

AUTOMATIC FLOW CONTROL VALVE



Automatic flow control valve allow maintaining a constant flow rate at the desired value, within a wide differential pressure range between upstream and downstream.

The flow rate value is set through a cartridge adjustable from outside using a special accessory spanner. During this operation, the valve does not need to be shut off. Inserted in hydraulic circuits, the automatic balancing valve ensures maintaining the design flow rate.

USE

They are particularly indicated in the following cases:

- Adjustment for pumping stations in central thermal fluid systems.
- Customer junctions balancing.
- Rising pillars balancing.
- Third way adjustment and balancing on thermoregulation units.

CHOICE

It is advisable to choose a automatic flow control valve whose adjustment degree corresponds to about half the cartridge flow rate range.

In this way, with the design nominal flow rate, a sufficient calibration margin is preserved so as to cope with any corrections due to inevitable route changes during work.

POSSIBLE APPLICATIONS

Automatic flow control valve are mainly used on the hydraulic circuit delivery pipe. Below are some typical application examples:

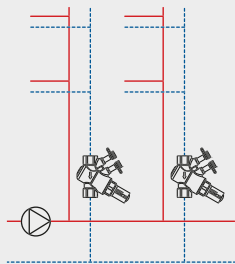


FIGURE 1

Automatic flow control valve with rising pillars balancing function.

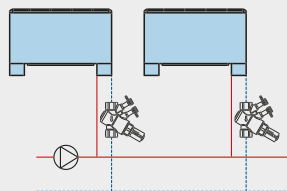
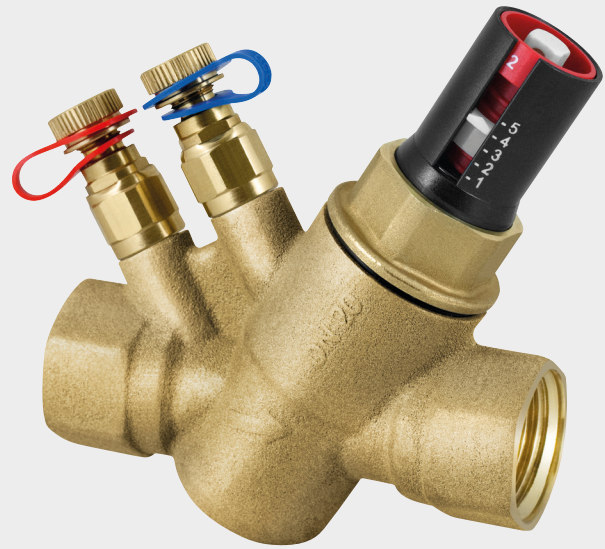


FIGURE 2

Automatic flow control valve with the function of serving in-line terminal elements (radiators, convectors, fan-coils, etc.).

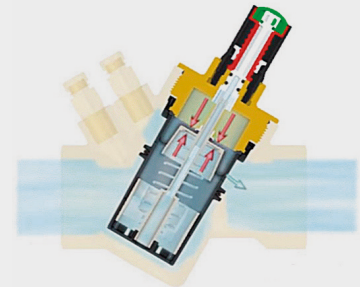
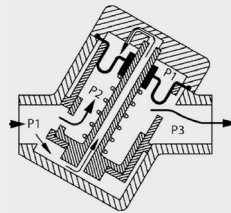


OPERATING PRINCIPLE

Pressure P2 is determined by the membrane reacting to pressure P1 acting on the membrane upper chamber.

Interacting with the spring, the difference (P1-P2) remains constant, while maintaining a steady ΔP through the orifice. As a result, a constant flow rate is obtained through the valve, regardless of the variations of the pressure difference between upstream and downstream.

Orifice bore



KEY:

P1 and P3: Circuit pressure values

P2: Pressure determined by membrane

$\Delta P = (P1 - P3) =$ Total pressure difference between upstream/downstream

→ Indicates pressure variations

→ Indicates the flow direction