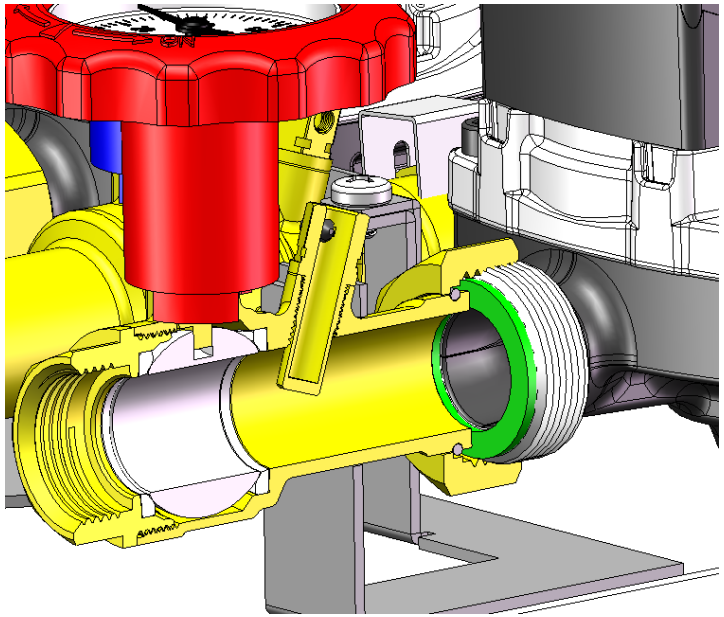
Temperature sensors

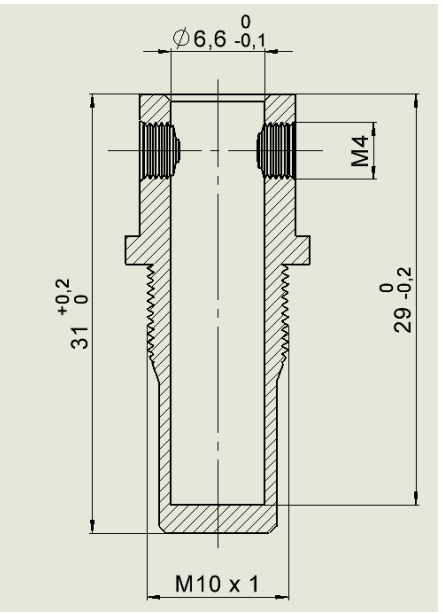




MOTORIZED MIXING HEATING FLOW

Possibility of connecting up to 6 temperature sensors on the flow and return of heating circuits



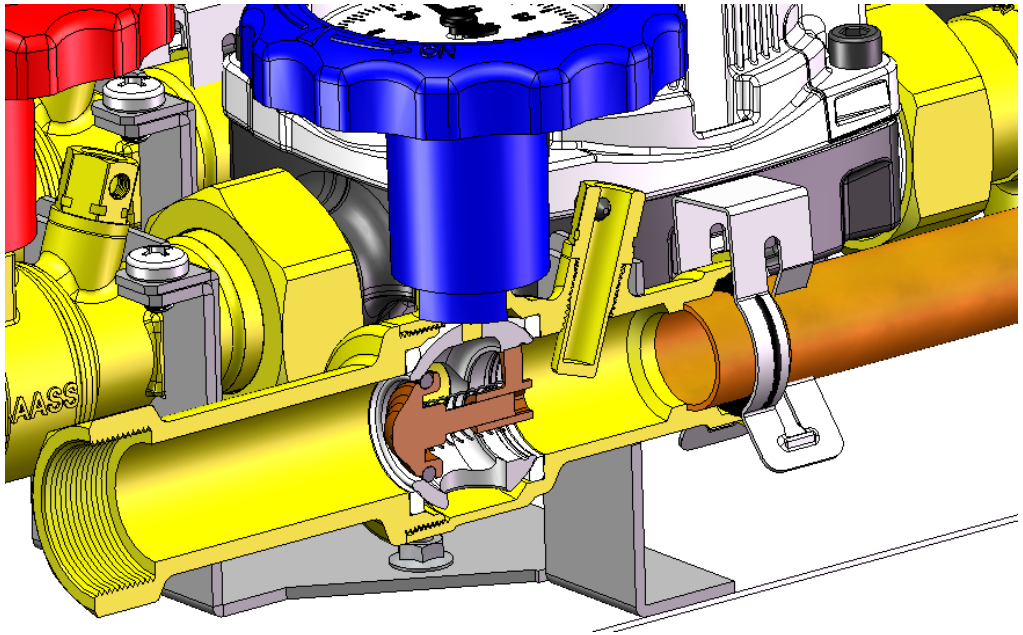


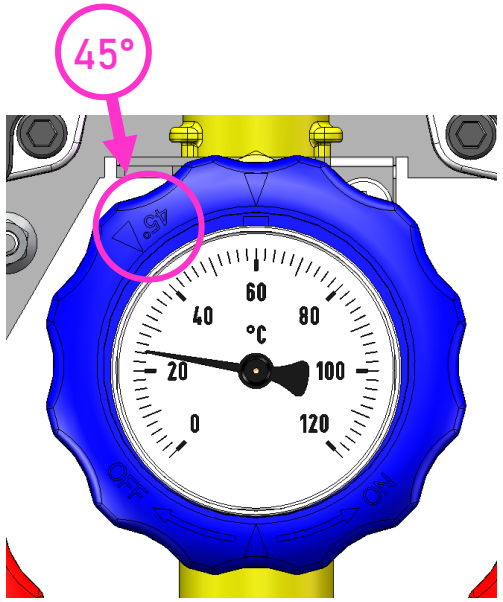
Temperature sensor pocket

- ❑ Temperature probe external diameter max. Ø6 mm
- ❑ With M4 grub screw for temperature probe locking

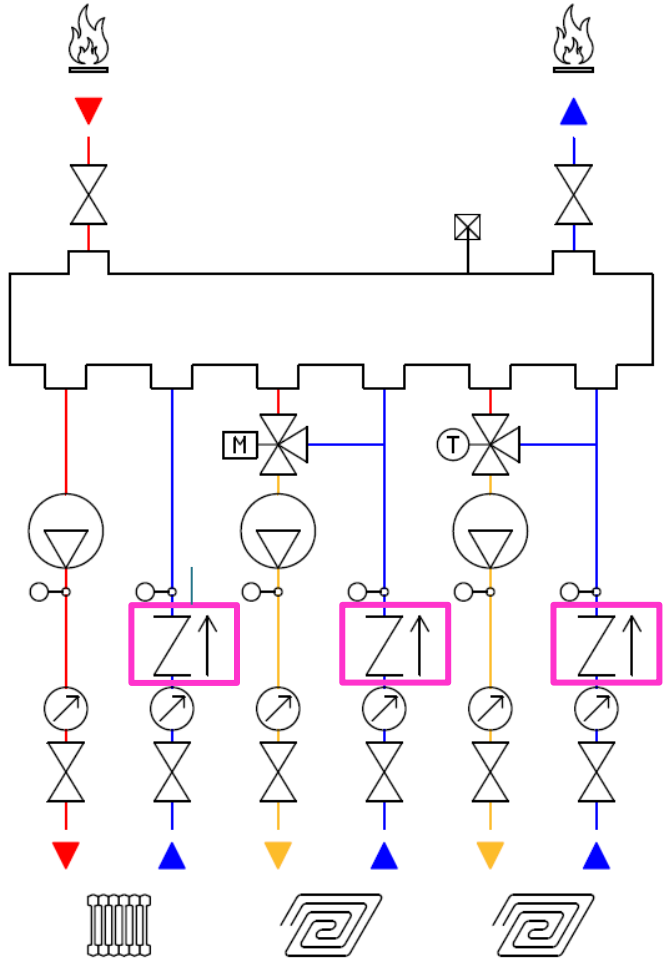
example

Check valves integrated





To facilitate the filling and venting operation or in case of maintenance, the check valve can be forced open. The check valves are designed to avoid parasitic circulation within the systems. The check valves coupled to the shut-off valves can be forced open by turning the knob 45°.



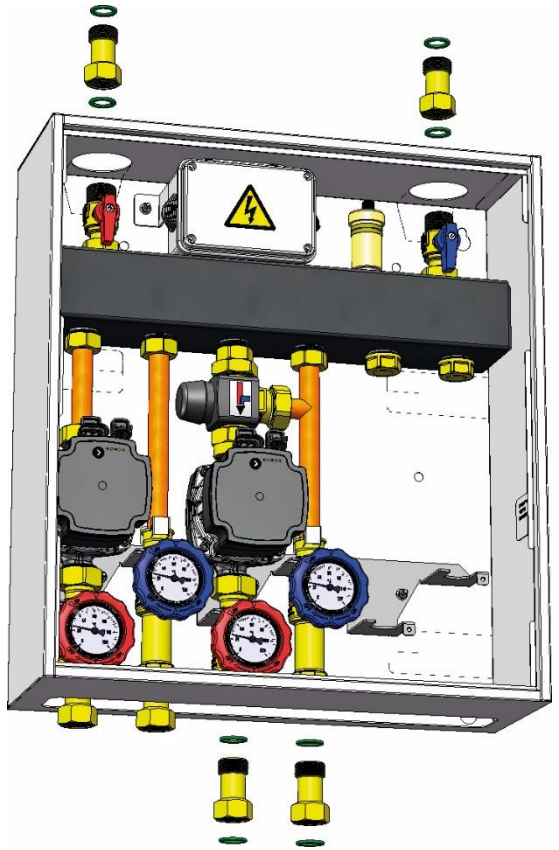
Accessories NOVAZONE

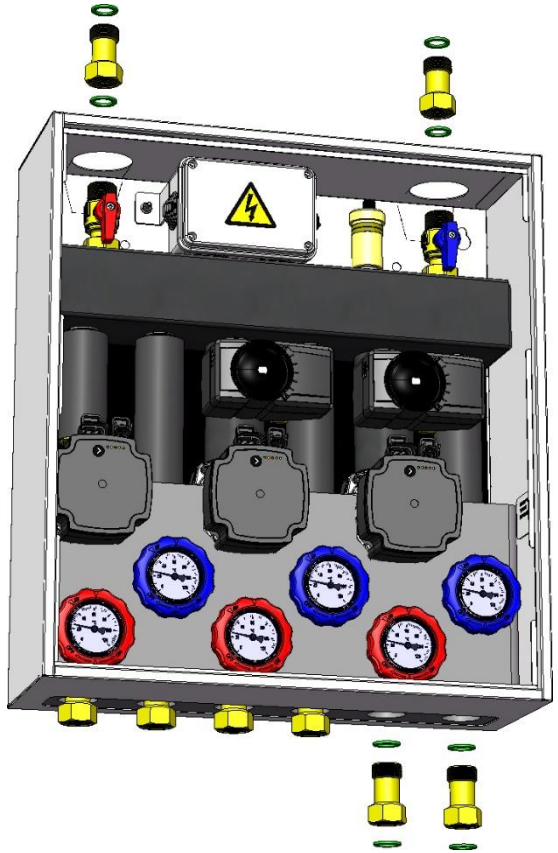
CONNECTION EXTENSION KIT

Extension kit for NOVAZONE necessary if external connections to the box are required (for example for recessed installation)

Complete kit with pair of extensions and gaskets

Size: **3/4" M x 3/4" F**

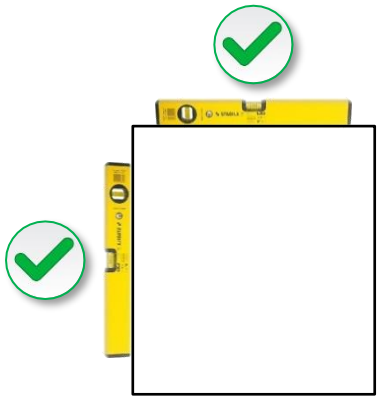


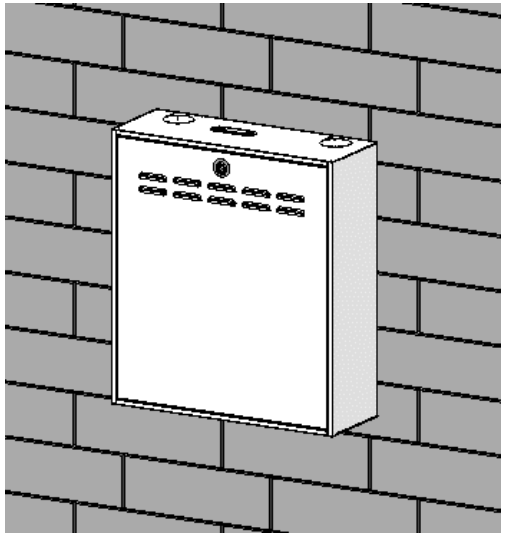


Wall/recessed box

Installation on wall

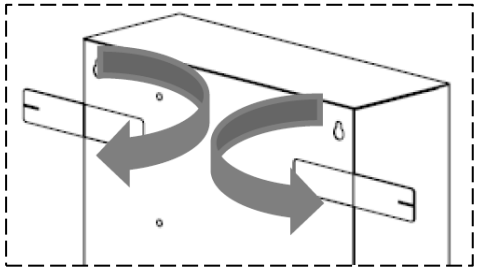
After finding a suitable wall, mark the holes positions on the wall. Drill the wall and insert the supplied dowels, make sure not to screw them fully. Hank the module on the dowels and after have verified the correct alignment with a bubble level, tighten firmly as to give stability. Before proceeding with hydraulic and electirc connection, make sure that the whole module is perfectly fixed on the wall both horizontally and vertically. Otherwise, make the necessary adjustments by using the fixing screws

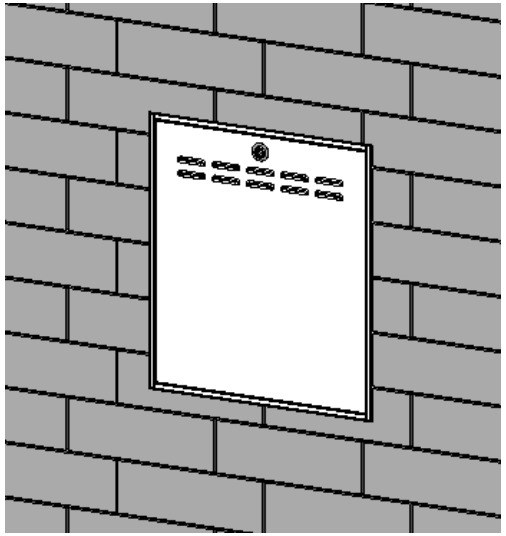




Recessed installation

First operation is to verify that the wall is sufficiently strong and thick and it can contain the module. If is ok, open the fastening rings on the module. Cut the hold lamella with pliers and open by rotating them outward. Create a space on the wall at least 20 mm larger than the outer dimensions of the module. Proceed with fastening on wall using plaster or suitable compound, thrown directly onto the hooks. Let the compound dry and take care to adjust the exact place module by a bubble level. Proceed with aesthetic finish of the wall according to your needs





Technical data - Configurable NOVAZONE

Pressure Equipment Directive (PED) - 2014/68/EU

Main components

- ❑ **Pump Grundfos UPM3 Hybrid 130** (7 meters) ErP ready
- ❑ Motorized mixing valve *
- ❑ Thermostatic mixing valve, regulation 20÷55 °C
- ❑ Manifold or Separator, with automatic air vent
- ❑ Temperature sensor pockets (sensor Ø6 mm)
- ❑ Check valves integrated (excludable)
- ❑ Shut-off ball valves with analog thermometers (0÷120 °C)
- ❑ Electrical junction box with terminals for quick connection of components
- ❑ Wall/recessed box, internal/external, painted white RAL 9003
- ❑ For NOVAZONE with insulation, **insulation compliant to EnEV2014**

** see following pages for available servomotors and control groups*

Technical data – Configurable NOVAZONE

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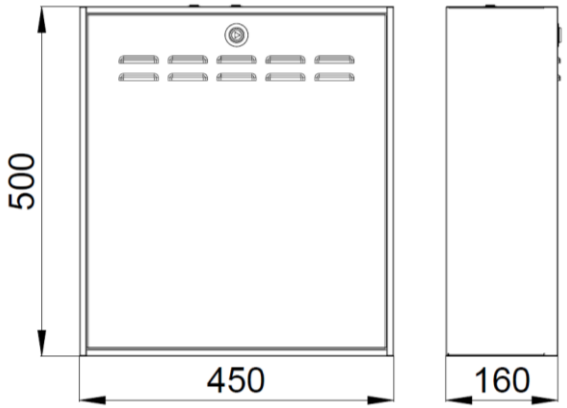
FLOW CONTROL SYSTEMS

novazone

NOVAZONE DM

NOVAZONE DMF

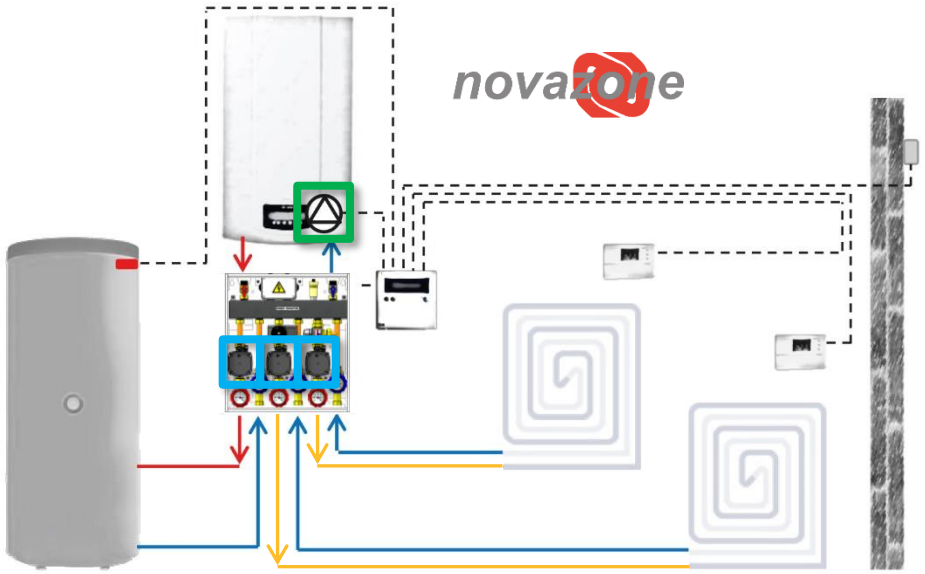


Technical data	
Nominal diameter	DN15
Max. pressure	4,5 bar **
Max. temperature NOVAZONE DM	95 °C (110 °C peak)
Working temperature NOVAZONE DMF	5÷95 °C (110 °C peak)
Power supply	230 V - 50 Hz
External dimensions (w x h x d)	450 x 500 x 160 mm
Wheelbase heating/cooling generator	320 mm
Connections heating/cooling generator	3/4" M
Wheelbase heating/cooling circuits	70 mm
Connections heating/cooling circuits	3/4" F
Connections Manifold; Separator	3/4" M - DN20
Chambers Manifold; Separator	DN50
Volume Manifold; Separator	1,5 L
Max. flow rate direct circuit	2100 L/h ***
Max. flow rate motorized mixing circuit	1900 L/h ***
Max. flow rate thermostatic mixing circuit	1300 L/h ***

*** 3 bar safety valve on generator or system*
**** with residual head of 2 m w.c.*

HEATING COOLING

Technical info



Example of scheme NOVAZONE DM123 with separator

ErP ready

SINGLE CIRCUITS

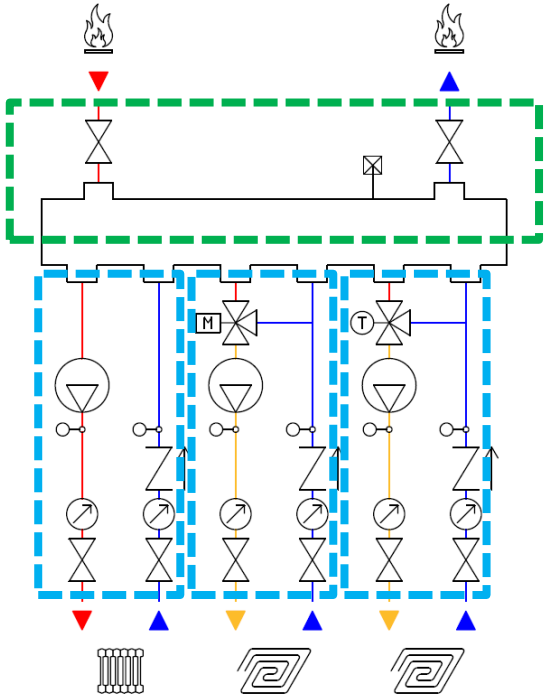
Directly managed by the circulation pumps integrated in each circuits of NOVAZONE
Pump Grundfos UPM3 Hybrid 130 (7 meters) **

*** refer to residual head curves shown opposite*

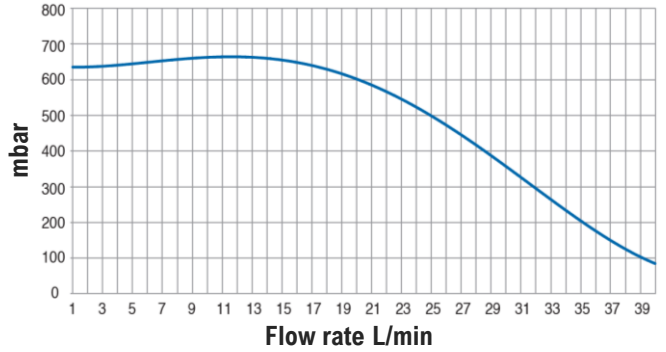
GENERATOR CIRCUIT

Directly managed by the circulation pump included in the generator *

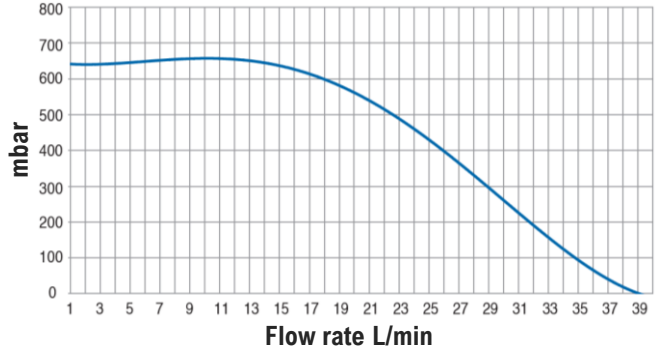
** refer to the characteristics of the generator pump*



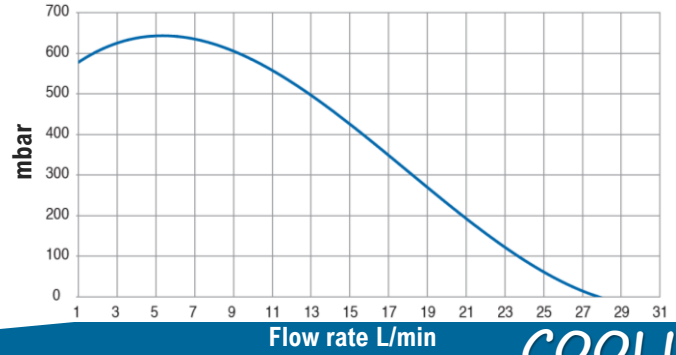
Residual head of NOVAZONE **direct circuit**



Residual head of NOVAZONE **motorized mixing circuit**



Residual head of NOVAZONE **thermostatic mixing circuit**

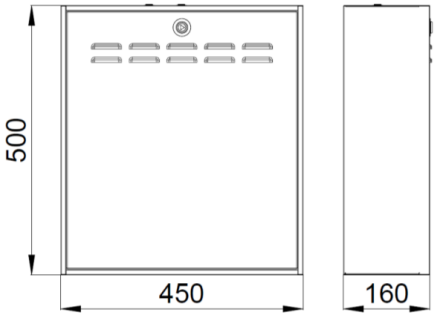


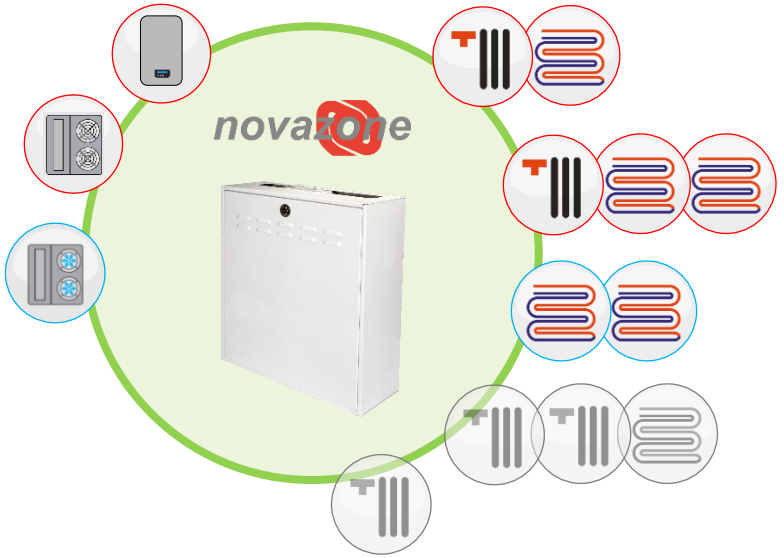
Summary of key points

plus

- ✓ Heating and cooling management
- ✓ Direct and mixing circuits management
- ✓ Pump Grundfos UPM3 Hybrid with 7 meters head, ErP ready
- ✓ Minimum space, lower installation cost, easy to install, quick maintenance
- ✓ Complete with all accessories → taps on each circuit and possibility of a temperature sensor; check valves integrated
- ✓ System modularity (configurable circuits kit)
- ✓ Clear, intuitive and functional layout
- ✓ Maximum integration into existing systems
- ✓ Manifold or Separator integrated
- ✓ Automatic air vent, to facilitate deaeration operations
- ✓ Wall/recessed box, internal/external
- ✓ Pre-assembled and 100% tested

COMPACT MULTI-ZONE DISTRIBUTION MODULES FOR SYSTEM MANAGEMENT





HEATING COOLING

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FLOW CONTROL SYSTEMS

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Thank you

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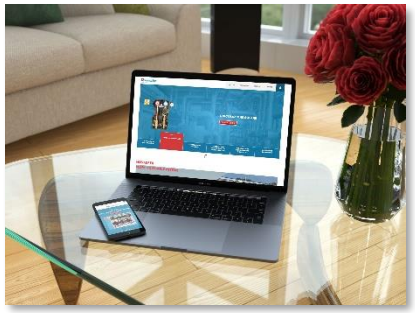

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