



Burst automatic control valve Mod. XLC 380/480

The CSA Model XLC 380/480 is a globe pattern hydraulically operated automatic control valve that senses the increase in flow above a pre-set and adjustable value of a high sensitivity pilot, diverting the upstream pressure to the main control chamber and causing a complete closure, to be manually reset after that. As long as the flow rate remains below the set point, the valve will be fully open minimizing head loss. Normally equipped with visual position indicator and entirely made in ductile cast iron with FBT (fluid bed technology) coating and stainless steel, the valve is designed to reduce head loss, throttling noise and cavitation damages.

Applications

- On gravity fed supply lines to avoid depressurization in case of pipe burst due, for example, to landslides.
- On the outlet supply line of storage tanks, water towers to close in case of pipe bursts downstream, preventing level from dropping below a minimum value.
- On water distribution systems and critical supply lines to interrupt flow in case of severe failures like earthquakes, external damages.

Accessories

- Linear position transmitter with 4-20 mA output Mod. CSA CSPL.
- On-off position transmitter Mod. CSA CSPO.
- Pressure measurement kit.
- Self-flushing and high capacity filter.

Note to the engineer

- Inlet pressure, outlet pressure, flow rate and application are required for the proper sizing and cavitation analysis.
- A minimum length of 3 DN downstream and upstream of the valve is recommended for the best accuracy (picture in the next page).

Additional features

- XLC 380/480-FR burst automatic control valve with back-flow prevention.
- XLC 380/480-5 burst automatic control valve with solenoid control.

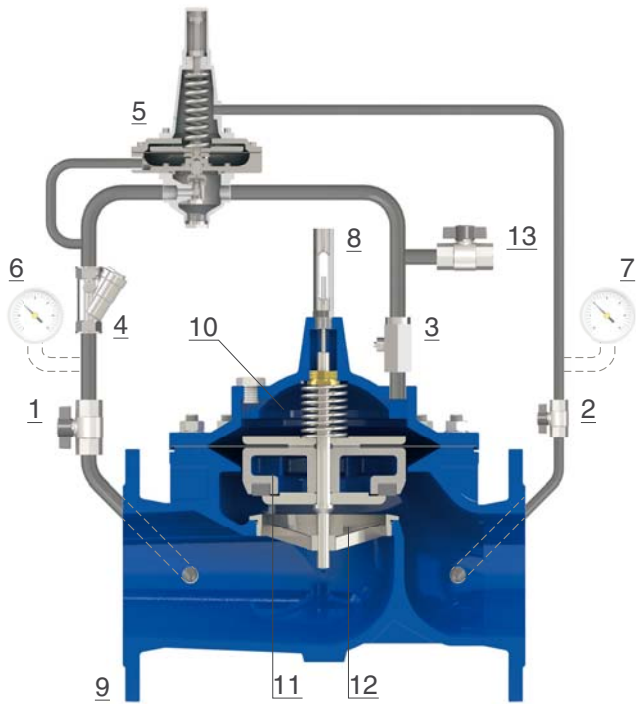
Working conditions

- Fluid: treated water.
- Minimum operating pressure: 1,5 bar.
- Maximum operating pressure: 16 bar.
- Recommended working pressure: 6 bar. Higher on request.
- Maximum temperature: 70°C.

Flow rate control pilot adjustment range

- The valve is supplied with the pilot set to the required threshold flow rate, whose adjustment range is available according to the regulation flow chart supplied with the valve.

Operating principle



The CSA model XLC 380/480 is operated by a 2 ways high sensitivity pilot (5), for flow control, with pre-set set and adjustable values, sensing the drop in pressure through the valve produced by the flow rate. Should the latter exceed the maximum value the differential pressure will increase and pilot (5) will open, putting the upstream pressure in communication with the main chamber (10) and closing the main valve (9). Should the flow remain below the pilot's set-point the valve will remain fully open. Once it has been closed the valve needs to be open manually through the isolation ball valve (13) discharging the main chamber (10). Pressure in and out of the main chamber (10) is controlled by the CSA needle valve (3) for a smooth regulation, while a filter (4) will prevent debris and dirt from entering the hydraulic circuit with the risk of clogging and possible malfunctioning.

Installation layout

The CSA valve XLC 380/480 may cause pressure surge upon closure depending on the location, fluid velocity, differential pressure. A pressure relief valve installed upstream, CSA VSM or fast acting CSA VRCA (5), is therefore recommended, along with a pressure sustaining valve XLC 420 (4) or VSM on the by-pass line for the maintenance operations. Anti-surge combination air valves FOX 3F AS (6, 7) are also needed for air control and water hammer protection during commissioning and pipe filling.

