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ARV ProClick 4-way rotary mixing valves

NOTE!

The product may only be used if you have fully read and understood these operating instructions. The manual is also available on the AFRISO websites in the Internet.

WARNING!



The ARV ProClick mixing valve may only be installed, commissioned and dismantled by trained personnel.

Changes and modifications carried out by unauthorised persons may cause danger and are prohibited for safety reasons.

Risk of scalding by hot medium! Perform all installation and maintenance work after the system has cooled down.

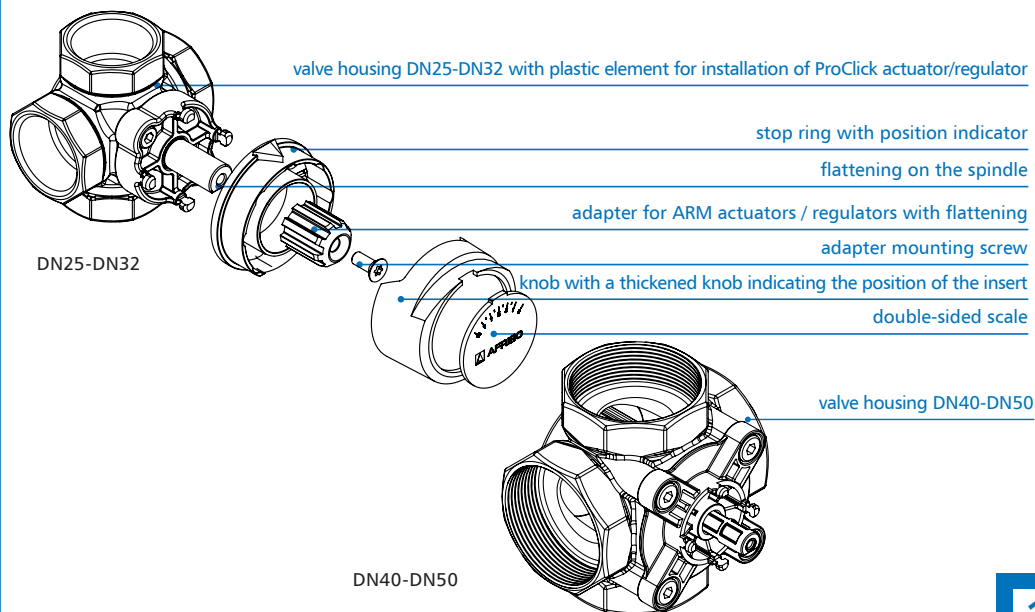
APPLICATION

4-way valves are used with solid fuel boilers as mixing valves with simultaneous increase of the return temperature to the boiler. They can also be successfully used as control fittings in heating systems with cast-iron boilers with oil or gas burners.

DESCRIPTION

ARV ProClick 4-way rotary mixing valves are made of brass. The connections are octagonal. The valves are equipped with handwheels for manual adjustment and angle stops. The rotary scale on one side is printed with the graduation „0 to 10“, while the other side has the graduation „10 to 0“. This allows the valve to operate in different mounting positions. The bold section of the knob's perimeter reflects the position of the valve inside the valve. The knob is made of non-slip material. For the connection of ARV ProClick valves to ARM ProClick actuators or ACT / ARC ProClick controllers, there are components made of robust plastic underneath the handwheel. With these, ARM ProClick actuators or regulators are mounted without tools. ARV ProClick valves require a low torque to turn them.

FIG. 1. CONSTRUCTION



VALVE MOUNTING

Note! The flattening on the stem and adaptor of the ARV ProClick 4-way mixing valve (Fig. 1) coincides with the axis of the valve's content (Fig. 2a and 2b).

The ARV ProClick mixing valve is supplied with the plastic knob fitted, together with the stop ring and scale. In order not to damage the plastic components, we recommend that you remove the cap with the scale before installing the valve in the system, and then remove the knob and the blue stop ring with indicator from the valve. These elements are mounted with a clip. If you have trouble pulling the knob off, you can gently lever it with a flathead screwdriver. Install the valve in the system. Once all the assembly work around the valve has been completed, you can proceed to position the valve and fit it with the plastic parts. To do this:

1. Determine the operating range of the mixer valve and the closing direction of the mixer valve (Fig. 2). First determine the boiler feed water inlet, the water outlet to the system, the water return from the system and the return to the boiler. Then position the valve precisely in the axis of the water outlet to the system and the return to the boiler (Fig. 2 - axis „s“). This corresponds to opening the valve „at 50%“. The valve should operate within $\pm 45^\circ$ of this position.
2. Determine the closing direction of the valve and select the appropriate scale. The 4-way mixing valve is considered to be fully closed when the valve stem is located in the „z“ axis (Fig. 2a and 2b). All feed water from the boiler is directed to the boiler return. This corresponds to position „0“ on the dial scale. Depending on the installation position of the valve, the valve is closed by turning the valve stem to the left (Fig. 2a) or to the right (Fig. 2b). The 4-way mixing valve is considered fully open when the valve stem is in the „o“ axis (Fig. 2a and 2b). All the hot water from the boiler is then directed into the system. This corresponds to position „10“ on the dial scale. Depending on the installation position of the valve, the valve is opened by turning the valve stem to the right (Fig. 2a), or to the left (Fig. 2b). The ARV ProClick valve is supplied with a rotary cap printed on both sides: „0 to 10“ and „10 to 0“. The appropriate scale must be selected according to the rule:
- if the closing of the valve will take place to the right (clockwise), we select a scale „from 0 to 10“,
- if the closing of the valve will take place to the left (counterclockwise), we select a scale „from 10 to 0“.
3. Place and snap the blue stop ring onto the valve set at step 1, with the indicator pointing opposite to the flattening on the valve stem and adaptor (Fig. 3). The pointer should be in the axis of the output connections from the valve.
4. Place a knob on the valve adapter that fits in one position only (Fig. 4).
5. Place the lid with the selected scale on the knob (Fig. 5). To insert the lid, place the smaller tooth in the hole in the knob, then press down and snap into place.
6. Check that the valve is working properly.

FIG. 2a. SCALE SELECTION

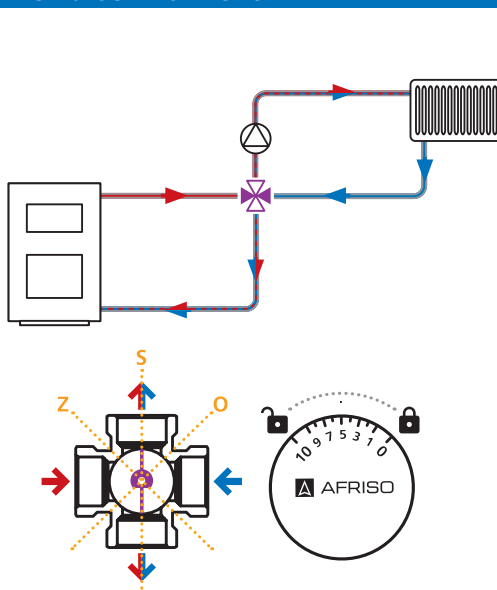


FIG. 2b. SCALE SELECTION

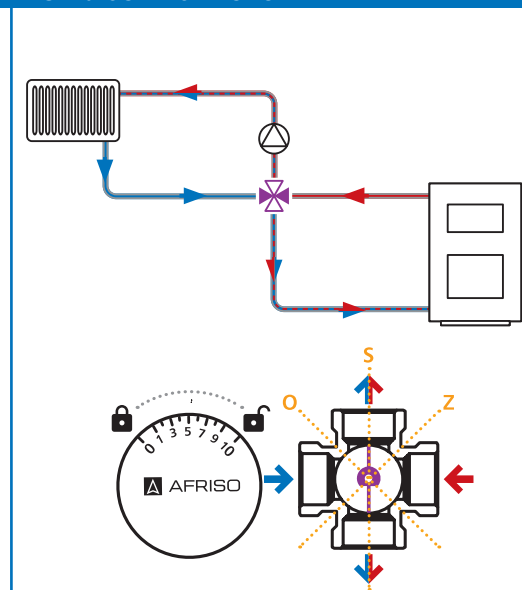


FIG. 3. MOUNTING THE BLUE RING

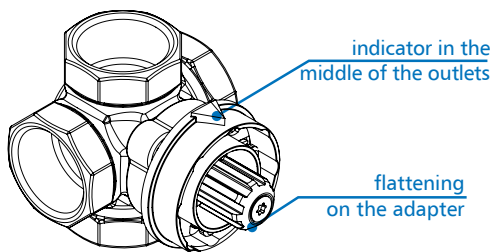


FIG. 4. KNOB MOUNTING

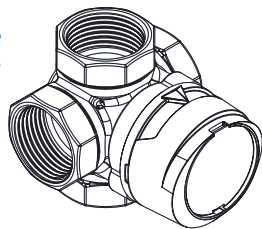
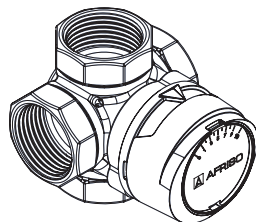
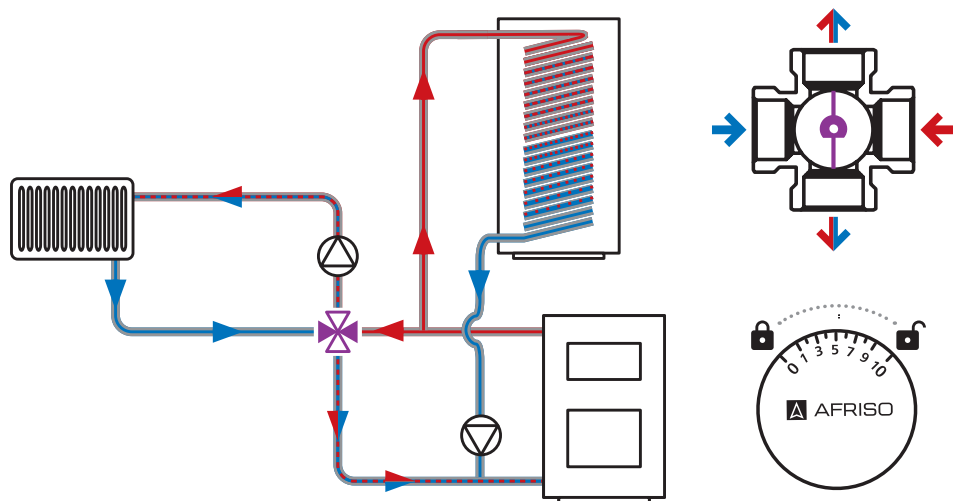
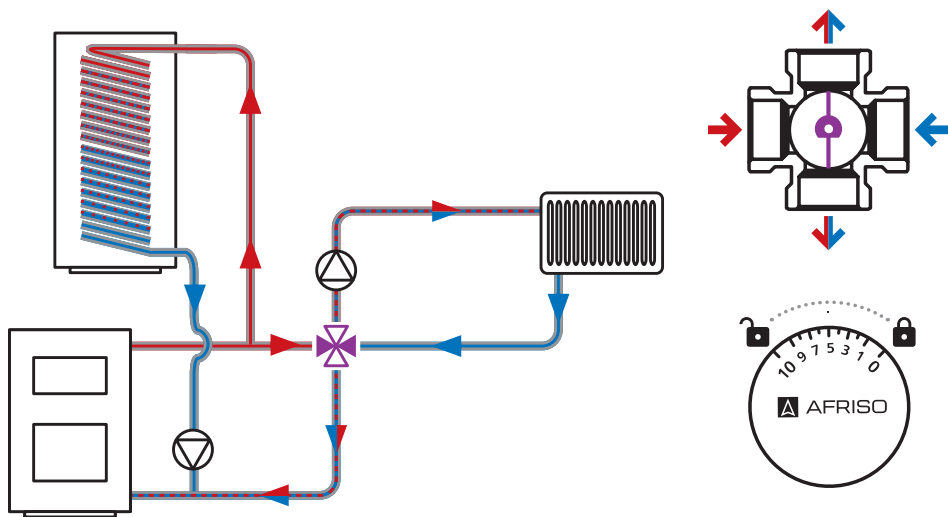


FIG. 5. SCALE MOUNTING

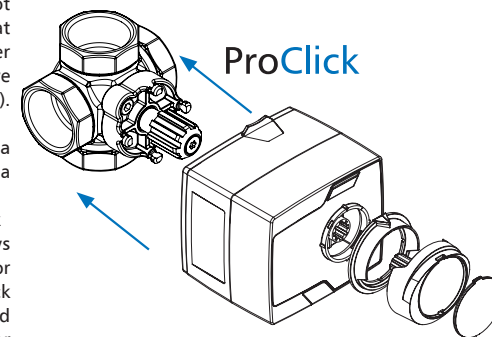


EXAMPLE APPLICATION SCHEMES



VALVE OPERATION

- Position of knob with scale**
Once the valve has been correctly set and the scale selected, position „0“ will indicate that the valve is fully closed (hot water supply closed) and position „10“ will indicate that the valve is fully open (hot water supply open). Any other position on the scale will indicate the percentage of valve opening (e.g. position „4“ will mean 40% valve opening).
- Valve spindle position**
Pogrubiony fragment obwodu pokrętki, odzwierciedla dokładnie położenie zawórki wewnątrz zaworu. Ułatwia to kontrolę poprawności działania zaworu.
- Mounting of electric actuator or controller ProClick**
Under the knob of the ARV ProClick valve, there is always an adapter for mounting the ARM ProClick electric actuator or the ACT / ARC ProClick controller. With the ProClick mounting system (Fig. 6), simply remove the knob and the blue stop ring from the valve, then slide the actuator or ProClick regulator into position until the mounting mechanism engages on the valve.



APPROVALS AND CERTIFICATES

The product is subject to the Pressure Directive 2014/68/EU and is not CE marked in accordance with Article 4.3 (recognised engineering practice). The products have been marked with the B construction mark, in accordance with the regulations in force in Poland.

TECHNICAL DATA

Parameter / part	Value / material
Kvs coefficient	DN25: 9 m³/h DN32: 18 m³/h DN40: 24 m³/h DN50: 36 m³/h
Differential pressure	max 1 bar
Internal leakage at $\Delta p = 100$ kPa	DN25 < 0,3% DN32 < 0,7% DN40-DN50 < 1%
Rotation angle	90°
Operating temperature	5-95°C
Operating pressure	max 10 bar
Glycol concentration	max 50%
Material	brass CW617N, PPS, EPDM
Required torque	DN25-DN32 < 0,5 Nm DN40-DN50 < 2,0 Nm

MAINTENANCE

ARV ProClick rotary mixing valves do not require any maintenance.

DECOMMISSIONING, DISPOSAL

- Dismount the product.
 - Dispose of the product according to local directives and guidelines.
- The product is built from recyclable materials.
If you have any questions or problems with disposal, please contact the appropriate distributor or manufacturer's point.

WARRANTY

Product guarantee in accordance with the general conditions of sale and delivery.

CUSTOMER SATISFACTION

For AFRISO customer satisfaction is paramount. If you have any questions, suggestions or product problems, please contact us.