



## Upstream pressure sustaining level control valve Mod. XLC 324/424

The CSA Model XLC 324/424 is a globe pattern hydraulically operated automatic control valve that sustains the upstream pressure to a pre-set value regardless of variations in demand and, at the same time, it controls and regulates the minimum and maximum level inside a tank. Should the upstream pressure drop below the set point, during opening, the valve will throttle ensuring the water supply to higher zone consumers. The CSA XLC 324/424 is extremely important to stabilize HGL, contain unwanted surges and to limit the excessive flow to the tank.

### Applications

- To prioritize high zone consumers during tank filling thanks to the upstream pressure sustaining function.
- On the inlet supply line of storage tanks to limit the flow required for the level control, in accordance with water demand patterns.
- On high rise buildings to ensure the proper regulation and control of rooftops reservoirs, avoiding possible overflow and damages, maintaining the required upstream pressure.

### 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

- Avoid possible high points and steep changes in slopes of the piping between the valve and the level control pilot.
- The AC (anti-cavitation) system is needed for application with static values above 7 bar, in this case consult with CSA for the proper valve sizing.

### Additional features

- XLC 324/424-FR upstream pressure relief/sustaining valve with back-flow prevention.
- XLC 324/424-5 upstream pressure relief/sustaining automatic valve with solenoid control for electric float back-up.
- XLC 324/424-R upstream pressure relief/sustaining valve with surge prevention pilot.

### Working conditions

- Fluid: treated water.
- Minimum operating pressure: 0,7 bar.
- Maximum operating pressure: 16 bar.
- Recommended working pressure: 6 bar. Higher on request.
- Maximum temperature: 70°C.

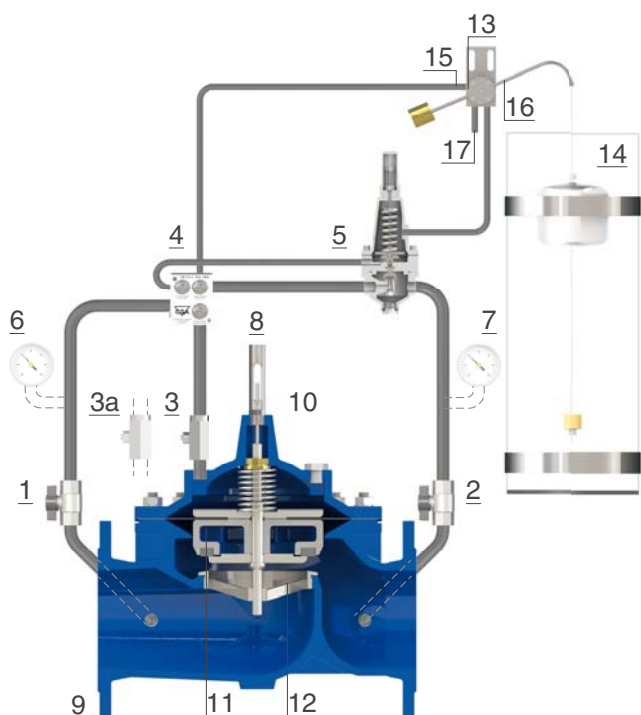
### Upstream pressure pilot adjustment range

- Blue spring: 0,7 to 7 bar.
- Red spring: 1,5 to 15 bar.

### Level control pilot adjustment range

- Between 0,2 and 4 meters.

## Operating principle



The XLC 324/424 is an automatic control valve operated by a two ways pilot for upstream pressure sustain (5) linked to a pilot for minimum and maximum level control (13), that can be installed inside the main tank or on an external stilling container (as per the picture). The valve is always closed when the level of the tank has reached the maximum, as all pressure will be diverted from upstream (1) to the cover of the pressure sustaining pilot (5) going through the three ways level control unit Rotaway (13). When water reaches the minimum level inside the tank the pressure of the pilot's cover (5) is relieved through the drain (17) of the three ways pilot (13), the main valve (9) will then sustain the line pressure to the minimum pre-set and adjustable value of the pilot (5). The flow in and out of the main chamber is controlled by the CSA exclusive unit flow GR.I.F.O. (4) providing accuracy and absence of unwanted chattering.

## Installation layout

In the installation lay-out of the CSA XLC 324/424, performing the level control through an external stilling tank (2), a maximum vertical distance of 4 meters is recommended between the valve and the maximum water level. The sectioning devices (1) are very important for maintenance operations; whenever possible a filter (3) too is needed to prevent dirt from reaching the control valve. Anti-surge air valves FOX 3F AS are advised upstream of the valve for air release during working conditions and commissioning.

