



Upstream pressure sustaining automatic valve Mod. XLC 520-S and 620-S

The CSA Model XLC 520-S and 620-S series is a globe pattern hydraulically operated automatic control valve that, installed in-line, will sustain the upstream pressure to a pre-set and adjustable value regardless of variations in demand. Produced in compliance with PN 40 bar pressure standards and entirely made in ductile cast iron FBT epoxy painted and stainless steel, the valve is designed to reduce head loss, throttling noise and cavitation damage. The valve is normally equipped with anti cavitation low flow stability system AC, the double cage CP on request.

Applications

- Downstream of pumps to prevent overload and for cavitation protection.
- On the inlet supply line of storage tanks to stabilize pressure and flow required for the level control.
- On gravity fed supply lines with high static values to ensure the minimum pressure to consumers at higher elevation zones, in case of high consumption of the lower zones.

Accessories

- Pressure measurement kit.

Note to the engineer

- Inlet and outlet pressure, and flow rate are required for the proper sizing.
- CP double stage pressure reduction trim is recommended to provide a higher resistance to cavitation, and accurate regulation in case of low flow.
- A minimum length of 3 DN upstream of the valve is recommended for the best accuracy.

Additional features

- XLC 520/620-S-FR pressure sustaining valve with back-flow prevention.
- XLC 520/620-S-H pressure sustaining valve with high sensitivity pilot.

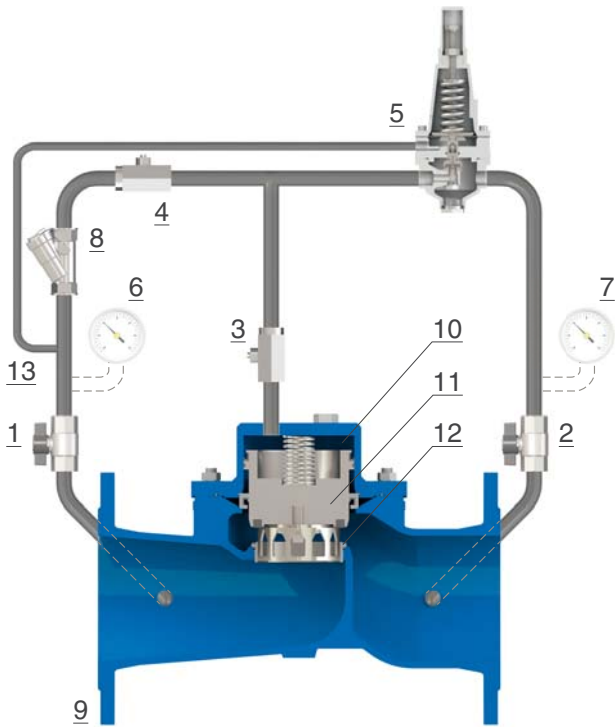
Working conditions

- Fluid: treated water.
- Minimum operating pressure: 0,7 bar.
- Maximum operating pressure: 40 bar.
- Maximum temperature: 70°C.

Upstream pressure pilot adjustment range

- Blue spring: 0,7 to 7 bar.
- Red spring: 1,5 to 15 bar.
- Higher values up to 25 bar on request.

Operating principle



The CSA Model XLC 520/620-S is an automatic control valve operated by a high sensitivity two ways pilot (5), with pre-set and adjustable set point value, sensing the unfiltered upstream pressure from the inlet supply line (13). Should the line pressure rise above the pilot's set point the latter will open thus relieving the chamber (10) and moving the obturator (11) upwards, to discharge water and pressure through the main valve (9) downstream protecting the system. Should the upstream pressure be lower than the pilot's set point the latter will throttle (close eventually), diverting all pressure towards the main chamber (10) thus pushing the obturator (11) onto the seat (12), interrupting the flow rate.

The flow in and out of the main chamber (10) is controlled by the CSA high sensitivity needle valve in stainless steel (3), needed for the valve's response time and accuracy also in case of rapid variation in demand. Thanks to isolation ball valves and a needle valve on the chamber (1, 2 and 3) the circuit can be maintained without interrupting the flow.

Installation layout

The recommended installation lay-out of the CSA XLC 520/620-S, used as a in-line pressure sustaining, includes sectioning devices and by-pass for maintenance operations, and a strainer to prevent dirt from reaching the control valve. The direct acting pressure sustain valve CSA Mod. VSM is the best choice on the by-pass thanks to its reliability also after long periods of inactivity. Anti-surge combination air valves CSA Mod. FOX 3F AS are recommended upstream and downstream of the installation.

