



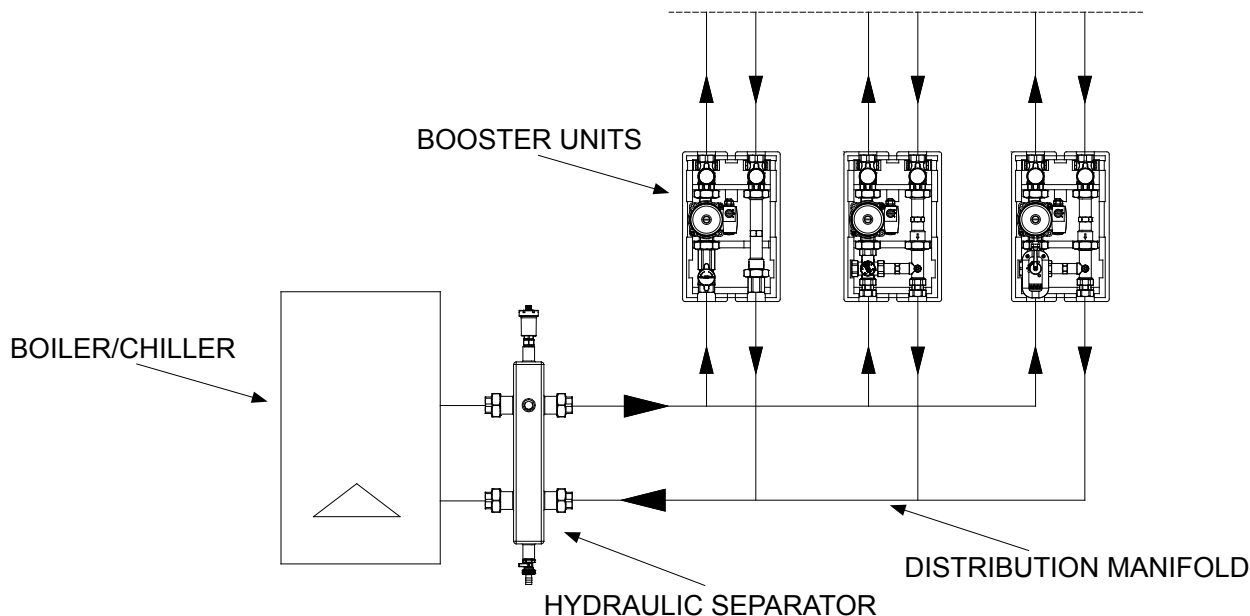
**Instruction booklet**

**Booster unit for temperature regulation**

**Art.2171 - Art.2174 - Art.2176**

**DESCRIPTION**

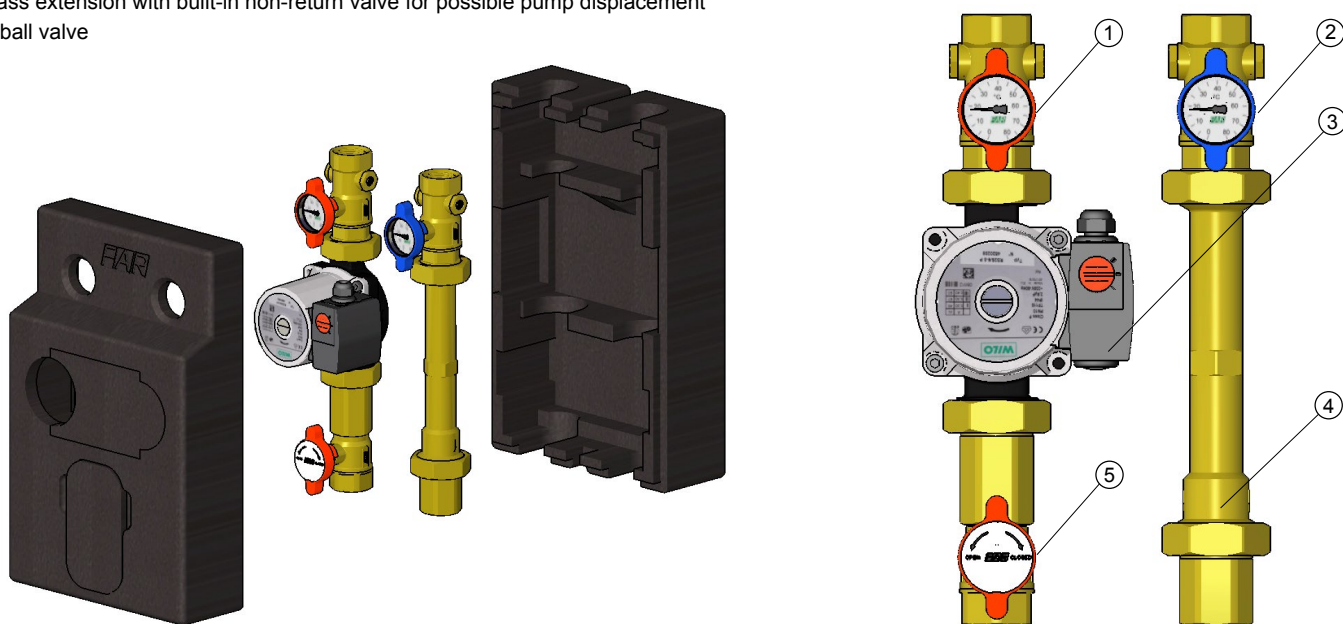
The booster units – temperature regulating units – are suitable for temperature control and water distribution. They are usually installed in central heating plant, after the boiler and the hydraulic separator, and can be incorporated into distribution manifolds supplying high and low water temperature system. The following is an example of the three units installation in the three configurations into a heating (or cooling) system where, from a distribution manifold placed after the hydraulic separator, they leave the connections to the units which will then send the water to the zones to be heated / cooled.



**BOOSTER UNITS FOR HIGH WATER TEMPERATURE SYSTEMS (ART.2171)**

The booster unit **art.2171** controls the water distribution at the same temperature as the supply from the boiler or chiller.

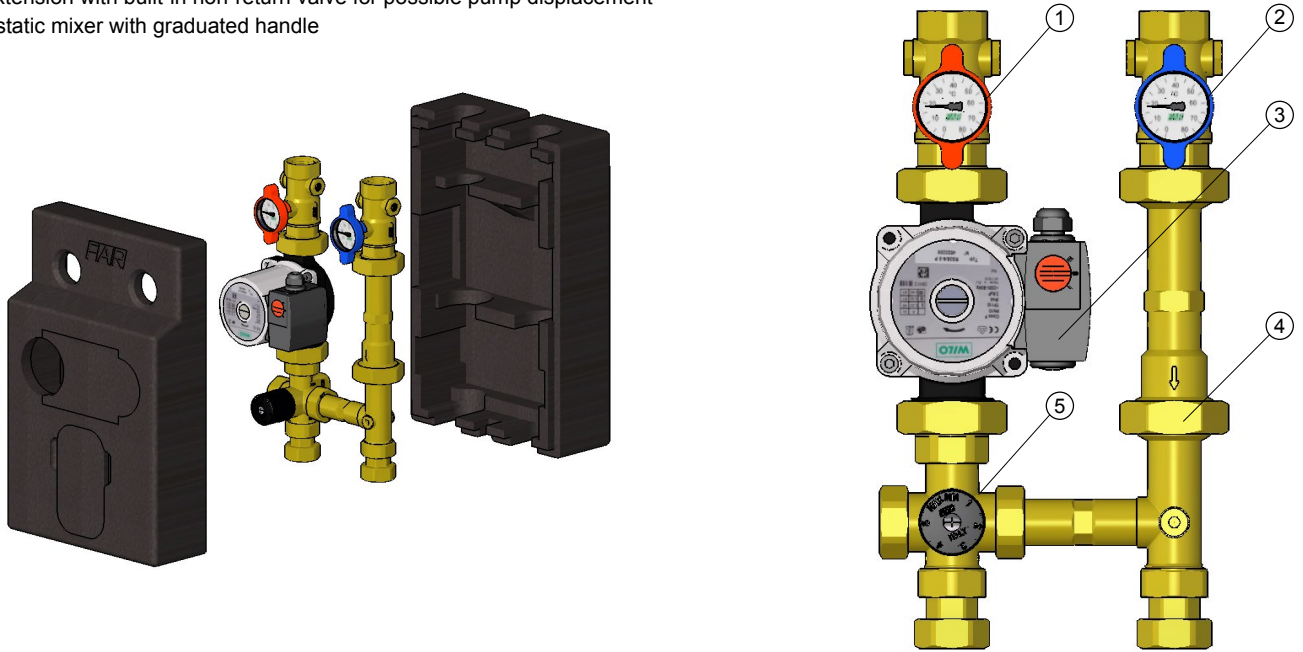
1. 1" ball valve with 0+80°C temperature gauge and red handle, for connection to supply pipeline
2. 1" ball valve with 0+80°C temperature gauge and blue handle, for connection to return pipeline
3. Pump with connection to 1 1/2" unions. Pump centre distance: 130mm (3-speed pump or electronic pump, energy class A)
4. Brass extension with built-in non-return valve for possible pump displacement
5. 1" ball valve



**FIXED POINT BOOSTER UNIT WITH THERMOSTATIC MIXER FOR LOW WATER TEMPERATURE SYSTEMS ART.2174**

The booster unit **art.2174** permits a fixed point regulation by means of a thermostatic mixer, ideal for adjusting the distribution temperature to underfloor heating systems.

1. 1" ball valve with 0+80°C temperature gauge and red handle, for connection to supply pipeline
2. 1" ball valve with 0+80°C temperature gauge and blue handle, for connection to return pipeline
3. Pump with connection to 1 1/2 unions. Pump centre distance: 130mm (3-speed pump or electronic pump, energy class A)
4. Brass extension with built-in non-return valve for possible pump displacement
5. Thermostatic mixer with graduated handle

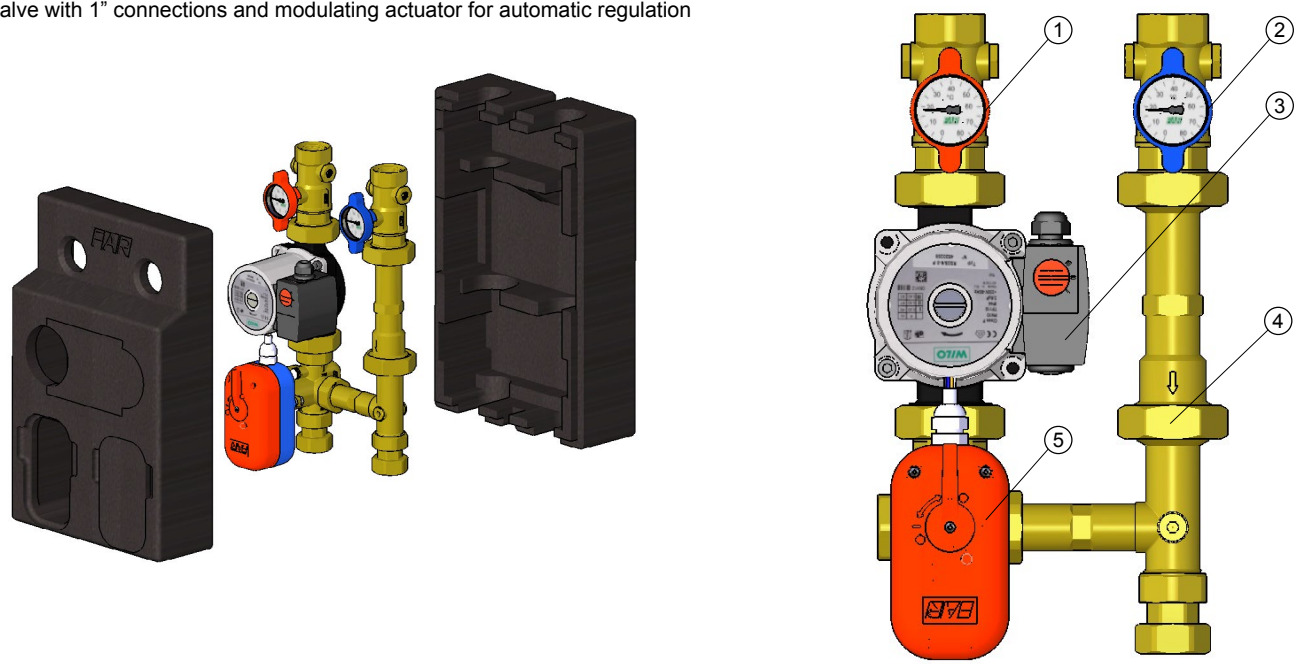


**BOOSTER UNIT WITH MIXING VALVE FOR LOW WATER TEMPERATURE SYSTEMS (ART.2176)**

The booster unit **art.2176** controls the water distribution through two different types of regulation:

- **fixed point functioning:** with constant temperature, using the control unit art.9612 complete with supply probe and seat
- **temperature control:** with variable temperature, using the control unit art.9611 complete with supply and external probe

1. 1" ball valve with 0+80°C temperature gauge and red handle, for connection to supply pipeline
2. 1" ball valve with 0+80°C temperature gauge and blue handle, for connection to return pipeline
3. Pump with connection to 1 1/2 unions. Pump centre distance: 130mm (3-speed pump or electronic pump, energy class A)
4. Brass extension with built-in non-return valve for possible pump displacement
5. Mixing valve with 1" connections and modulating actuator for automatic regulation



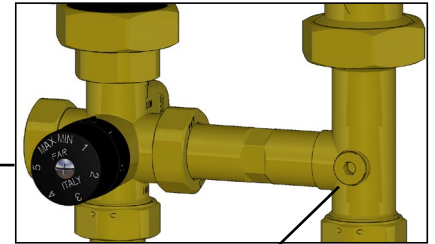
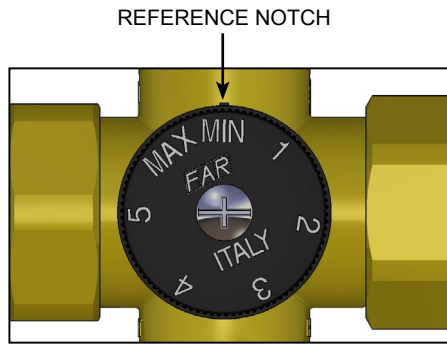
**TECHNICAL FEATURES**

Nominal pressure: 10bar  
 Max. temperature : 95°C (without temperature gauges)  
 Compatible media: water, water with glycol

### THERMOSTATIC MIXER

The thermostatic mixer is designed to keep constant temperature in the system. Temperature setting must be carried out when system is operating and in relation to the design heads. An approximate setting can be effected by considering the following correspondence between the numbering on the mixer and the outgoing water temperature.

POSITION	t [°C]
MIN	18 ± 2
1	20 ± 2
2	22 ± 2
3	30 ± 2
4	40 ± 2
5	50 ± 2
MAX	55 ± 2

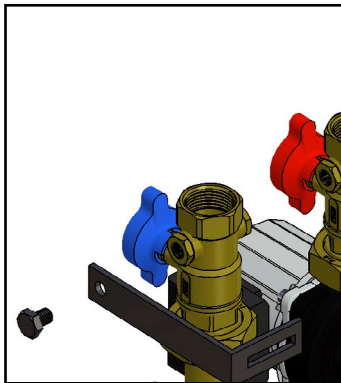


The return connection is provided with a 1/4" seating, suitable for the installation of a probe or a pressure gauge.

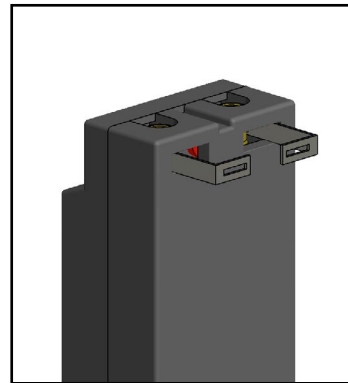
Once the mixer handle position has been set, the system is calibrated. The values indicated in the table above can vary (±2°C tolerance), depending on the characteristics of the system where the unit is installed. Final adjustment can be made by referring to the value indicated on the ball valve temperature gauge.

### WALL INSTALLATION FOR ART.2174RU

Brackets complete with screws, art.7478 can be used for wall installation.



1. Position the bracket as indicated and screw it on the ball valve plug.



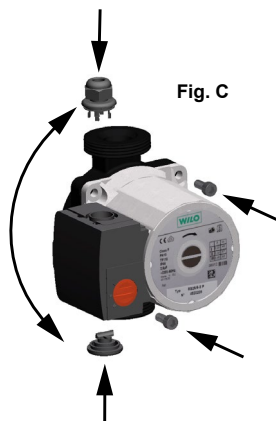
2. To insert the brackets in the insulation, cut along the splits on the back shell and fix using two Rawlplugs.

### PUMP CONFIGURATION WITH RIGHT-HAND SIDE SUPPLY

Fig. A

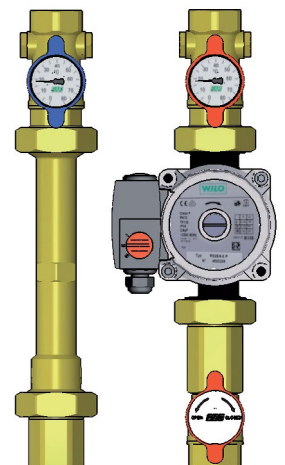


Fig. B



When the pump is installed on the right side, it is also necessary to rotate the cable connector so as to achieve the arrangement shown in the figure to the side. Please follow the instructions detailed into pictures a, b and c. Move the ball valves – placing the valve with the red handle in line with the pump and the valve with the blue handle in line with the brass extension piece. Check also that the arrow printed on the extension piece is in the correct position.

For booster units arts.2177-2178 with pump configuration with right-hand supply, the upper part of the anti-condensation shell has to be rotated through 180°.



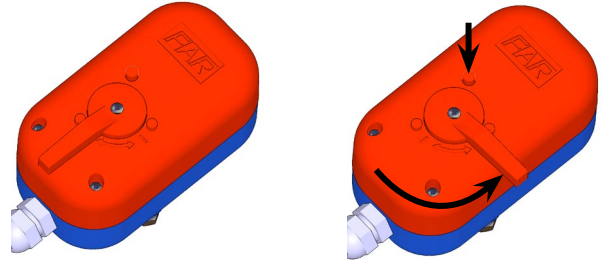
**“SMALL” 3 POINTS ACTUATOR**

ARTICOLE	VOLTAGE FREQUENCY	ABSORBED POWER	ROTATION ANGLE	ROTATION TIME	TORQUE	ROOM TEMPERATURE	DEGREE OF PROTECTION	COLOUR
3010 40	230 V-50Hz	4,5 VA	90°	180 S	10 Nm	-10° + 50°C	IP54	RED/BLUE

The actuator, incorporating an appropriate servomotor, permits automatic operation of a mixing valve. It operates in response to a signal coming from a temperature control unit.

**Manual release use**

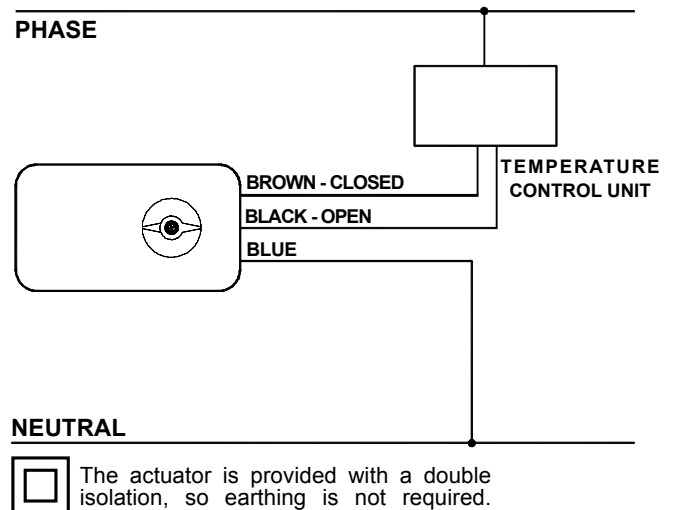
In order to manually open or close the actuator, push the red key and simultaneously turn the position indicator counter-clockwise through 90°. Normal functioning will return automatically.



**Electrical Connection**

Before connecting the actuator ensure that the selected model is compatible with the available network voltage. All connections must to be made by qualified personnel, with respect for overall electrical system and taking care that the electricity supply is switched off. Incorrect connection may damage both person and equipment. All FAR actuators have been designed with an additional auxiliary microswitch, an exchange contact without voltage, for low-tension signals (max 230 V) and/or to supply applications with low electrical input (max 2A).

N°	COLOUR	CONNECTION	DESCRIPTION
1	GREY	MICROSWITCH COMMON CONTACT	CONNECTED TO THE COMMON CONTACT OF THE MICROSWITCH
2	WHITE	N.O. OF THE MICROSWITCH	CONNECTED TO THE NORMALLY OPEN CONTACT OF THE MICROSWITCH
3		SIGNAL INDICATOR	WITH OPEN VALVE PRESENCE OF PHASE ON TERMINAL
N	BLUE	NEUTRAL	CONNECTION TO THE NEUTRAL OF SYSTEM
5	BROWN	PHASE - CLOSE	VALVE CLOSING
6	BLACK	PHASE - OPEN	VALVE OPENING
7		SIGNAL INDICATOR	WITH CLOSED VALVE PRESENCE OF PHASE ON TERMINAL



**Wiring connections:  
Actuator with temperature control unit**

To control opening and closing of a zone valve via an actuator, connect the blue wire to the neutral one, the brown and the black to the temperature control unit. The valve opens in presence of phase on the black wire, while with phase on the brown the valve closes.

**TECHNICAL ASSISTANCE**

For any kind of problem apply directly to FAR Rubinetterie S.p.A.  
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