

DISTRIBUTION GROUP WITH THERMOSTATIC REGULATION

Description




DN 25

This preassembled pump group is part of the **Barberi® trolli HEATING** line.

This distribution group allows the circulation of the thermal fluid, coming from the primary circuit and it maintains constant the setting temperature (fix point) through the help of a mixing valve with thermostatic element. The group with thermostatic regulation is appropriate for heating systems in general and floor heating systems in particular. The group is composed of the pump, shut-off valves supply/return side, thermostatic mixing valve, supply/return side thermometer, check valve anti-recirculation, thermal insulation.



Range of products

Direct distribution group	02G	XXX	XX	X
Upper connections G1" F		025		
Without fittings			00	
Fittings with running connection*			01	
Without pump				X
Pump Grundfos UPM3 AUTO L 25-70 180				V
▶ Pump Grundfos UPM3 AUTO 25-70 180				U
Pump Wilo Yonos Para 25-6 180				L
Pump Grundfos UPSO 25-65 180 (extra EU)				C

* see fittings
▶ on request

Features

Max. and minimum working temperature: **5 °C – 90 °C**
 Max working pressure: **10 bar**
 Female connections: **UNI EN 10226-1**
 Male connections: **UNI ISO 228-1**
 Pump: **Grundfos UPM3 AUTO L 25-70 180**
Grundfos UPM3 AUTO 25-70 180
Wilo Yonos Para 25-60 180
Grundfos UPSO 25-65 180(Extra EU)
 Allowed fluids: **water, mix water and glycol(max 30%)**
 Thermometers measurement range: **0-120°C**

Material

Ball and check valve

- Body: **brass UNI EN 12165 - CW617N**
- Gasket: **PTFE, EPDM, Viton**

Thermostatic mixing valve

- Body: **brass UNI EN 12165 - CW617N**
- Gasket: **EPDM,**
- Spring: **Stainless steel AISI 302**

Pump

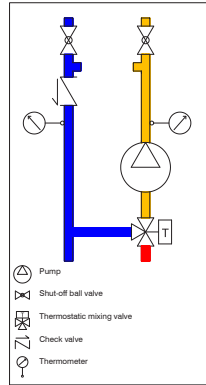
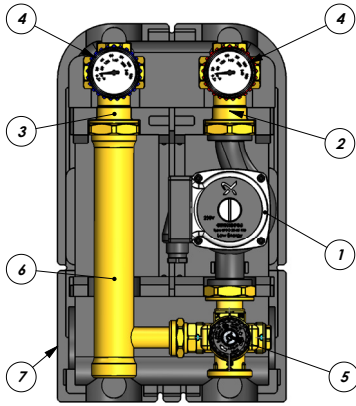
- Body: **cast iron**

Insulation shell

- Body: **EPP**
 Density 60 kg/m³
 Thermal conductivity 0,039W/mK(20°C)
 Thermal conductivity 0,041W/mK(40°C)

DISTRIBUTION GROUP WITH THERMOSTATIC REGULATION

Components

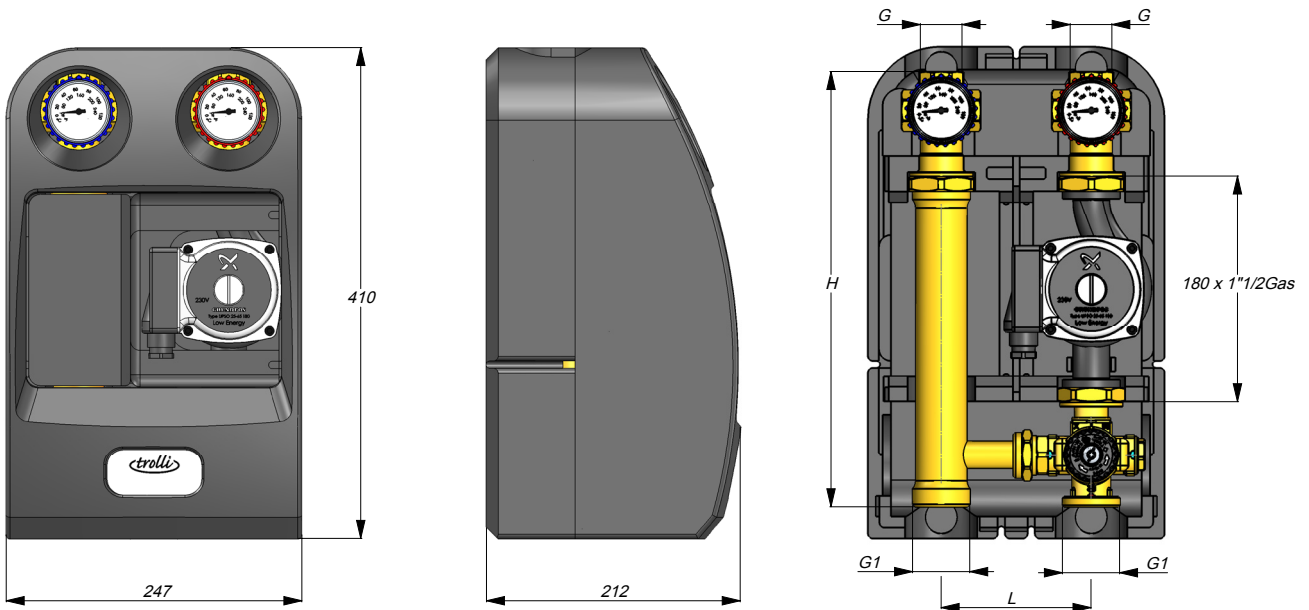


cod. 02G-DN25		
1	Pump	Grundfos UPM3 AUTO L, Grundfos UMP3 AUTO, Wilo yonos para, Grundfos UPSO
2	Shut-off ball valve	
3	Shut-off ball valve with check valve	
4	Thermometer	
5	Thermostatic mixing valve	
6	By-pass extension	
7	Insulation shell	

► on request



Dimensions



Cod.	P [bar]	G	G1	L	H	Pump	Weight	N. P/S	N. P/C
02G 025 00X	10	G 1" F	G 1 1/2" M	125	375	without pump	4050	-	1
02G 025 00V	10	G 1" F	G 1 1/2" M	125	375	Grundfos UPM3 AUTO L 25-70 180	5840	-	1
► 02G 025 00U	10	G 1" F	G 1 1/2" M	125	375	Grundfos UPM3 AUTO 25-70 180	5840	-	1
02G 025 00L	10	G 1" F	G 1 1/2" M	125	375	Wilo Yonos Para 25-6 180	5940	-	1
02G 025 00C	10	G 1" F	G 1 1/2" M	125	375	Grundfos UPSO 25-65 180	6700	-	1

Weight (grams) - N. P/B: number of pieces in box, plastic bag - N. P/C: number of pieces in carton
► on request

DISTRIBUTION GROUP WITH THERMOSTATIC REGULATION

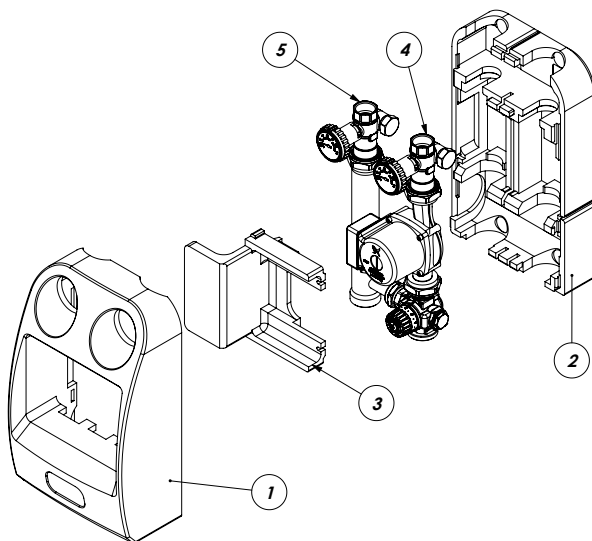
Installation

The installation of every component must be made from qualified people because this system is used to carry the fluid at temperature and pressure that can be dangerous for people and things.

Introduction

The direct distribution group consists of the parts in the picture:

- Front insulation shell (1),
- Back insulation shell (2),
- Pump protection (3),
- Delivery side (4) includes shut-off ball valve of secondary circuit, thermostatic mixing valve and thermometer;
- Return side (5), includes shut-off ball valve and check valve



The front (1) and back shells (2) help the thermal insulation and save energy. The pump protection shell (3) has been introduced for maintaining the thermal insulation and avoiding overheating of electric actuator of the pump. In this way the risk of damage is reduced.

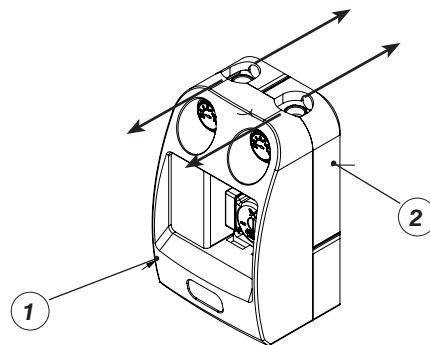
The thermometer that is integrated in the handle of ball valve helps the temperature control of both side. The check insert that is integrated in the body of shut-off valve of return side is used to prevent parasitic flows when the pump is off. The mounting options of the group are:

- Wall installation
- Collector installation

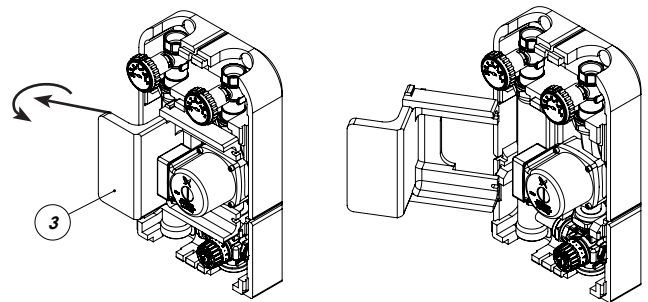
Wall installation

(only for groups supplied with steel bracket). Note: check the distance of the pipes from the wall. See point 7.

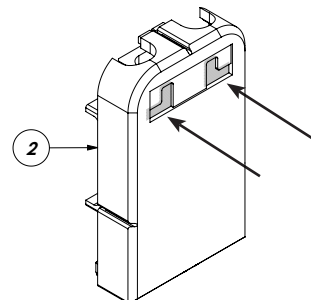
1. Remove the pre-assembled group from the box packing;
2. Open the shell pulling the parts (1) e (2) from the upper ends indicated;



3. Remove the pump protection (3);



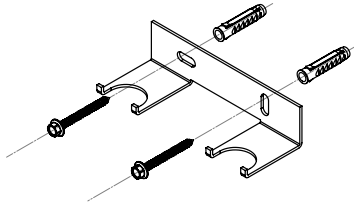
4. Remove side 4 and side 5
5. Cut the 2 boxes on the back shell (2)



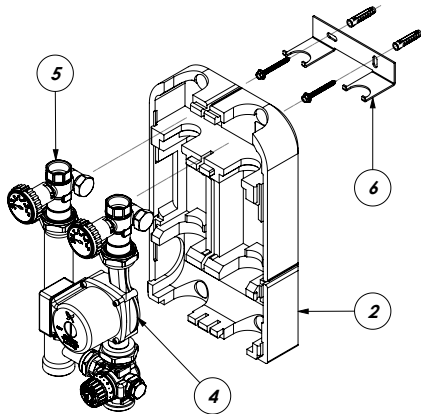
6. The bracket has to be used on a suited wall. The bracket is provided with holes and a slot to facilitate the positioning. Fasten the bracket on the wall with screws and dow-

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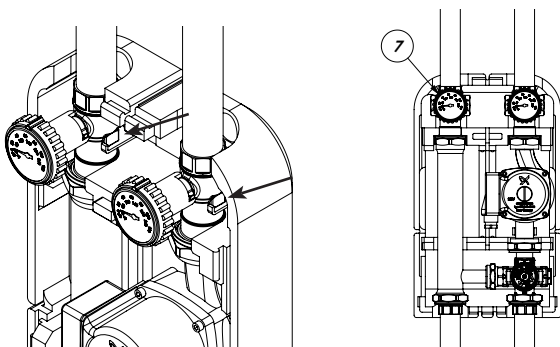
els you find in packing ;



- Insert the back shell (2) in the bracket (6). Insert the delivery (4) and return side (5) on the bracket slightly lifting the shell. In this way the distance between the centre of the pipes and wall surface is about 54 mm.

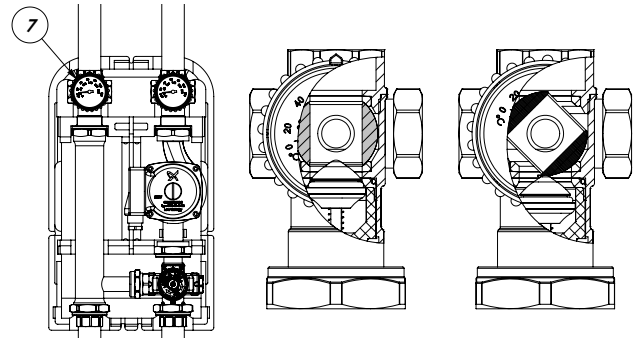


- Install the pipes of both sides of the group through the fittings supplied in the packing (for models with fittings) or through the appropriate connections (it's recommended fittings with plane gaskets). In case there is a pump installed in series to the group (e.g. pump of the boiler), it's a good practise to install a unit for hydraulic separation of the circuits to avoid malfunctioning of both pumps or boiler.

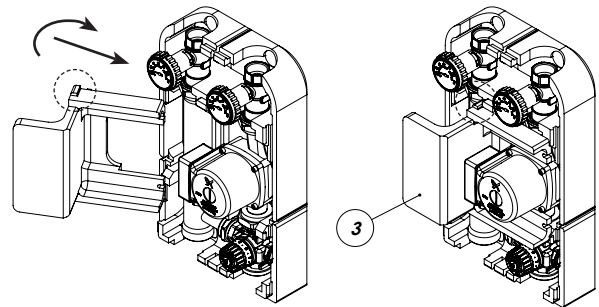


- Rotate the handle of the shut-off valve (7) of return side up to 45°. In this position the ball will press the check insert disconnecting it and allowing a better water and air flow. This air has to be eliminated during the filling phase. Fill the system and check the presence of leakage of ther-

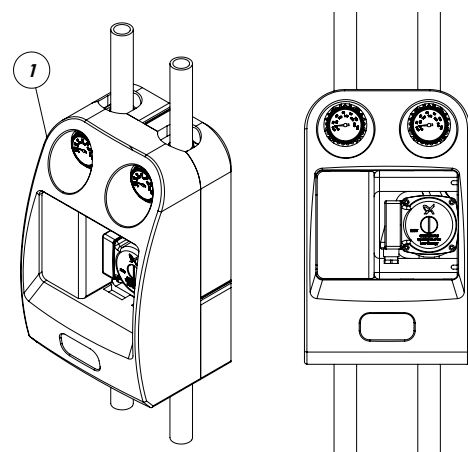
mal fluid (water or mix water and glycol).



- Open the shut-off valve in return side (7)
- Do the wiring (See the section 'Wire positioning')
- Insert the pump protection (3)



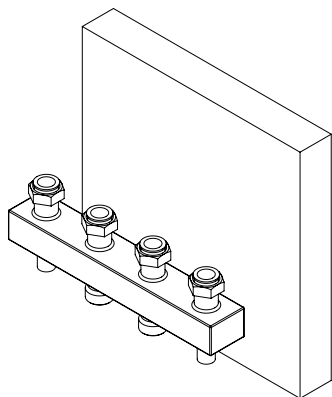
- Join the 2 parts of the shell (1)



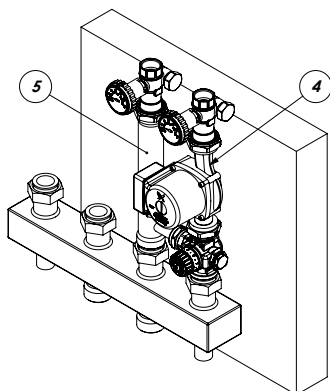
Installation on collector

The distribution group can be installed on collectors with integrated hydraulic separator, on standard collectors with not integrated hydraulic separator, on collectors connected to a storage. For an appropriate installation, the collector must have the distance of connections of at least 60 mm from the wall.

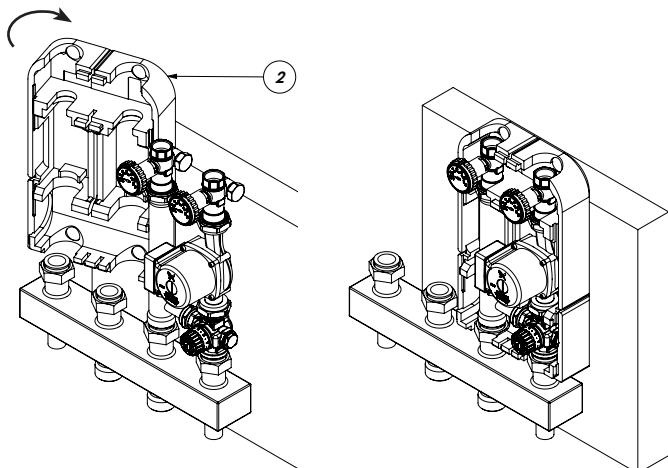
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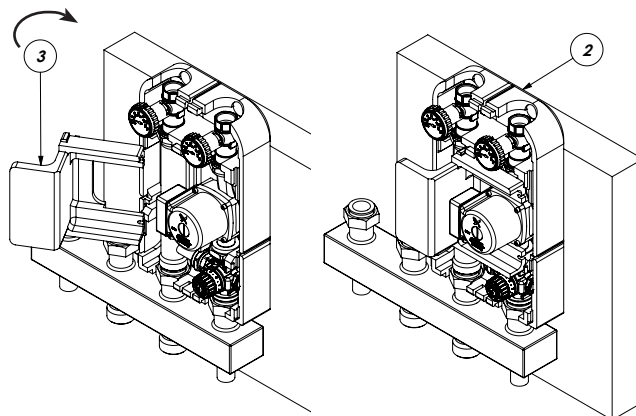
1. Follow the steps 1, 2, 3, 4, of wall installation
2. To facilitate the installation, start from the centre of the collector and go on with the outermost ; install the delivery (4) and return (5) on the distribution collector through the fittings supplied in the packing (for models with fittings) or through the appropriate ones (it's recommended fittings with plane gasket)



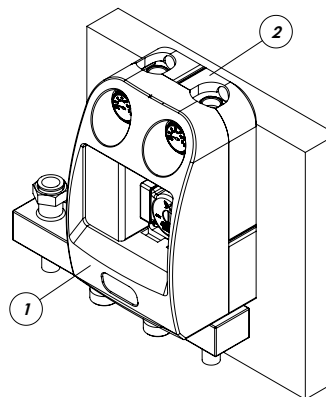
3. Put on the shell (2); (if the collector is too close to the wall, it's necessary to insert the part (2) before installing the delivery (4) and return (5))



4. Put on the shell (3) pressing the part (2) from the back side;



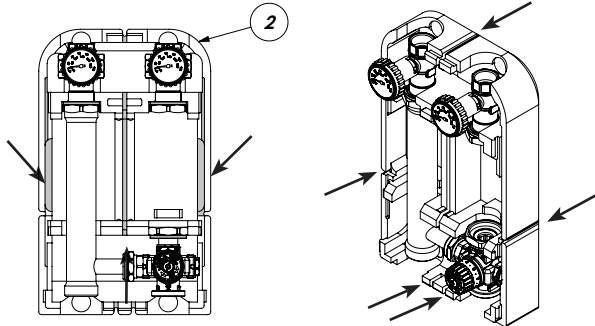
5. Proceed as in step (9) of wall installation.
6. Open the shut-off valve in return side
7. Do the wiring (see wires positioning section)
8. Join the 2 parts of the shell holding the part (2) on the back side



Wires positioning

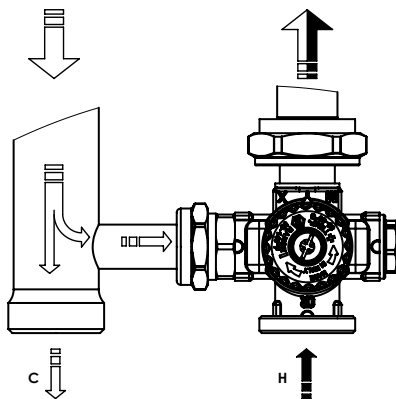
The wires must be connected by qualified people to avoid any safety risks for people and things. The shell (2) has been realized to help the wires positioning inside the shell. In fact there are guides that allow the reaching of the lateral wires of the shell (2).

DISTRIBUTION GROUP WITH THERMOSTATIC REGULATION



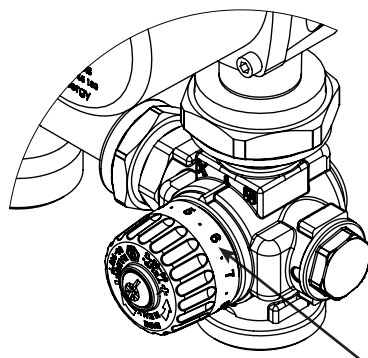
Adjustment of thermostatic mixing valve

The thermostatic mixing valve is able to maintain constant the set temperature. The regulation is achieved through a thermostatic element. Thanks to the thermal expansion of the wax inside, the element works. As the valve has the element integrated, it's more precise and reliable than the thermostatic with external tube. You can see the functioning in the picture:



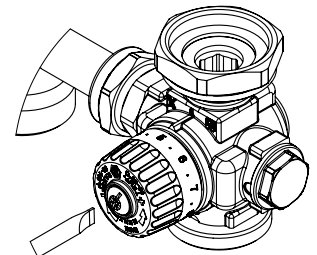
The thermostatic valve is set by the producer to achieve the constant temperature of 45°C.

On the handle it's well represented a numerical scale corresponding approximately to the temperature in the table.

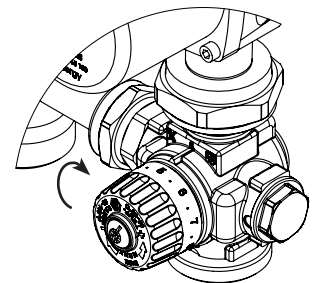


For a precise temperature setting, it's necessary to activate the heat generator and bring the system to scheme. Perform the following steps with the pump on.

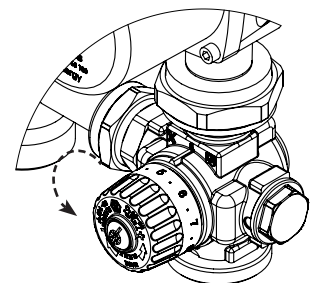
1. With a screwdriver slightly loosen the locking screw holding the handle with your hand;



2. Rotate manually the handle clockwise until the limit switch at the minimum temperature, then wait until the temperature stabilizes and control the delivery thermometer



3. Rotate gradually the handle counterclockwise toward increasing temperatures and wait the temperature stabilizes. On delivery thermometer it's possible to read the temperature.

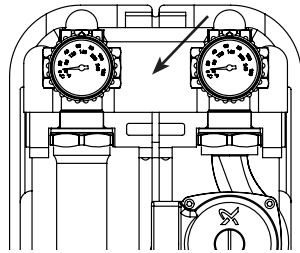


4. When the desired temperature is reached, close the locking screw holding the handle with your hand.

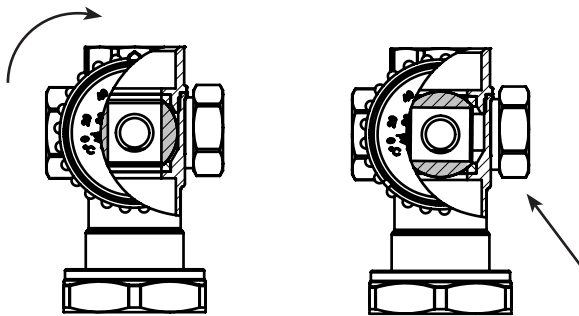
DISTRIBUTION GROUP WITH THERMOSTATIC REGULATION

Installation and adjustment of differential by-pass valve (for models with differential by-pass or installation at a later time)

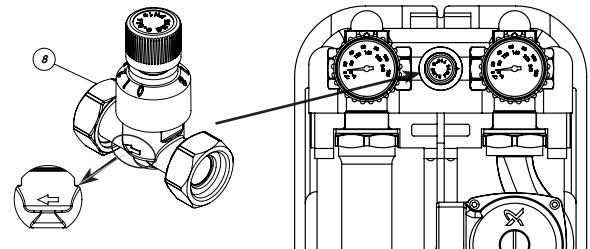
The installation of differential by-pass valve must be done as shown in the picture.



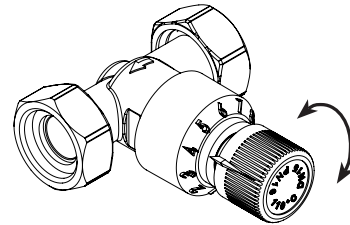
1. For the installation of differential by-pass valve (specially with filled system) you must close the 2 ball valve with thermometer as shown in the picture,



2. Disassemble the lateral cover and the plane gaskets of the ball valves. Insert the differential by-pass valve (8) (e.g. art 615, art 616) with plane gaskets supplied with the packing paying attention to the flow direction indicated by the arrow.



3. Rotate the handle of the valve on the value specified from the designer in order to achieve the right working conditions for the system.



Pump replacement

The distribution groups has been realized in order to hold different type of pumps. The models that suit the distribution group Barberi are shown in the table. The pump Grundfos UPSO is supplied by Barberi without the cable; the pumps Grundfos Alpha2 e Wilo Yonos Para are supplied with wire and connector following the dimensions of the shell of distribution group. In case of purchasing the pumps from other suppliers, pump and connector may require small adjustments on the shell, The installer can do the adjustment by himself.

Suitable pumps with distribution group

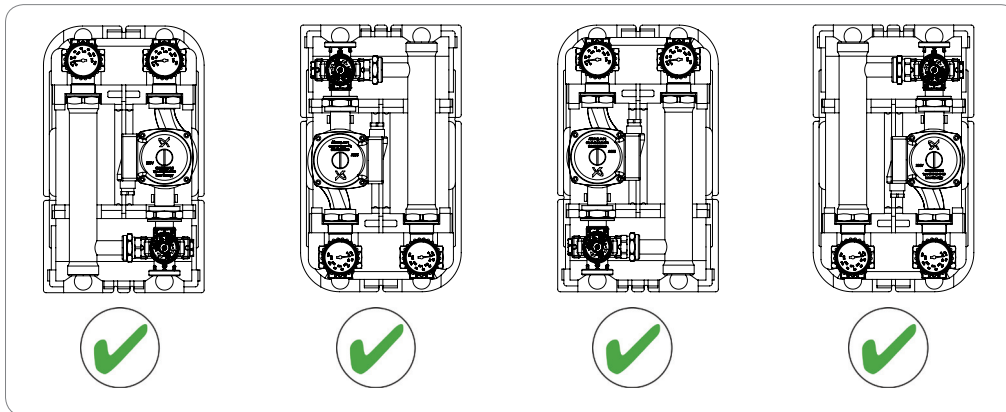
Grundfos UPSO 25-65 - 180
Grundfos UPM3 25-70 - 180
Wilo Yonos Para 25-6 - 180

*other type of pumps have singly evaluated from the company

DISTRIBUTION GROUP WITH THERMOSTATIC REGULATION

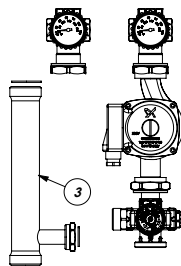
Positioning of the group

The direct distribution group can be installed differently from the standard (delivery on the right and up direction). The possible layout of positioning depends on the model of the pump installed. In the table below are shown the options you have with the pumps you are using.

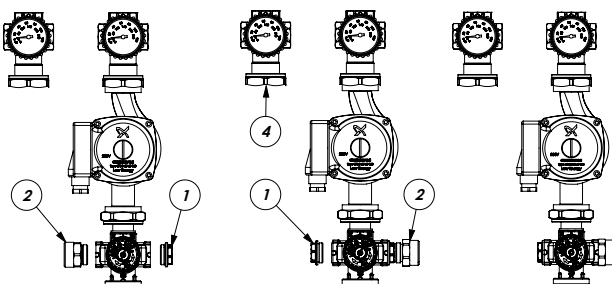


The distribution group with thermostatic regulation of the temperature is supplied with standard layout as shown in the scheme 1-2, with pump on the right, delivery up direction or after rotation, pump on the left and lower direction. The same article can be used to get the scheme 3-4.

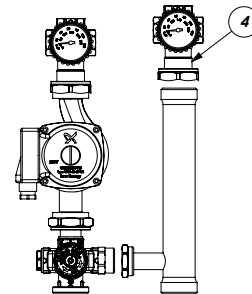
1. Loosen the running fittings shown in the picture and pull the extension (3) paying attention to the plane gaskets;



2. Disassemble the cap (1) and the fitting (2); reassemble them as shown in the picture watching not to damage the gaskets



3. Reassemble the extension by-pass (3) on the fitting (2) and the ball valve with check insert (4) on the upper end of the extension 3



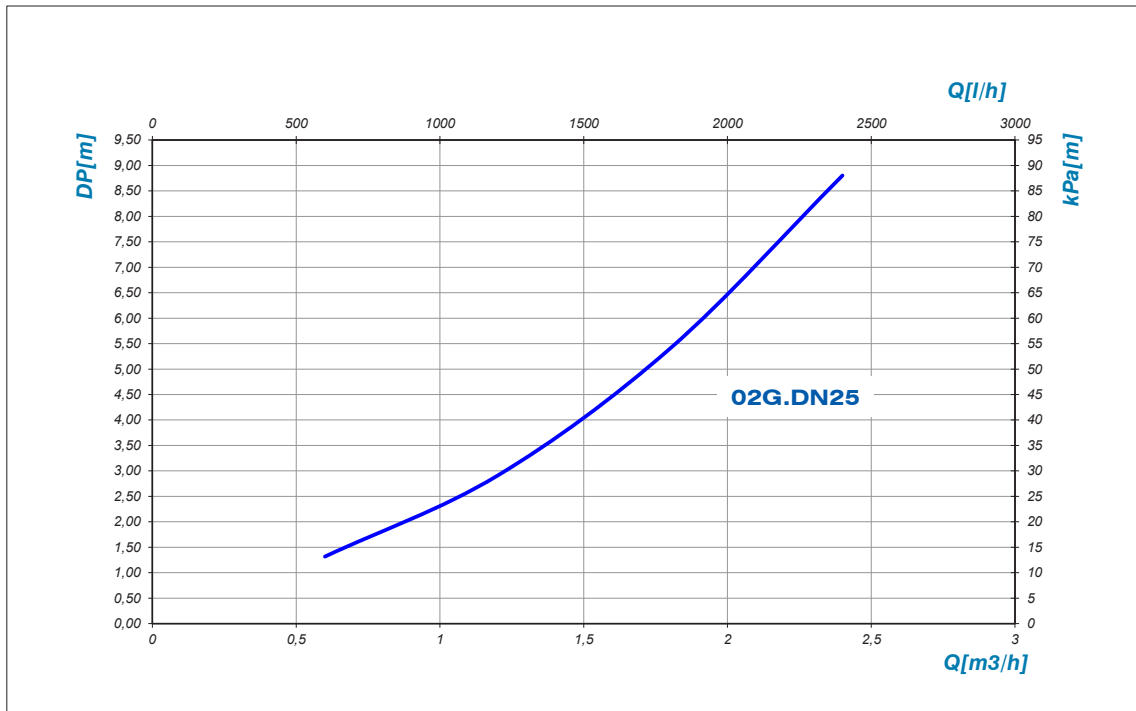
4. Rotate the actuator of the pump if necessary (if pump allows to rotate the actuator)

Attention: keep the ball valve with red handle on the side with the pump, the one with blue handle on return side because of the presence of unidirectional check valve .

DISTRIBUTION GROUP WITH THERMOSTATIC REGULATION

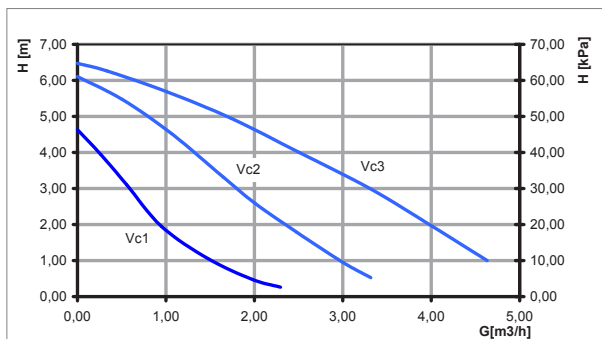
Diagram

Pressure drop of distribution group with thermostatic mixing valve



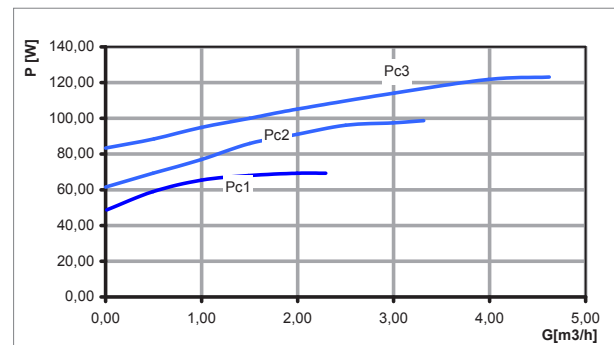
Head and power consumption of the pumps

Head of Grundfos pump UPSO 25-65/180



Vci: Constant speed

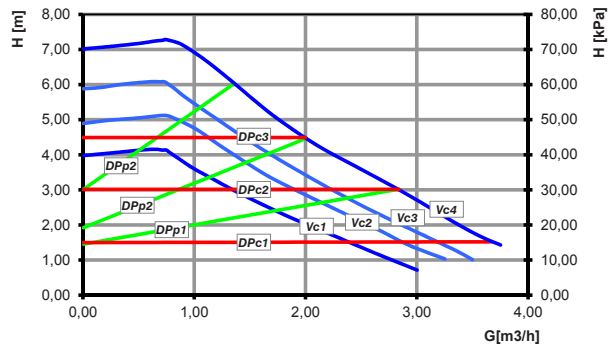
Power of Grundfos pump UPSO 25-65/180



PVci: Power consumption

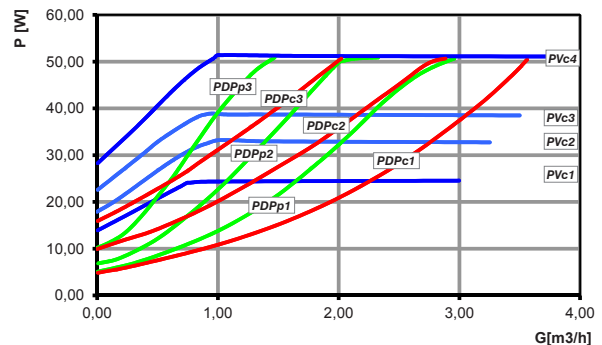
DISTRIBUTION GROUP WITH THERMOSTATIC REGULATION

Head of Grundfos pump UPM3 AUTO L 25-70 180
UPM3 AUTO 25-70 180



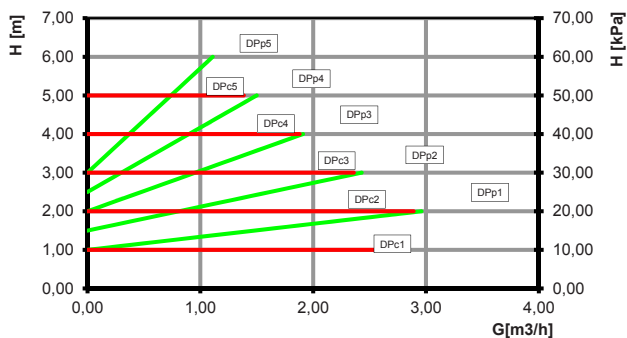
Vci: Constant speed
DPpi: Proportional pressure
DPci: Constant pressure

Power of Grundfos pump UPM3 AUTO L 25-70 180
UPM3 AUTO 25-70 180



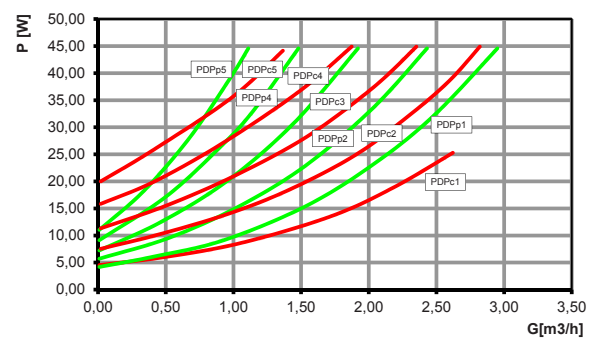
PVci: Power consumption at constant speed
PDPpi: Power consumption at proportional pressure
PDPci: Power consumption at constant pressure

Head of Wilo Yonos Para pump 25-6



DPpi: Proportional pressure
DPci: Constant pressure

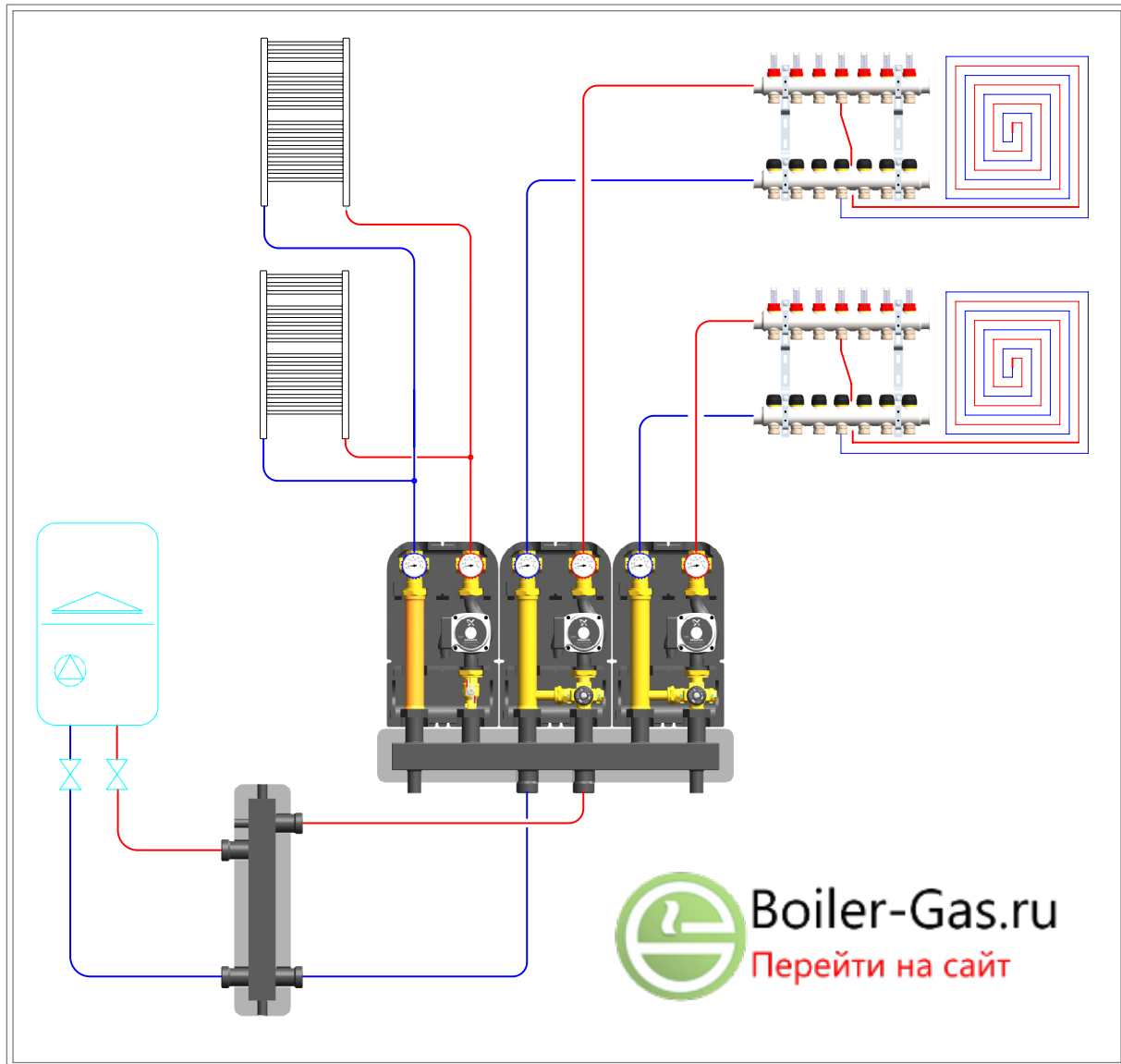
Power of Wilo Yonos Para pump 25-6



PDPpi: Power consumption at proportional pressure
PDPci: Power consumption at constant pressure

DISTRIBUTION GROUP WITH THERMOSTATIC REGULATION

Examples of installation



Specification

This text refers to a specific code of the product. For each version of the groups the designer must modify the specifications.

Code 02G 025 00C

The distribution unit with thermostatic valve with 1 1/2 G male connections with plane gaskets on primary circuit and 1" G female on the secondary circuit. Distance between connections of delivery and return: 125mm. Height of delivery and return side: 363mm. Dimensions of the group with shell: 247, 410, 212, (width, height, depth). The group is composed of: shut-off ball valves of secondary circuit in delivery and return, check valve on return side, thermostatic valve with range 30-60°C, delivery and return thermometer with scale 0-120°C. Fittings available for differential by-pass valve 615/616, pump with 3 constant speeds Grundfos UPS 25-65 180, power supply 230V (50Hz). Shell in EPP black colour 60 kg/m³. Maximum temperature of the thermal fluid 90°C. Maximum working pressure of thermal fluid 10bar.

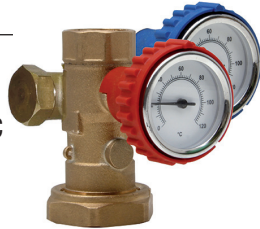
DISTRIBUTION GROUP WITH THERMOSTATIC REGULATION

Accessories

38D.DN25

Monobloc with pump connection (ball valve + thermometer + 2 side connections) - thermometer 0-120°C - DN25

Max working temperature: 95°C



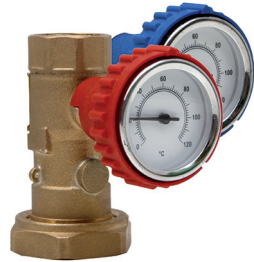
cod.	size	handle colour	P [bar]
38D 025 000	G 1"1/2 F - G 1" F	red	10
38D 025 000B •	G 1"1/2 F - G 1" F	blue	10

• on request

38D.1

Monobloc with pump connection (ball valve + thermometer) - thermometer 0-120°C - DN25

Max working temperature: 95°C



cod.	size	handle colour	P [bar]
38D 025 0001	G 1"1/2 F - G 1" F	red	10
38D 025 0001B •	G 1"1/2 F - G 1" F	blue	10

• on request

39D

Ball valve with pump connection and male connection

Max working temperature: 95°C



cod.	size	handle colour	P [bar]
39D 020 000R	G 1"1/2 F - G 1" F	red	10

44D.DN25

2 fittings with flat gasket - DN25



Max working temperature: 95°C

cod.	size	P [bar]
44D 025 000	G 1" F - G 1"1/2 F	10

37D.DN25

Monobloc with pump connection (ball valve + thermometer + 2 side connections + check valve + check valve disconnection) - thermometer 0-120°C - DN25

Max working temperature: 95°C



cod.	size	handle colour	P [bar]
37D 025 000	G 1"1/2 F - G 1" F	blue	10
37D 025 000R •	G 1"1/2 F - G 1" F	red	10

• on request

37D.1

Monobloc with pump connection (ball valve + thermometer + check valve + check valve disconnection) - thermometer 0-120°C - DN25

Max working temperature: 95°C



cod.	size	handle colour	P [bar]
37D 025 0001	G 1"1/2 F - G 1" F	blue	10
37D 025 0001R •	G 1"1/2 F - G 1" F	red	10

• on request

40D

L-extensions with flat sealing, dimension 272 mm

Max working temperature: 140°C



cod.	size	P [bar]
40D 040 000 L	G 1"1/2 - 272mm	10

42D.DN25

Bracket for wall mounting of the group, including screws and dowels



Holes diameter: 8mm
Holes distance: 90mm

cod.
42D 025 Z001

DISTRIBUTION GROUP WITH THERMOSTATIC REGULATION

11D.120

Axial thermometer

Range: 0-120°C



cod.	size
11D 015 000120	ø51mm

615

By-pass differential valve with running nuts - range 0,2-2,5m. With flat gaskets. Connection distance 65mm

Max working temperature: 95°C
Connection distance: 65mm



cod.	size	P [bar]
615 015 000	G 3/4" F	10

616

By-pass differential valve with running nuts - range 2-6,5m. With flat gaskets. Connection distance 65mm

Max working temperature: 95°C
Connection distance: 65mm



cod.	size	P [bar]
615 015 000	G 3/4" F	10

630.3

4ways thermostatic mixing valve with mixed water from side port - pump and manifold connection - KV3,5 - 30/60°C

Max working temperature: 90°C
Flow: KV3,5
Range: 30/60°C



cod.	misura	P [bar]
630 A20 0003	G1"1/2 M - G1"1/2 - G1"M	10

630.103

4ways thermostatic mixing valve with mixed water from side port - pump and manifold connection - KV3,5 - 25/50°C

Max working temperature: 90°C
Flow: KV3,5
Range: 25/50°C



cod.	misura	P [bar]
630 A20 0103	G1"1/2 M - G1"1/2 - G1"M	10

DISTRIBUTION GROUP WITH THERMOSTATIC REGULATION

27A.DN25

Grundfos Pump UPM3 AUTO L 25-70 180 with high efficiency without autoadapt (EEI < 0.23 in accordance with EuP directive). With 1 m cable

Max working temperature: **100°C**
Max head: **7m**
Connection distance: **180mm**



cod.	size	P [bar]
27A 040 070BC	G 1"1/2 M	10

26A.DN25

Grundfos Pump UPM3 AUTO 25-70 180 with high efficiency (EEI < 0.23 in accordance with EuP directive). With 1 m cable

Max working temperature: **100°C**
Max head: **7m**
Connection distance: **180mm**



cod.	size	P [bar]
26A 040 070BC	G 1"1/2 M	10

05A.DN25

Grundfos Pump UPSO 25-65 with 3 constant speed (Extra UE)

Max working temperature: **100°C**
Max head: **6.5m**
Connection distance: **180mm**



cod.	size	P [bar]
05A 040 065B	G 1"1/2 M	10

07A.DN25

Wilo Pump Yonos Para 25-6 with high efficiency (EEI < 0.23 in accordance with EuP directive). With 1 m cable

Max working temperature: **100°C**
Max head: **6m**
Connection distance: **180mm**



cod.	size	P [bar]
07A 040 060B	G 1"1/2 M	10