01/07/2026
VPPCV21SPD607

Minimum-maximum level control valve E3110-14 / E4110-14

The E3110-14 / E4110-14 ACV is a globe pattern hydraulically operated automatic control valve that regulates the minimum-maximum level of a tank, with an adjustable range, regardless of upstream pressure variations.

Thanks to a needle valve the response time can be regulated, to prevent water hammer effects during the closing phase.

Normally equipped with visual position indicator and entirely made in ductile cast iron with FBT epoxy coating and stainless steel, the valve is designed to reduce head loss, throttling noise and cavitation damage.

		PN 10		PN 16	
Version	**DN (mm)**	**Mass (kg)**	**References**	**Mass (kg)**	**References**
E3110-14	80	25.00	E30A8016P14	25.00	E30A8016P14
E3110-14	100	32.00	E30B1016P14	32.00	E30B1016P14
E3110-14	125	47.00	E30B1216P14	47.00	E30B1216P14
E3110-14	150	54.00	E30B1516P14	54.00	E30B1516P14
E3110-14	200	97.00	E30B2010P14	97.00	E30B2016P14
E3110-14	250	172.00	E30B2510P14	172.00	E30B2516P14
E3110-14	300	287.00	E30B3010P14	287.00	E30B3016P14
E3110-14	400	496.00	E30B4010P14	496.00	E30B4016P14
E3110-14	500	862.00	E30B5010P14	862.00	E30B5016P14
E3110-14	600	1002.00	E30B6010P14	1002.00	E30B6016P14

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		PN 10		PN 16	
Version	DN (mm)	Mass (kg)	References	Mass (kg)	References
E4110-14	40/50	19.00	E40A5016P14	19.00	E40A5016P14
E4110-14	65	21.00	E40A6516P14	21.00	E40A6516P14
E4110-14	80	26.00	E40A8016P14	26.00	E40A8016P14
E4110-14	100	39.00	E40B1016P14	39.00	E40B1016P14
E4110-14	150	84.00	E40B1516P14	84.00	E40B1516P14
E4110-14	200	138.00	E40B2010P14	138.00	E40B2016P14
E4110-14	250	247.00	E40B2510P14	247.00	E40B2516P14
E4110-14	300	421.00	E40B3010P14	421.00	E40B3016P14
E4110-14	400	784.00	E40B4010P14	784.00	E40B4016P14
E4110-14	600	2250.00	E40B6010P14	2250.00	E40B6016P14

Applications

- On storage tank to perform a minimum and maximum control, decreasing the operating cycles and therefore maintenance, using at the same time most of the storage capacity.
- For level control with an external container should the main tank not be accessible.
- On rooftop and elevated reservoir in general where level control is maintained through pumps operations, and a hydraulic backup is needed to avoid overflow.

Accessories

- On-off position transmitter Mod. CSPO.
- Pressure measurement kit.
- Self-flushing and high-capacity filter.
- Anti-cavitation low flow stability plugs are recommended to provide an accurate regulation in case of low flow conditions.
- CSFL mechanical flow regulator.

Notes for the designer

- Avoid bends and high points on the piping to connect the main valve to the level control pilot to prevent the formation of air pockets.
- A minimum of 0,6 bar on the pilot is needed, failing in doing so would create delays and malfunctioning. Consider the use of a sustaining pilot for low pressure conditions and/or the CSFL mechanical flow regulator.

Additional features

- E3110-FR minimum maximum level control with back-flow prevention.
- E3110 minimum maximum level control with solenoid control.

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- E3110/E4110-R minimum maximum level control with surge prevention pilot

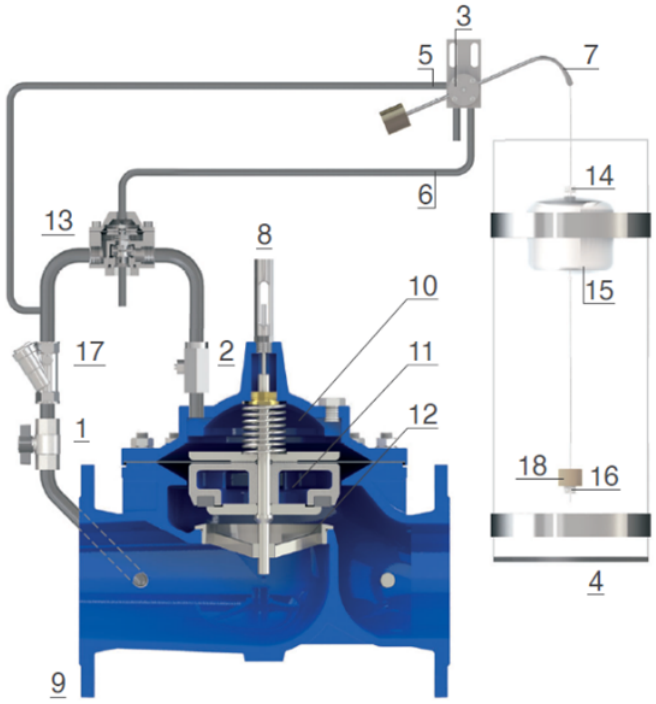
Working conditions

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

Min.-max. level control pilot adjustment range

- Between 0,2 and 4 meters.

Operating principle (for DN 150-600)



The E3110-14 / E4110-14 valve is operated by a 3 ways pilot connected to the valve by means of two pipes, not supplied.

The level control pilot, entirely made in stainless steel, is composed of a body (3), lever (7), float (15) and wire, and contains two mechanical blocks adjustable and set to the required level (14 and 16). Should the latter reach the maximum level the float (15) moves the upper block (14) upwards, to rotate the lever (7) thus

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allowing the closing of the valve by putting the upstream pressure in communication with the chamber of the valve (10) or the hydraulic accelerator (13) (available from DN 150 an above).

The valve remains closed until the level drops to the lower set point (16) which enables the rotation of the lever (7) putting the chamber (10 or 13) in communication with the atmosphere, thus raising the obturator (11) to generate flow through the seat (12).

A needle valve on the chamber (2) will control pressure and flow in and out to prevent surges during closure.

Installation layout

The picture shows the layout of the E3110-14 / E4110-14 minimum-maximum level control valve.

The connection between the valve and the pilot (4) is obtained by means of two pipes, one linked to the upstream pressure and the other to the chamber. Sectioning devices (1) and filter (3) are needed for maintenance operations and to prevent dirt from entering the main valve.

The external stilling container (2), strongly advised, allows for the proper control reducing turbulence of the water surface without having to access the tank.

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