01/07/2026
VPPCV21SPD610

Flow control valve with minimum-maximum level control E3110-44 / E4110-44

The E3110-44 valve is a globe pattern hydraulically operated automatic control valve that controls the minimum and maximum level of a tank limiting, at the same time, the maximum flow to a requested value regardless of pressure variations.

Normal equipped with visual position indicator and made in ductile cast iron with FBT (fluid bed technology) epoxy coating and stainless steel, the valve reduces head loss, throttling noise and cavitation damage.

An orifice plate assembly, needed for the proper functioning, is supplied with the valve.

		PN 10		PN 16	
Version	**DN (mm)**	**Mass (kg)**	**References**	**Mass (kg)**	**References**
E3110-44	80	35.00	E30A8016P44	35.00	E30A8016P44
E3110-44	125	61.00	E30B1216P44	61.00	E30B1216P44
E3110-44	150	69.00	E30B1516P44	69.00	E30B1516P44
E3110-44	200	114.00	E30B2010P44	114.00	E30B2016P44
E3110-44	250	192.00	E30B2510P44	192.00	E30B2516P44
E3110-44	300	309.00	E30B3010P44	309.00	E30B3016P44
E3110-44	400	520.00	E30B4010P44	520.00	E30B4016P44
E3110-44	500	864.00	E30B5010P44	864.00	E30B5016P44
E3110-44	600	1005.00	E30B6010P44	1005.00	E30B6016P44

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		PN 10		PN 16	
Version	DN (mm)	Mass (kg)	References	Mass (kg)	References
E4110-44	40/50	29.00	E40A5016P44	29.00	E40A5016P44
E4110-44	65	31.00	E40A6516P44	31.00	E40A6516P44
E4110-44	80	36.00	E40A8016P44	36.00	E40A8016P44
E4110-44	100	53.00	E40B1016P44	53.00	E40B1016P44
E4110-44	150	101.00	E40B1516P44	101.00	E40B1516P44
E4110-44	200	158.00	E40B2010P44	158.00	E40B2016P44
E4110-44	250	269.00	E40B2510P44	269.00	E40B2516P44
E4110-44	300	445.00	E40B3010P44	445.00	E40B3016P44
E4110-44	400	789.00	E40B4010P44	789.00	E40B4016P44
E4110-44	600	2255.00	E40B6010P44	2255.00	E40B6016P44

Applications

- On the outlet supply of storage tanks or downstream booster pump stations to control the maximum flow and limit the level within the required values.
- On the rooftop reservoirs as hydraulic back up for level control to avoid overflow.
- On the inlet supply line of storage tanks to control the level and avoid excess in flow during opening.

Accessories

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

Note for the engineer

- Anti-cavitation low flow stability plugs are recommended to provide an accurate regulation in case of low flow conditions.
- For the best accuracy leave 5 DN between the valve and the orifice plate and 3 DN downstream of it.

Additional features

- E3110-44-FR minimum and maximum flow level control valve with back flow prevention system.
- E3110-44-5 minimum and maximum level control valve with solenoid.

Working conditions

- Fluid: treated water.
- Minimum operating pressure: 1,2 bar.

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- Maximum operating pressure: 16 bar.
- Recommended working pressure: 6 bar. Higher on request.
- Maximum temperature: 70 °C.

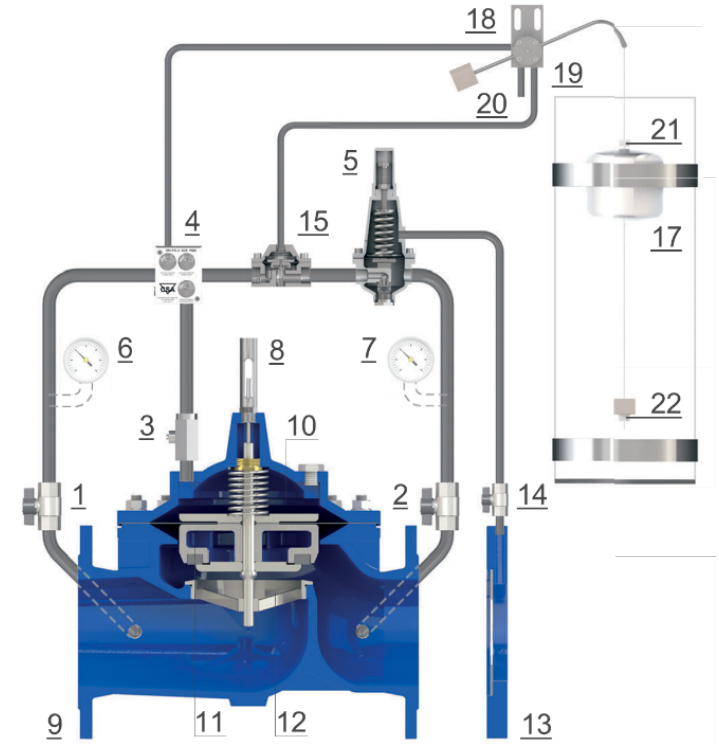
Flow rate control pilot adjustment range

- The orifice plate assembly is calculated and machined according to the maximum flow rate. An adjustment range of the value is possible according to the regulation flow chart supplied with the valve.

Min-max level control pilot adjustment range

- Between 0,2 and 4 meters.

Operating principles



It is operated by a 2 ways pilot (5) for flow control and connected to the orifice plate assembly (13), with pre-set set and adjustable values, sensing the differential pressure created by the flow rate.

The three ways minimum and maximum level pilot (16) receives the upstream pressure from item (4) and, by means of the hydraulic flow accelerator (15), will interrupt the flow to the circuit diverting all pressure to the main chamber (10) when the water level has reached the maximum value.

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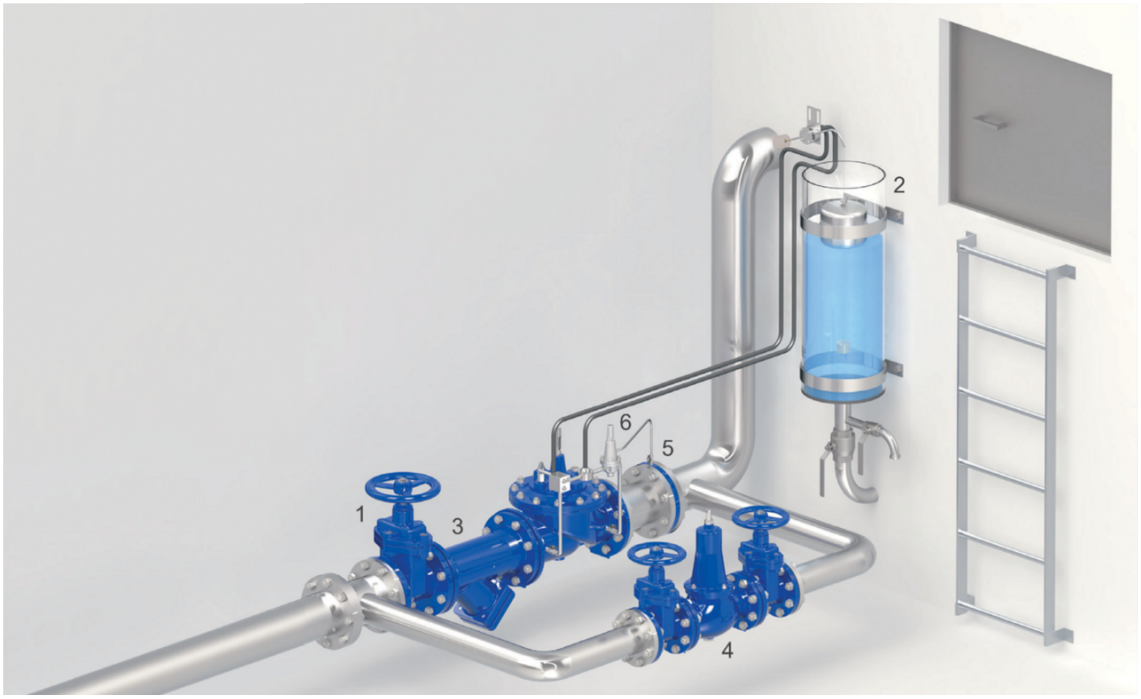
Should the latter drop below the minimum set-point, both values adjustable through mechanical blocks sliding on the wire, pressure is relieved out of the chamber of the flow accelerator (15) through the three ways pilot drain (20).

Consequently, the pressure of the control chamber (10) will be diverted downstream pushing the obturator upwards to generate flow through the main valve (9), enabling the flow rate control function of the pilot (5), whose spring is set to balance for the differential pressure created by the orifice assembly (13)

Installation layout



The flow regulation E3110-44 valve with minimum and maximum level control is used on an external stilling tank (2).

The flange orifice (5), calculated and machined according to the project's requirements, is connected to the valve's pilot (6).

The sectioning devices (1) and by-pass, where the direct acting pressure sustaining valves (4) are suggested, are very important for maintenance operations, as well as the filter (3) to prevent dirt from reaching the control valve.

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