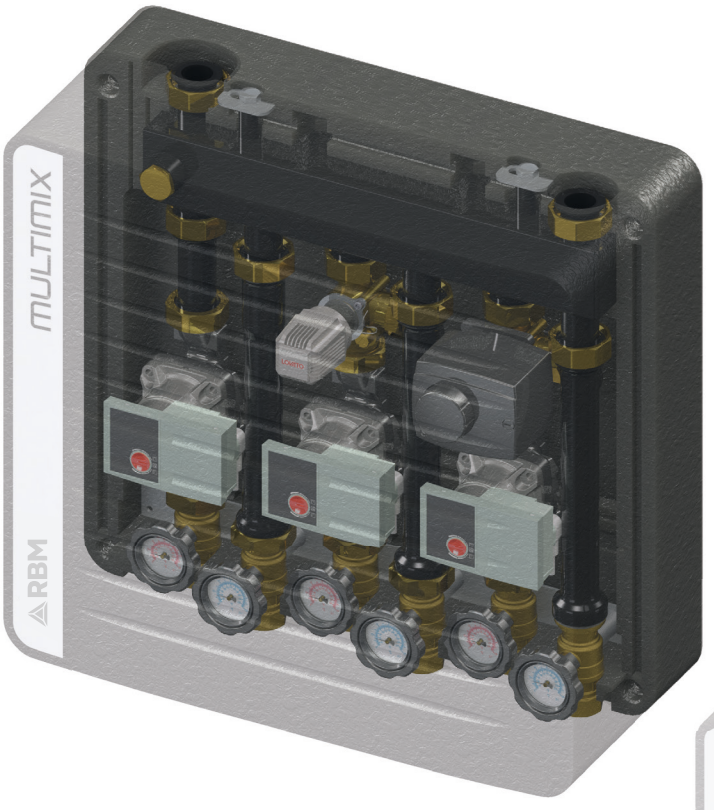
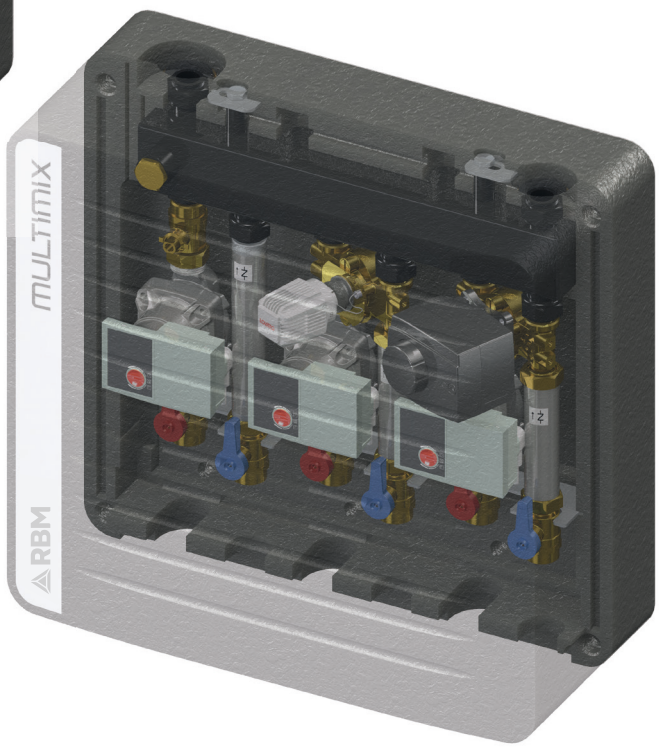
MULTIMIX

MODULI DI DISTRIBUZIONE
BOOSTER UNIT





Istruzioni per l'installazione, l'uso e la manutenzione
Assembling instructions and maintenance

INDEX

SECTION 1: GENERAL INSTRUCTIONS AND SAFETY RULES

DESCRIPTION

MULTIMIX is a compact distribution module suitable for zone heating systems. It manages two or three zones. Multimix is available only in wall-hung version.
Heating zones are served by 3 types of circulating unit: - Direct unit "RD" (high temperature), Constant temperature mixing unit "RF MIX";
Modulating temperature mixing unit "RM MIX". For this unit is necessary an optional heating controller.
The zone manifold/hydraulic separator is provided with a threaded cap for the separation/connection of the flow/return chambers.

PACKING LIST

- No. 1 insulated box for installation on wall, complete of zone manifold/hydraulic separator, wall bracket and anti-rotation jig. Distribution units and accessories are supplied separately.

- No.1 Module assembling instructions

- No.1 circulation pump instructions

- No. 1 general instructions sheet

GENERAL INSTRUCTIONS AND SAFETY RULES

Consult this manual carefully before proceeding with any intervention on the equipment.

The manufacturer, in order to adapt to technological and equipment needs due to productive or installation reasons, may, without notice, make modifications to it.
Therefore, although the illustrations in this manual can differ slightly from the equipment in your possession, safety is guaranteed the same.
This manual is part of the product and should be adequately stored so that it could be consulted during the lifetime of the equipment.
Keep the instructions with the product if you are transfering to another owner.

Preliminary checks

Before doing each operation, carefully remove the packaging and check the integrity of the equipment. If you note some defects or damages do not install it or attempt to repair the equipment, but contact your dealer.

Installation
All operations on the product must be made with power disconnected from the mains. Installation should be done in accordance with the laws and regulations of each country. Producer responsibility is limited to providing the equipment. Its installation should be made in conformity with the rules of art, according to the requirements of these instructions and the rules of their profession by qualified staff, acting under suitable companies to take full responsibility of the whole plant.

R.B.M. spa is not responsible for the product modified without permission, and for the replamcements of no-original components.

Electrical connection
The controller must be installed and connected by authorized staff according to applicable regulations.
Wiring connection have to be made in accordance with electronic control's specifications. It is essential to connect the proper grounding

⚠ The controller must be connected into the network as the current regulations demands. The proper functioning of the controller is guaranteed only for the provided pump.

Hydraulic connections
After delivery of the product, ensure the tightening of all nuts fixing the pipes.

Be especially careful when you are connecting the piping kit to the hydraulic module, and avoid to bend the copper pipes.

⚠ Installation, connections and testing must be done by qualified staff who works in accordance with the standards and follows the instruction manual.
All piping should be insulated in accordance with the law.

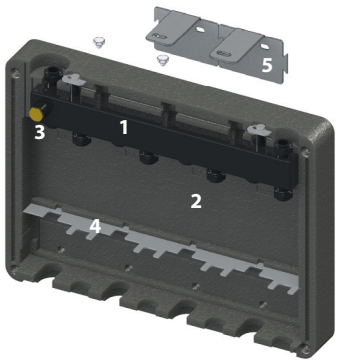
Please follow theese tips:
- Do not touch hot parts of the module such as pipe inlet and outlet of water. Every contact with them can cause dangerous burning.
- Do not expose the unit to spray water and other liquids.
- Do not place anything on the unit.
- Do not expose the unit to vapors from a cooking surface.
- Prohibit the use of the equipment for children and inexperienced people.
- Do not touch the appliance with wet or damp parts of the body and / or bare feet.
- Do not pull the wires.

SECTION 2: TECHNICAL DATA - DN20 / DN25 MANIFOLD

DN20

COMPONENTS:

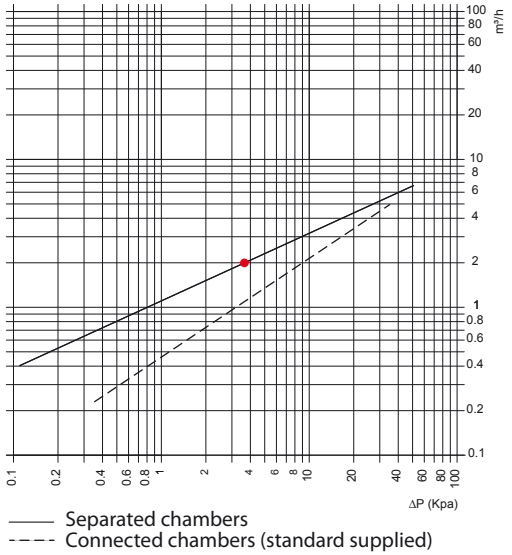
1. Manifold / separator black painted (DN20 2 / 3 zone manifold);
2. Black EPP insulation (front and back);
3. Threaded cap with watertight cap;
4. Anti-rotation jig;
5. Wall bracket



TECHNICAL DATA

Max. working temperature	110°C
DN20 manifold advisable flow rate limit	2.000 l/h
Max. working pressure	6 bar
Zone manifold material	Acciaio ST37.1
Insulation material	EPP 60 g/l
Zone manifold painting	RAL 9004

DN20 MANIFOLD PRESSURE LOSS



DN25

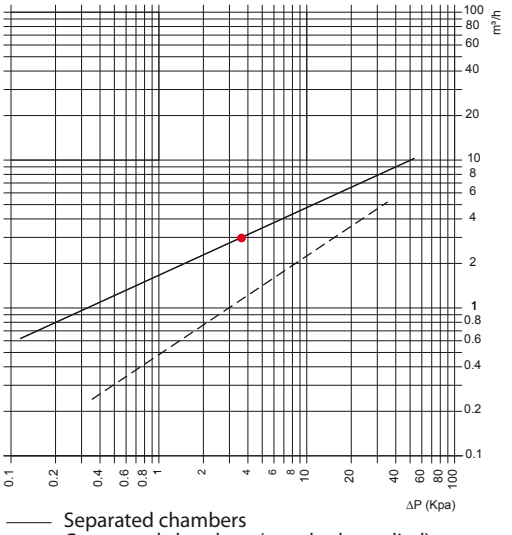
COMPONENTS:

1. Manifold / separator black painted (DN25 2 / 3 zone manifold);
2. Black EPP insulation (front and back);
3. Threaded cap with watertight cap;
4. Anti-rotation jig;
5. Wall bracket

TECHNICAL DATA

Max. working temperature	110°C
DN25 manifold advisable flow rate limit	3.000 l/h
Max. working pressure	6 bar
Zone manifold material	Acciaio ST37.1
Insulation material	EPP 60 g/l
Zone manifold painting	RAL 9004

DN25 MANIFOLD PRESSURE LOSS



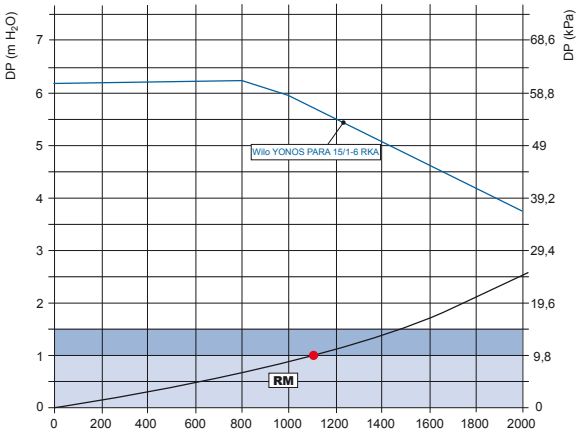
SECTION 2: TECHNICAL DATA - DISTRIBUTION MODULES

"RM MIX" DN20

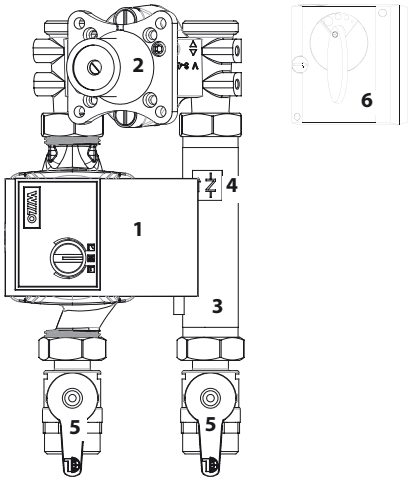
MODULATING TEMPERATURE DN20 MIXING UNIT "RM MIX":

1 Pump type Wilo YONOS PARA RS 15/1-6 130;
2 Modulating temperature mixing valve DN20 (valve "H");
3 Piping kit;
4 Return check valve;
5 Ball valve with handle;
6 Accessory: electric servomotor 230 V o 24 V.

PRESSURE LOSS / PUMP CHARACTERISTICS



Advisable operation range
Limit operation range



TECHNICAL DATA

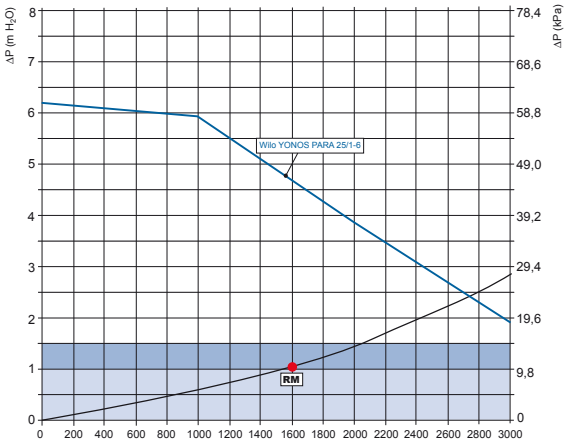
Max. working temperature	110°C
Max. working pressure	6 bar
Advisable flow rate limit (ΔP 10 KPa)	1.170 l/h
Heating power (ΔT 20)	25,6 kW
Circulation unit material	OT58 / Cu
Supply voltage of pump	230 V - 50 Hz

"RM MIX" DN25

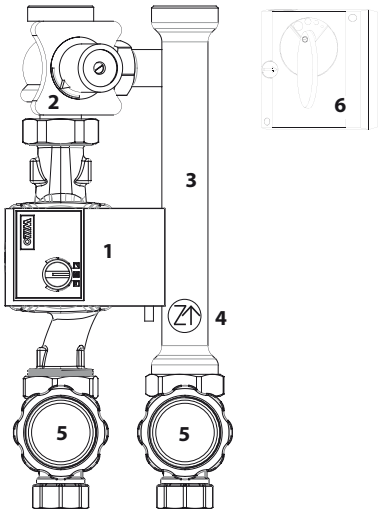
MODULATING TEMPERATURE DN25 MIXING UNIT "RM MIX" DN25:

1 Pump type Wilo YONOS PARA RS 25/1-6 180;
2 Modulating temperature mixing valve DN25;
3 Piping kit;
4 Return check valve;
5 Ball valve with handle and thermometer;
6 Accessory: electric servomotor 230 V o 24 V.

PRESSURE LOSS / PUMP CHARACTERISTICS



Advisable operation range
Limit operation range



TECHNICAL DATA

Max. working temperature	110°C
Max. working pressure	6 bar
Advisable flow rate limit (ΔP 10 KPa)	1.600 l/h
Heating power (ΔT 20)	37,2 kW
Circulation unit material	OT58 / Cu
Supply voltage of pump	230 V - 50 Hz

For further informations about the pumps please read the Wilo manuals into the packaging

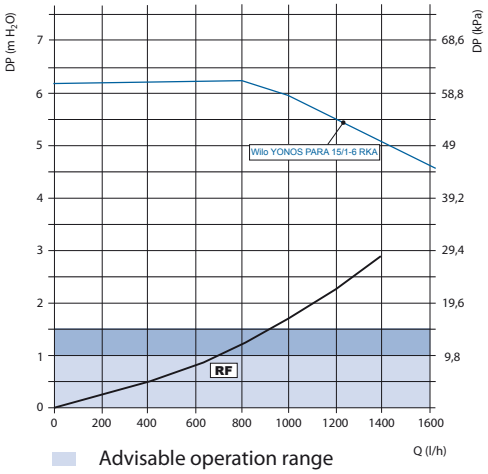
SECTION 2: TECHNICAL DATA - DISTRIBUTION MODULES

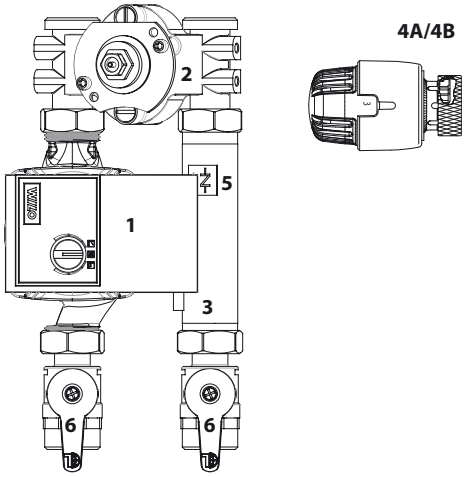
"RF MIX" DN20

CONSTANT TEMPERATURE MIXING UNIT "RF MIX":

1 Pump type Wilo YONOS PARA RS 15/1-6 130;
2 Constant temperature mixing valve DN20
3 Piping kit;
4A Thermostatic actuator 25°C ÷ 52°C, connection M30x1,5 (Mod. TL50);
4B Thermostatic actuator 40°C ÷ 70°C, connection M28x1,5 (Mod. TL705);
5 Return check vale;
6 Lock nuts;

PRESSURE LOSS / PUMP CHARACTERISTICS





TECHNICAL DATA

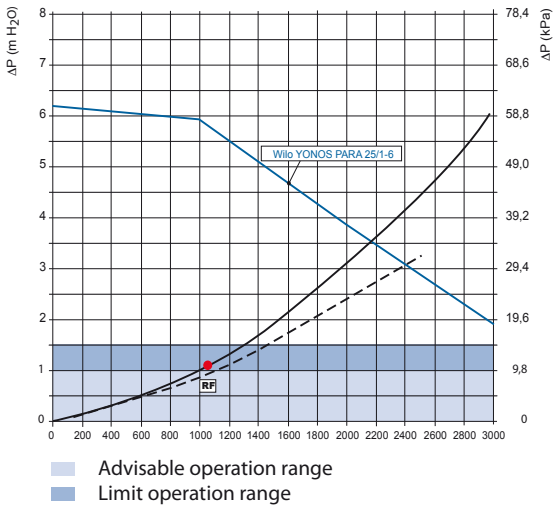
Max. working temperature	110°C
Max. working pressure	6 bar
Advisable flow rate limit (ΔP 10 KPa)	710 l/h
Heating power (ΔT 20)	16,5 kW
Circulation unit material	OT58 / Cu
Supply voltage of pump	230 V - 50 Hz

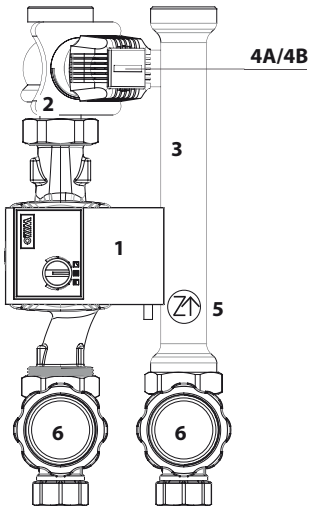
"RF MIX" DN25

CONSTANT TEMPERATURE MIXING UNIT "RF MIX":

1 Pump type Wilo YONOS PARA RS 25/1-6 180;
2 Constant temperature mixing valve DN25;
3 Piping kit;
4A Thermostatic actuator 25°C ÷ 52°C, connection M30x1,5 (Mod. TL50);
4B Thermostatic actuator 40°C ÷ 70°C, connection M28x1,5 (Mod. TL705);
5 Return check vale;
6 Lock nuts;

PRESSURE LOSS / PUMP CHARACTERISTICS





TECHNICAL DATA

Max. working temperature	110°C
Max. working pressure	6 bar
Advisable flow rate limit (ΔP 10 KPa)	1.050 l/h
Heating power (ΔT 20)	24,4 kW
Circulation unit material	OT58 / Cu
Supply voltage of pump	230 V - 50 Hz

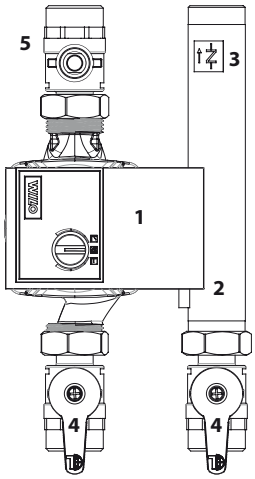
For further informations about the pumps please read the Wilo manuals into the packaging

SECTION 2: TECHNICAL DATA - DISTRIBUTION MODULES

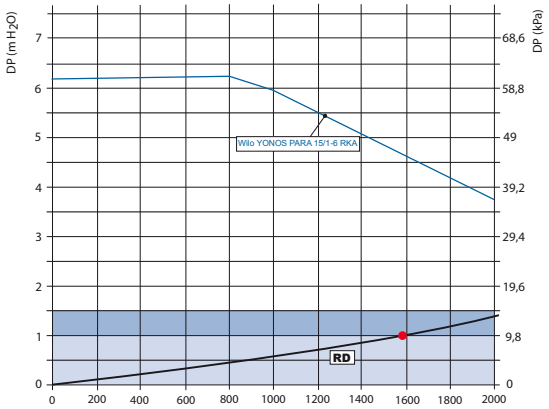
"RD" DN20

DIRECT UNIT (HIGH TEMPERATURE) "RD" DN20

1 Pump type Wilo YONOS PARA RS 15/1-6 130;
2 Piping kit;
3 Return check valve;
4 Ball valve with handle;
5 Rubinetto di intercettazione



PRESSURE LOSS / PUMP CHARACTERISTICS



Advisable operation range
Limit operation range

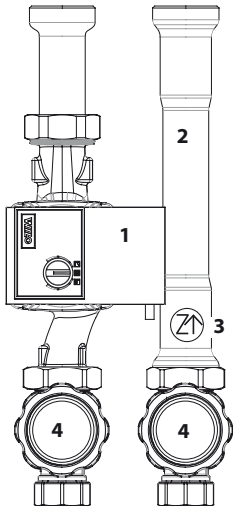
TECHNICAL DATA

Max. working temperature	110°C
Max. working pressure	6 bar
Advisable flow rate limit (ΔP 10 KPa)	1.570 l/h
Heating power (ΔT 20)	34,5 kW
Circulation unit material	OT58 / Cu
Supply voltage of pump	230 V - 50 Hz

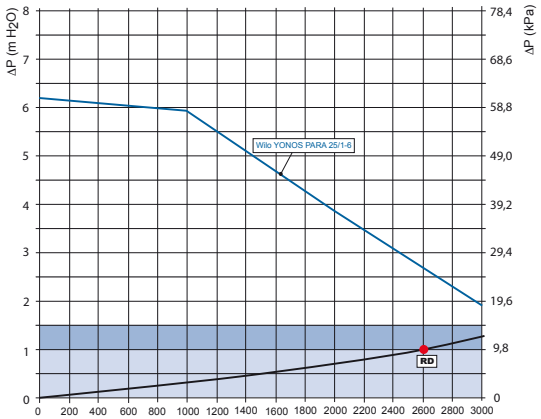
"RD" DN25

DIRECT UNIT (HIGH TEMPERATURE) "RD" DN25

1 Pump type Wilo YONOS PARA RS 25/1-6 180;
2 Piping kit;
3 Return check valve;
4 Ball valve with handle and thermometer;



PRESSURE LOSS / PUMP CHARACTERISTICS



Advisable operation range
Limit operation range

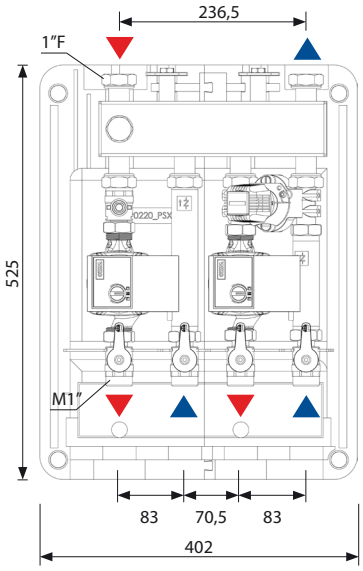
TECHNICAL DATA

Max. working temperature	110°C
Max. working pressure	6 bar
Advisable flow rate limit (ΔP 10 KPa)	2.600 l/h
Heating power (ΔT 20)	60,5 kW
Circulation unit material	OT58 / Cu
Supply voltage of pump	230 V - 50 Hz

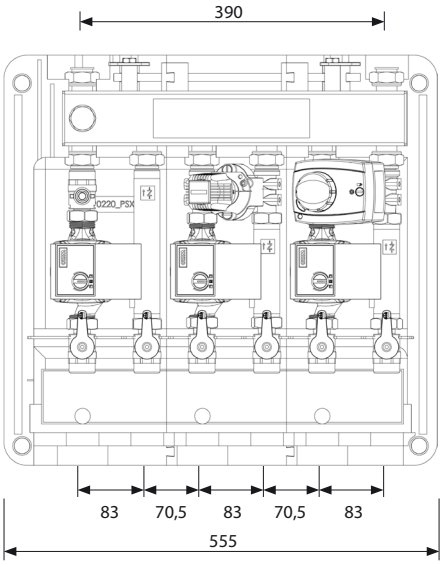
For further informations about the pumps please read the Wilo manuals into the packaging

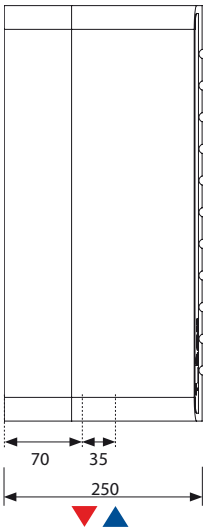
SEZIONE 3: DIMENSIONS AND CONNECTIONS

MULTIMIX 2x DN20

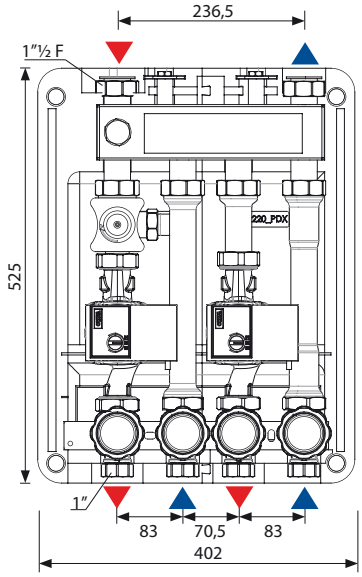


MULTIMIX 3x DN20

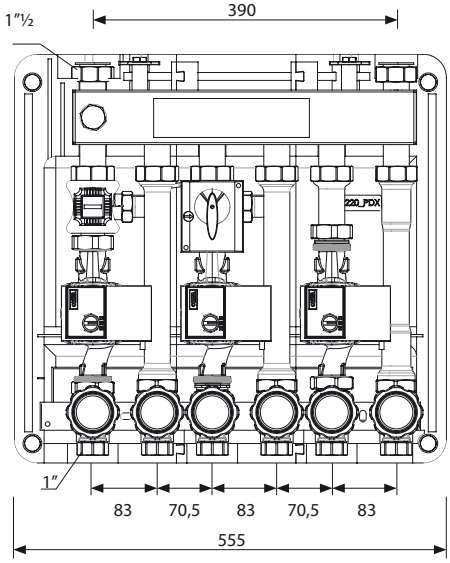


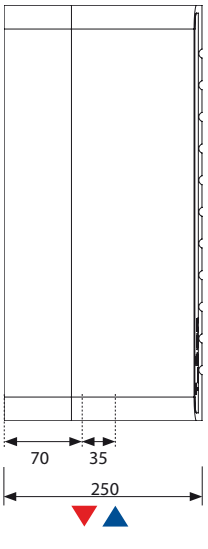


MULTIMIX 2x DN25

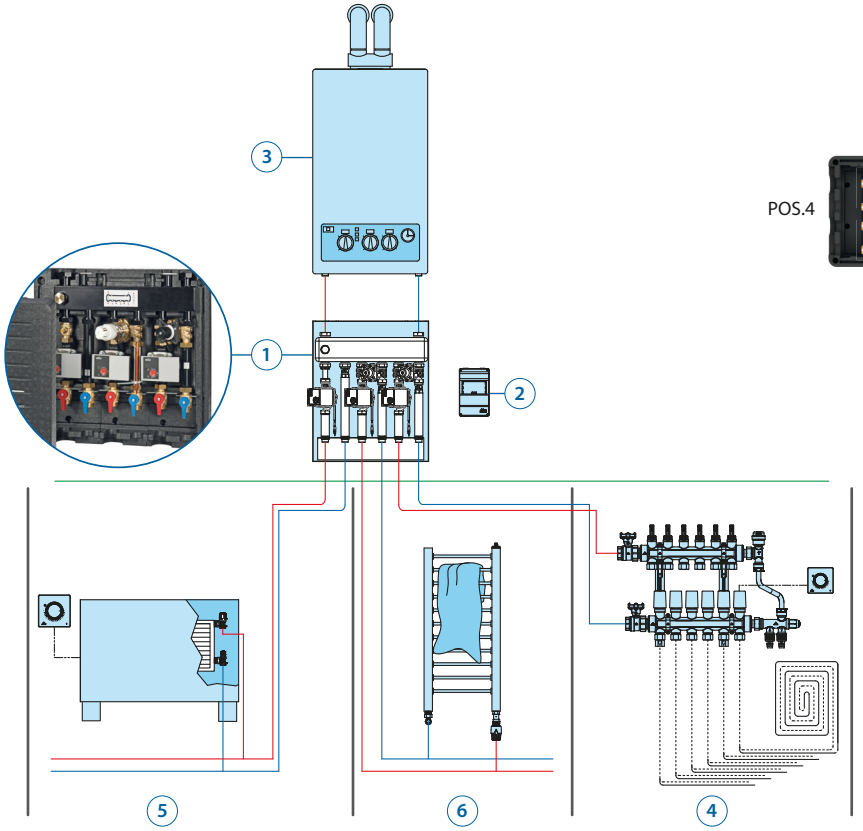


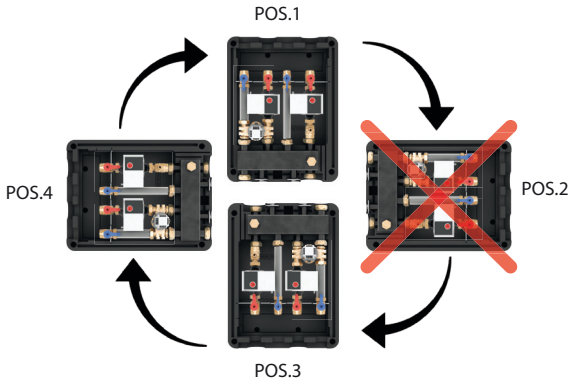
MULTIMIX 3x DN25





SECTION 4: EXAMPLE OF APPLICATION

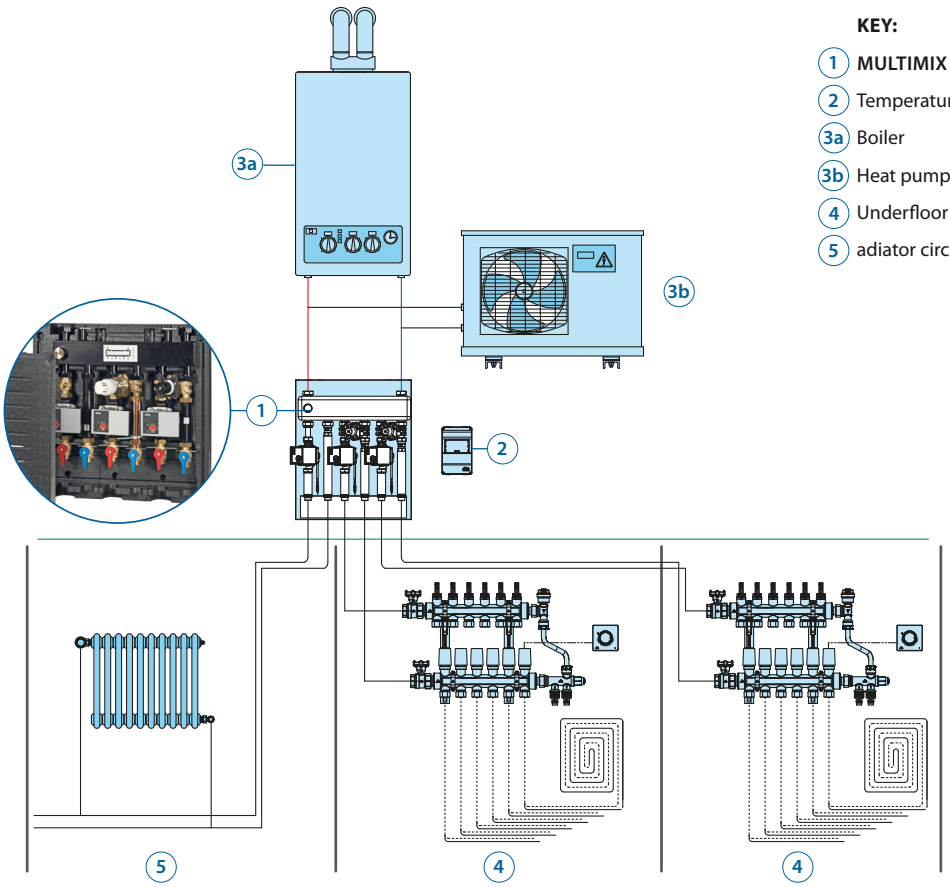




KEY:

1. **MULTIMIX** distribution unit
2. Temperature control
3. Boiler
4. Underfloor circuit (RM MIX low temperature)
5. Fan-coil circuit (RD high temperature)
6. Radiator circuit (RF MIX high temperature)

Functional diagram of **MULTIMIX DN20 - DN25** unit for management of 1 low temperature zone (radiant underfloor heating system) and 2 high temperatures zones (fan-coil and radiator).



KEY:

1. **MULTIMIX** distribution unit
2. Temperature control
3a. Boiler
3b. Heat pump
4. Underfloor circuit (RM MIX/RF MIX low temperature)
5. adiator circuit (RD high temperature)

Functional diagram of **MULTIMIX DN20 - DN25** unit for management of 2 low temperature zones (radiant underfloor heating system) and 1 high temperature zone (radiators).

SECTION 5: INSTALLATION

PRELIMINARY CHECK
Before doing every operation, carefully remove the packaging and verify if there is external damages. In case of damages please do not install the products. Dispose the packaging parts in compliance with the local regulations.

The product is supplied by the manufacturer completely screwed. The transport or a long stock may not grant the seal. Please check the seal before the filling of the system

All the operation must be done with power supply disconnected to the electricity grid

The installation must be done in compliance with the local regulations

The responsibility of the manufacturer shall be limited to the products. The installation must be carried out by qualified personnel

ASSEMBLING AND COMMISSIONING

The module is designed for the distribution of the water into the heating/cooling systems.

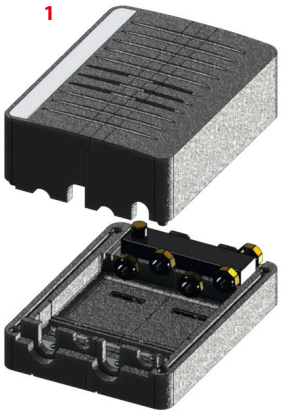
The installation, setting and maintenance of the appliance must be performed by professionally trained and qualified personnel, with the professional prerequisites.

The place of the installation must be dry and the ambient temperature must not exceed 40°C.

Connect the pipes of the system respecting the connection as indicated in the section 3.

Handling with care!

1

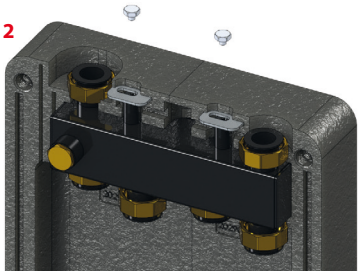


ATTENTION!
HANDLE WITH CARE!

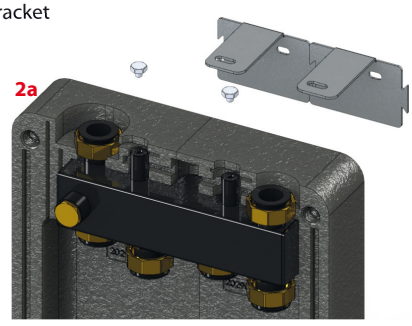
1. Carefully remove the module taking care not to damage it, remo ve the frontal insulation lifting up with both hands. Attention: the frontal insulation is divided in different parts. Remove it entirely.

2. Using a wrench, unscrew and remove the screws as shown in the picture below then remove the wall bracket as shown in the picture **2a**.

2



2a

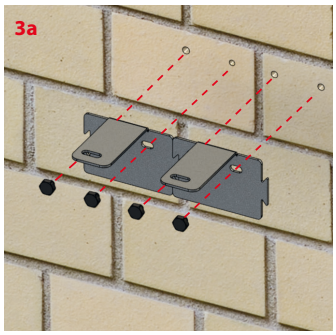


3

ATTENTION!
PLACE THE BRACKET IN THE CORRECT PLACE

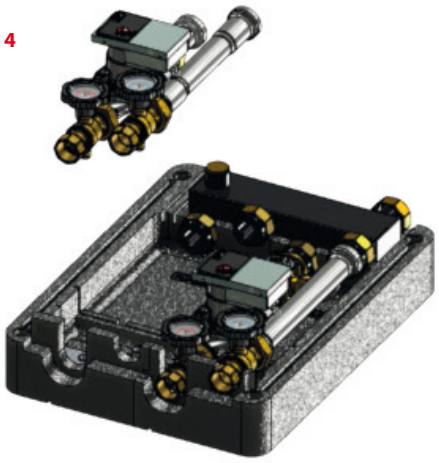
3. Place the drilling jig on the wall in the position you would install the MULTIMIX. After having fixed the drilling jig, drill the wall in correspondence of the right holes as shown in the picture on the left, then remove the drilling jig and fix the wall brackets on the wall through the 12 mm anchor screw (not included). Picture **3a**

3a



SECTION 4: EXAMPLE OF APPLICATION

4

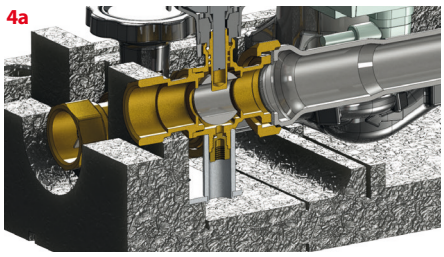


4. Before fixing the zone manifold/hydraulic separator to the wall install the distribution units to it .
As shown in the picture **4a** and **4b** pay attention when fixing the units to the anti-rotation jig.

ATTENTION!
SCREW THE NUTS WATERTIGHT

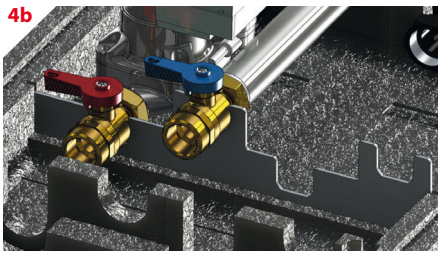
Circulation unit fixing DN25

4a



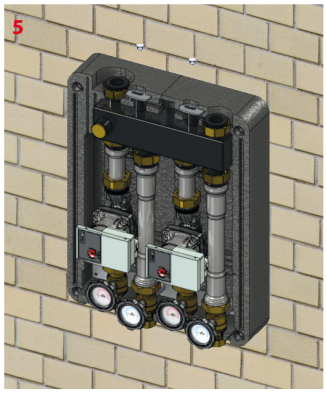
Circulation unit fixing DN20

4b

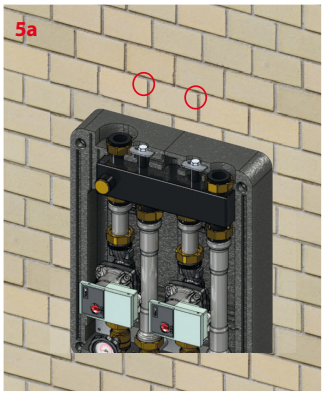


5. Fix the MULTIMIX on the wall using the wall brackets previously installed. Screw the hex head screws

5



5a

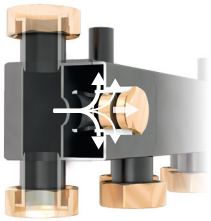


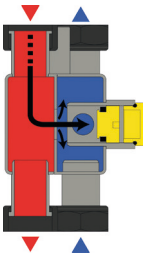
POSITION OF THE THREADED CAP of the zone manifold.

6. Change the position of the threaded cap before filling the system.
If the system is in pressure, close the ball valves on the distribution units and the ball valves upstream of the zone manifold.

CONNECTING CHAMBERS:
The connection between flow and return chambers allows the management of a system with several interacting circulators.

STANDARD SUPPLIED.

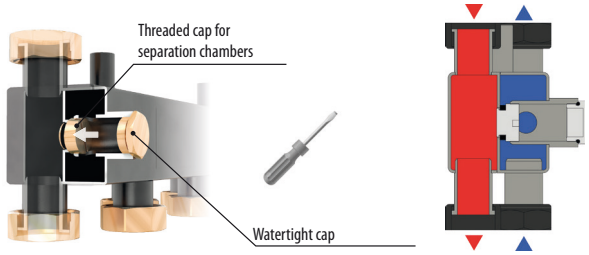




SEPARATE CHAMBERS:
Screw to stroke end the cap.

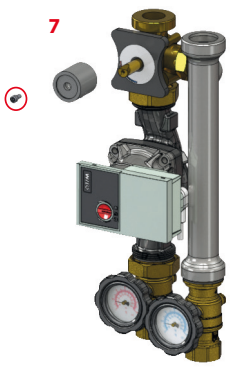
Further to what described at the point **6**, unscrew the watertight cap and through a screwdriver screw to stroke and the threaded cap (picture **6a**).

6a



7. Assembling the mixing unit "RM MIX" (DN20-DN25):
Unscrew the socket head screw as shown in the picture **7** and remove the handle

7

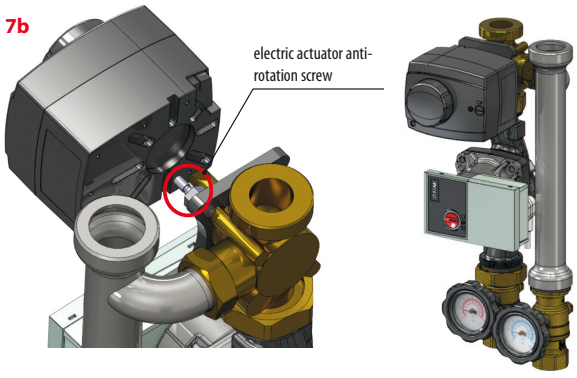


ATTENTION!

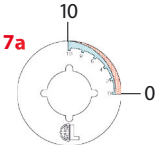
Before removing the black handle make sure that the arrows is in correspondence of the position 10 a sshown in the picture **7a** (total recirculation).
Put the actuator in manual operation.
Rotate the handle in correspondence to the blue symbol (valve completely closed).

Fix the anti-rotation screw in a hole of the valve's flange (picture **7b**), then install the electric actuator.

7b



7a

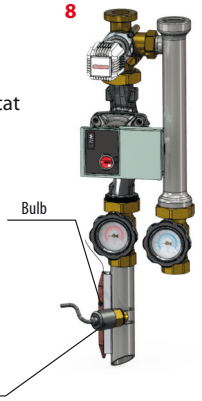


SECTION 5: INSTALLATION

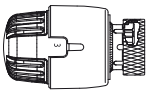
8. Assembling the fix point mixing unit "RF MIX":
fix the thermostatic head (accessories) on the valve.

Place the conductive plate and the capillary sensor on the supply pipe then connect the safety thermostat in serie to the pump.

8



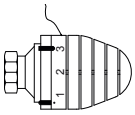
Thermostatic actuator 25-52°C regulation:



pos.	t (°C)
*	25
1	28
2	34
3	40
4	46
5	52

→ **PRE-SET FACTORY REGULATION**

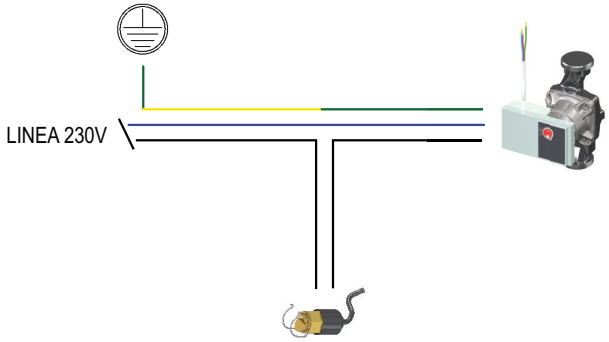
Thermostatic actuator 40-70°C regulation:



pos.	t (°C)
1	40
2	45
3	50
4	55
5	60
6	65
7	70

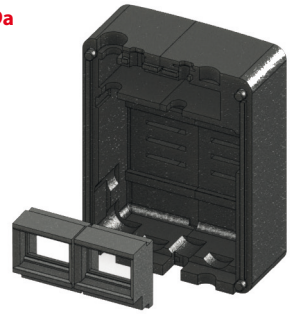
→ **PRE-SET FACTORY REGULATION**

SAFETY THERMOSTAT AND PUMP ELECTRICAL CONNECTION



PLACE THE EPP INSERT FOR PUMP INSULATION TO THE FRONTAL INSULATION:
follow the instructions.

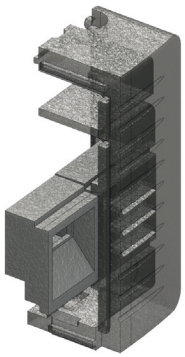
9a



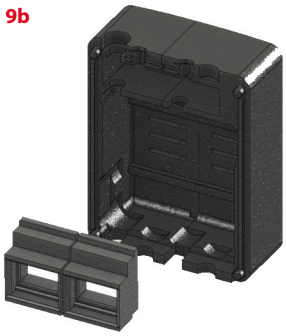
ATTENTION!

MULTIMIX DN20 insert placing:
Coupling the inserts (2 or 3 in function of the MULTIMIX model) as shown in the picture **9a**

N.B. THE INSERT HAVE TO BE COUPLED TO THE FRONTAL INSULATION AND NOT DIRECTLY TO THE PUMP



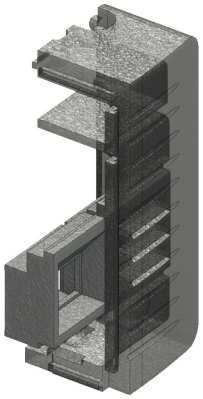
9b



ATTENTION!

MULTIMIX DN25 insert placing:
Coupling the inserts (2 or 3 in function of the MULTIMIX model) as shown in the picture **9b**

N.B. THE INSERT HAVE TO BE COUPLED TO THE FRONTAL INSULATION AND NOT DIRECTLY TO THE PUMP



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