

ZONE VALVES WITH QUICK-COUPLING INSTALLATION



Art. 307075



Art. 307080

1. DESCRIPTION

This new range of FAR motorized zone valves is designed to make installation quick and easy. They permit to create independent central heating systems for both new and refurbished buildings. They are suitable for use with horizontal distribution circuits and can also be used to extend control of existing installations.

The valve is controlled by an actuator of small dimensions,

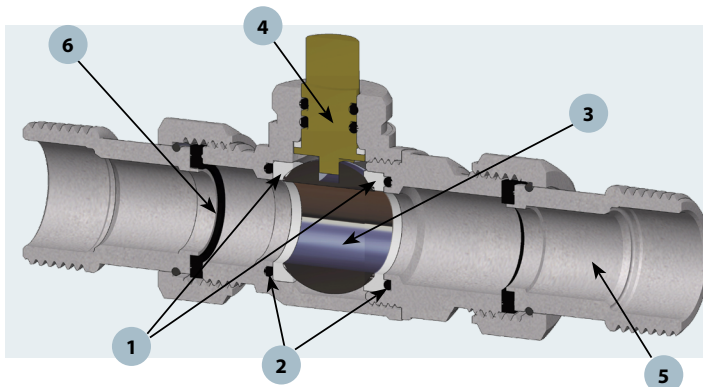
properly designed for easy installation in inspection boxes or in confined space. The actuator can be connected to an ON-OFF room thermostat and permits regulation of the temperature in more than one room. The zone valves can be used to control the temperature of both the whole building and individual areas within it. Thus a single boiler can be used to generate hot water to heat living room, dining room, bedrooms, study, etc.

1.1 ANTI-BLOCKAGE SYSTEM

The zone valve features a special internal anti-blockage system, which prevents the valve blocking in even the worst operating conditions, i.e. in case of calcareous deposits on the ball itself.

The system comprises two PTFE seats located on two O-rings, which operate as "shock absorbers" so that ball rotation is guaranteed - even if it has not been used for a long period.

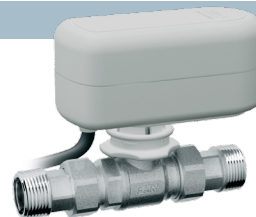
1.2 CONSTRUCTION FEATURES



- 1 Seats in P.T.F.E.
- 2 Sealing O-rings in EPDM
- 3 Ball in CW617N brass
- 4 Control stem in CW617N brass with O-rings in EPDM
- 5 Valve body in CW617N brass
- 6 Gasket in EPDM

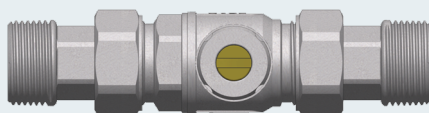
2. 2-WAY VALVE

The two way full bore valve is an universal valve, suitable for all types of application. The actuator opens or closes off the flow of fluid in response to signals received from the thermostat. It is available with male-male and male-female connections.

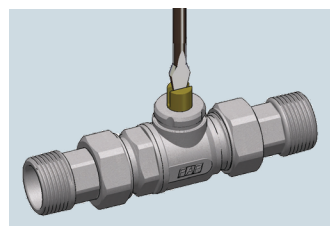
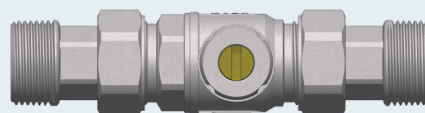


The zone valve stem must be adjusted by means of a screwdriver, as shown below.

FULLY OPEN VALVE



FULLY CLOSED VALVE



3. 3-WAY DIVERTER ZONE VALVE

This kind of valve is used to divert the flow from one circuit to another. It can be used in traditional heating systems, to divert the water back in case of thermostatic operation, or for switching in summer and winter to use circuit to heat or cool the room. This valve can also be used in systems which combine a boiler with a real fireplace. It is available with male-male and male-female side connections.



3.1 INSTALLATION

Stem positioning is carried out by means of a screwdriver, with which it is possible to rotate the flow indicator into the correct position (**Fig. A**). The actuator can be installed on the valve in either two positions with no impact on operation, as the 90° movement transmitted to the valve remains the same. Before installing the actuator, it is essential to check that the flow aperture in the ball of the valve is orientated in the desired direction.

Fig. 1 3-Way diverter zone valve with fluid inlet from below and fluid delivery to the distribution pipework to either right or left according to the actuator position

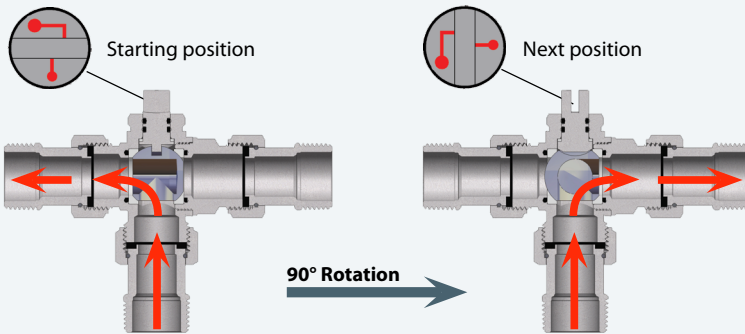


Fig. 2 3-Way diverter zone valve with fluid delivery towards the centre and inlet from right or left according to the actuator position

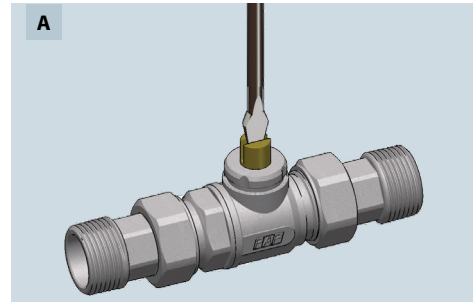
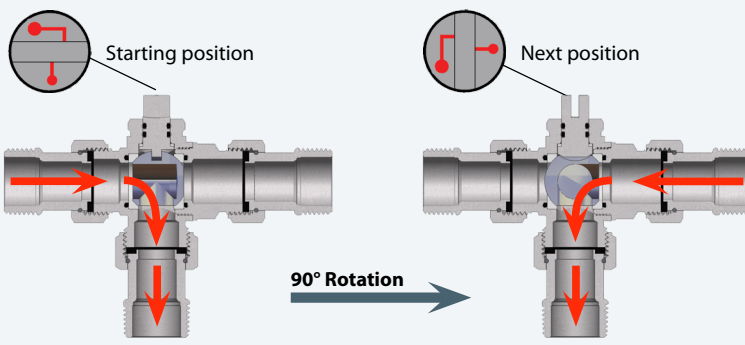


Illustration **Fig. B** shows how the position of the ball permits the inlet of fluid from below and then diverts it to the left. In the same position it can also permit fluid to enter from the left and then divert it downwards.

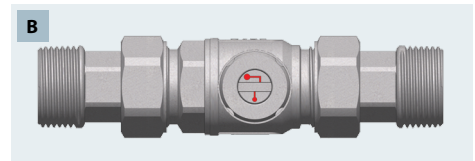
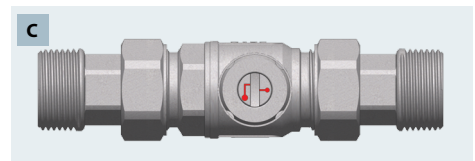


Illustration **Fig. C** shows how the position of the ball permits the inlet of fluid from below and then diverts it to the right. In the same position it can also permit fluid to enter from the right and then divert it downwards.



4. ACTUATOR

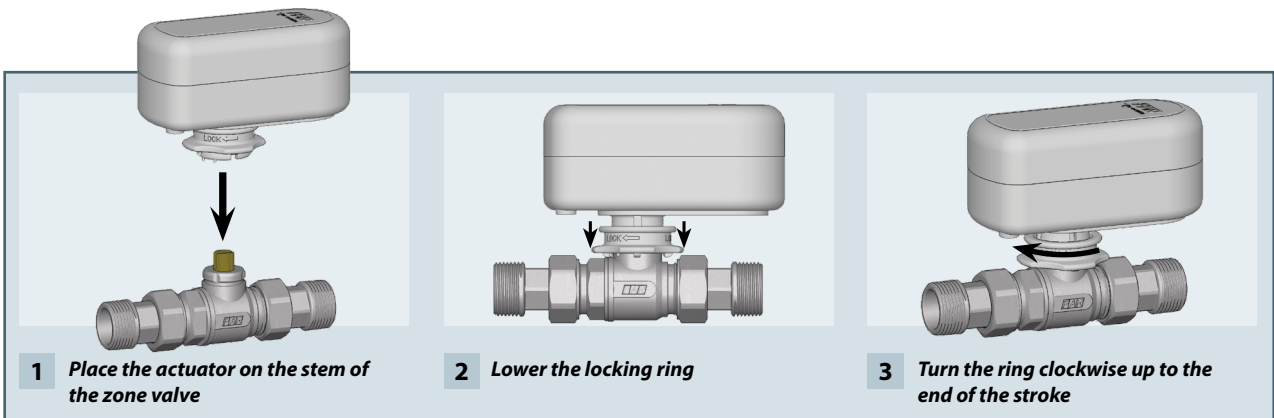
Actuators permit automatic operation of the zone valves. They are powered in such a way as to generate a torque up to 10 Nm, thus guaranteeing proper functioning in even the most critical conditions, i.e. in case of valves which have been installed for a long time and have calcareous deposits. Rotation is carried out by means of two servomotors, one for opening and the other for closing. In this way wear on gears and servomotors can be reduced. Each actuator is equipped with an auxiliary microswitch, which makes it possible to achieve parallel connections of zone valves and links to control pumps and boilers.

Actuator Technical Features

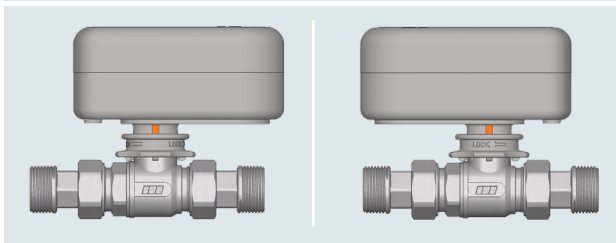
Actuator type:	3-point
Feed voltage:	24V - 230V 50Hz
Torque:	10Nm
Rotation angle:	90°
Protection level:	IP44
Rotation time:	40s

4.1 INSTALLATION

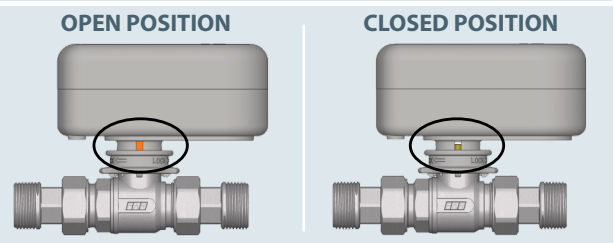
The actuator with quick-coupling installation can be installed in three simple steps:



The actuator can be installed on the valve in either two positions with no impact on operation, as the 90° movement transmitted to the valve remains the same.

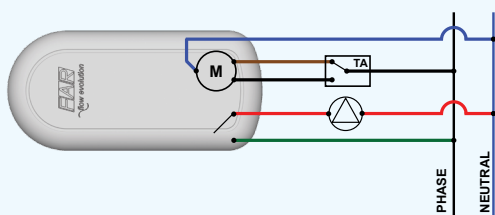


Once the valve is installed, the opening or closing position can be determined through the aperture on the actuator body by checking the position of the internal orange pin:



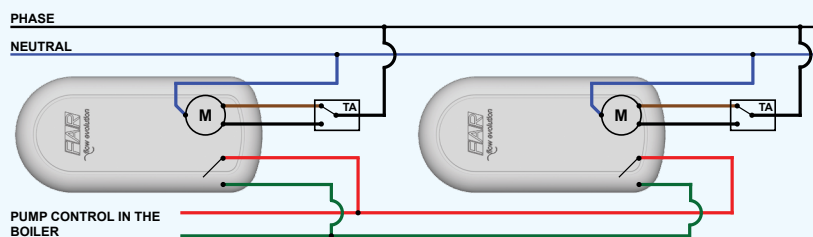
4.2 ELECTRICAL CONNECTIONS

Connection to thermostat



Example of an actuator connection to a terminal. The blue wire must be connected directly to neutral, the brown and the black to the thermostat. The red and the green wires must be connected to the common contact and to a N.O. auxiliary microswitch.

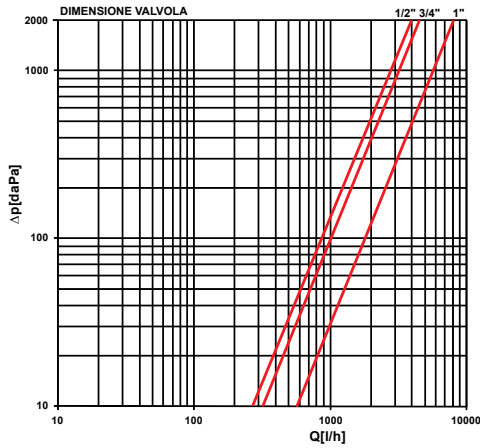
Parallel connection



For parallel connection to several actuators, in addition to the blue and black wires, which are connected in this way to terminal, it is necessary to connect the green and the red wires to the pump control in the boiler.

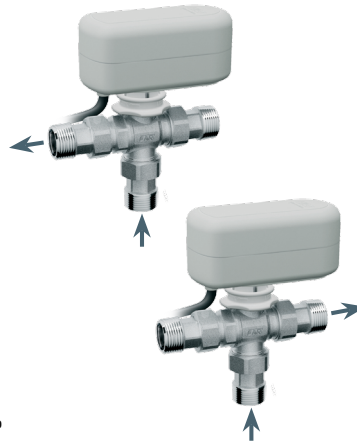
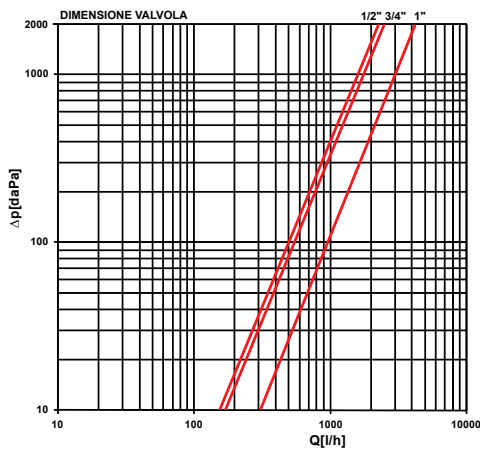
NB: To reverse the rotation of the actuator, and then switch the signal from 'normally open' to 'normally closed', reverse the connection of the black wire with the brown.

5 FLUID DYNAMIC FEATURES



SIZE	1/2"	3/4"	1"
Kv [m³/h]	8,9	10,3	18,2

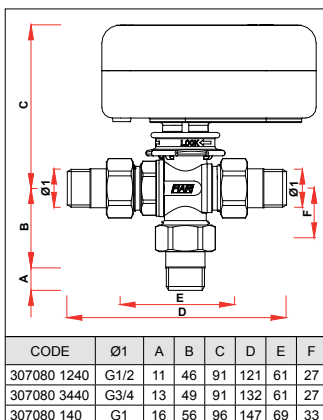
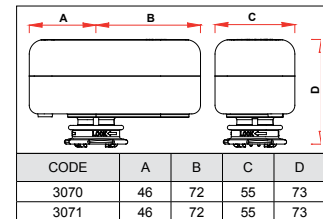
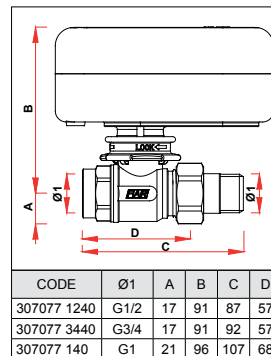
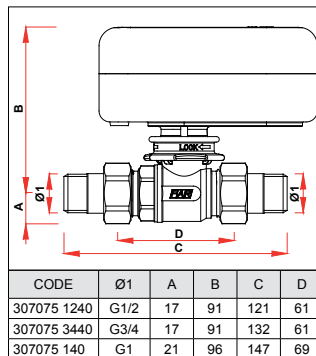
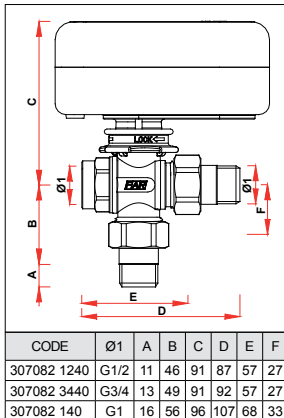
The diagram on the left shows the flow resistance of the 2-way zone valves:
Art.307075 - 307175 - 307077 - 307177
sizes: 1/2", 3/4", 1"



SIZE	1/2"	3/4"	1"
Kv [m³/h]	4,9	5,3	9

The diagram on the left shows the flow resistance of the 3-way diverter zone valves with L passage:
Art.307080 - 307180 - 307082 - 307182
sizes: 1/2", 3/4", 1"

6 TECHNICAL AND DIMENSIONAL FEATURES



Technical Features

Valve body and ball: CW617N brass
Sealing gasket: Anti-blockage system with O-ring in EPDM and seats in PTFE
Control stem: CW617N brass
Nominal working pressure: 16 bar
Max.differential pressure: 5 bar
Circulating fluid temperature: -5 °C (with antifreeze) +100 °C
Compatible media: water, water with glycol