

## Downstream pressure reducing stabilizing automatic needle control valve Mod. Italice 310



The CSA Italice 310 is an axial flow hydraulically operated automatic control valve that reduces and stabilizes the downstream pressure to a constant value, regardless of variation in demands and upstream pressure conditions. Normally equipped with low flow stability and cavitation reduction cage Italice is entirely made in ductile cast iron with FBT epoxy coating and stainless steel parts. Thanks to the exclusive axial flow pattern the valve is designed to reduce head loss, noise and cavitation damage.

### Applications

- Downstream of pumps to reduce the pressure on the main supply line.
- Installed in derivation from the main line to stabilize the pressure of secondary line and water users.
- As a protection against rise in pressure of industrial equipment and civil installations.
- On the inlet supply line of storage tanks to stabilize pressure and flow required for the level control.
- On each floor of buildings, irrigation, and whenever a pressure reduction is required

### Accessories

- Pressure measurement kit.
- Self-flushing filter.
- Double stage energy dissipation device for severe cavitation

### Note to the engineer

- Inlet and outlet pressure, and flow rate are required for the proper sizing.
- The valve can be installed in horizontally or in a vertical position, above 200 mm the horizontal position is recommended
- A minimum length of 3 DN downstream of the valve is recommended for the best accuracy.

### Additional features

- Italice 310-FR downstream pressure reducing with back-flow prevention.
- Italice 310-H downstream pressure reducing with high sensitivity pilot.
- Italice 310-G downstream pressure reducing with over pressure guard.

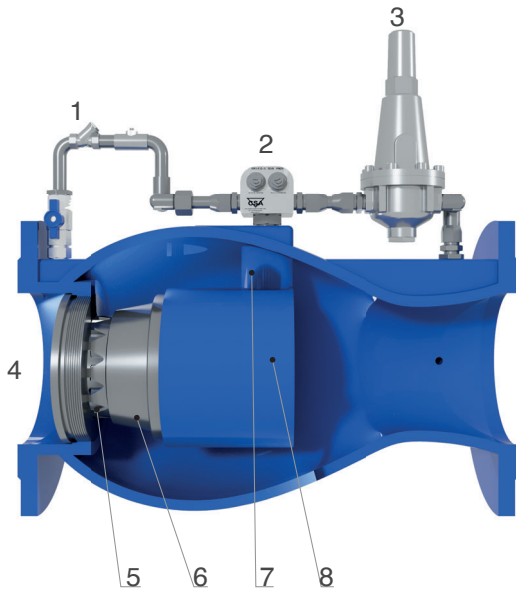
### Working conditions

- Fluid: treated water.
- Minimum operating pressure: 0,7 bar.
- Maximum operating pressure: 25 bar.
- Maximum temperature: 70°C.

### Downstream pressure pilot adjustment range

- Blue spring: 0,7 to 7 bar.
- Red spring: 1,5 to 15 bar.
- Values lower than 0,7 available with high sensitivity pilots.

## Operating principle



The CSA Italice 310 is an automatic control valve operated by a 2 ways pilot (3) in stainless steel AISI 316 with pre-set set and adjustable value. Should the downstream pressure rise above the pilot set point the latter will throttle and limit the flow to direct inlet pressure to the main chamber (8), thus pushing down the obturator (6) towards the seat (4), to generate the head loss required for the valve to reduce and stabilize the downstream pressure to a constant value. Should the downstream pressure fall below the pilot set point the obturator (6) will move according to the flow direction increasing the passage through the seat (4), thus reducing the head loss followed by the rise in pressure. The flow in and out of the main chamber (8) is controlled by the CSA unit regulation device with filter GR.I.F.O. (2) provided with needle valves and flow stabilizers, essential for the valve's response time and accuracy also in case of rapid variation in demand. The large filtration unit (1) ensures long lasting performances minimizing the maintenance operations.

## Installation layout

The CSA Italice 310 installation lay-out includes sectioning devices, filter to prevent dirt from reaching the control valve and a by-pass for maintenance Operations. The direct acting CSA pressure reducing valve VRCD is the best choice on the by-pass thanks to its reliability also after long periods of inactivity.

Anti-surge combination air valves FOX 3F AS are recommended upstream and downstream as well as a pressure relief valve Gemina downstream to prevent rise in pressure on the main line.

