01/07/2026
VPPCV21SPD626

Piston Upstream Pressure Support Hydrovalve PN40 - E5116-00 / E6116-00

The hydraulically operated automatic valves support the upstream pressure by stabilizing it at a set and adjustable value, regardless of changes in flow rate. Class PN40, and made of stainless steel and spheroidal cast iron coated with epoxy paint using FBT (fluid bed technology), the models are designed to reduce pressure drop, vibration and damage related to cavitation phenomenon.

The valves are normally equipped with the anti-cavitation system and for low flow rates, or, upon request, the pressure-reducing CP system, which is recommended for increased cavitation resistance and control accuracy.

Flange drilling according to EN 1092/2, different on request.

Certification and testing according to EN 1074.

		PN 40	
Version	**DN (mm)**	**Mass (kg)**	**References**
E5116-00	80	30.00	D60A8040
E5116-00	100	37.00	D60B1040
E5116-00	125	56.00	D60B1240
E5116-00	150	63.00	D60B1540
E5116-00	200	109.00	D60B2040

		PN 40	
Version	**DN (mm)**	**Mass (kg)**	**References**
E6116-00	40/50	24.00	E60A4040

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		PN 40	
Version	**DN (mm)**	**Mass (kg)**	**References**
E6116-00	65	26.00	E60A6540
E6116-00	80	31.00	E60A8040
E6116-00	100	46.00	E60B1040
E6116-00	150	96.00	E60B1540

Applications

- On pipeline branches to reduce pressure in branch lines.
- On tank supply pipes to maintain the pressure and flow rates required for level control.
- In gravity pipelines with high pressures, to ensure minimum pressure to the utilities located in the higher zones in case of large withdrawals in the lower zones.

Accessories

- Pressure gauges

Directions for use

- The pressure-reducing CP system is recommended for increased cavitation resistance and control accuracy at low flow rates.
- It is recommended to leave a straight section of pipe 3 nominal diameters long upstream of the valve.

Optional configurations

- Upstream pressure support valve with anti-backflow system.
- Upstream pressure support valve with high-sensitivity pilot.

Operating conditions

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

Adjustment range of the support pilot

- Blue spring: 0.7 to 7 bar.
- Red spring: 1.5 to 15 bar.
- Higher values up to 25 bar on request.
- Values below 0.7 bar available with high-sensitivity pilots.

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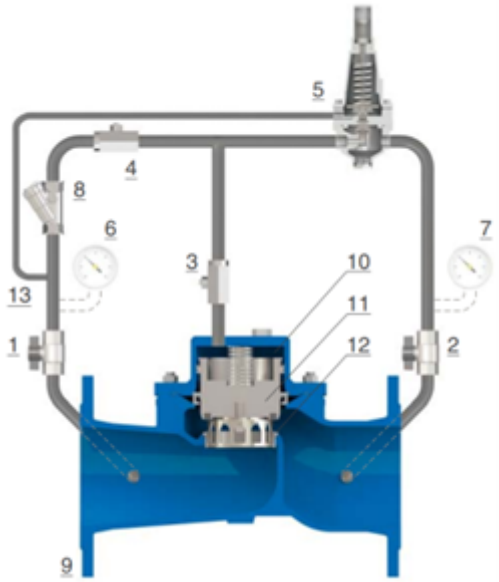
Operation



The hydrovalve is controlled by a high-capacity two-way pilot (5) with adjustable calibration that receives upstream pressure through an unfiltered inlet (13). In case the latter exceeds the set value, the pilot opens, discharging pressure from the control chamber (10) resulting in the poppet (11) rising and flow through the seat (12) to protect the system.

On the other hand, when the upstream pressure falls below the set threshold, the pilot modulates the flow in the circuit, thus, the pressure in the valve chamber increases, bringing the poppet toward the closed position, which stops the flow through the main valve.

The pressure in and out of the main chamber (10) is controlled by the high-precision needle valve (3), which is necessary to ensure stability and accuracy even with rapid changes in flow rate.

In addition, thanks to needle valve (3) and ball valves (1 and 2), maintenance of the circuit and its components can be carried out without interrupting the flow through the main valve.

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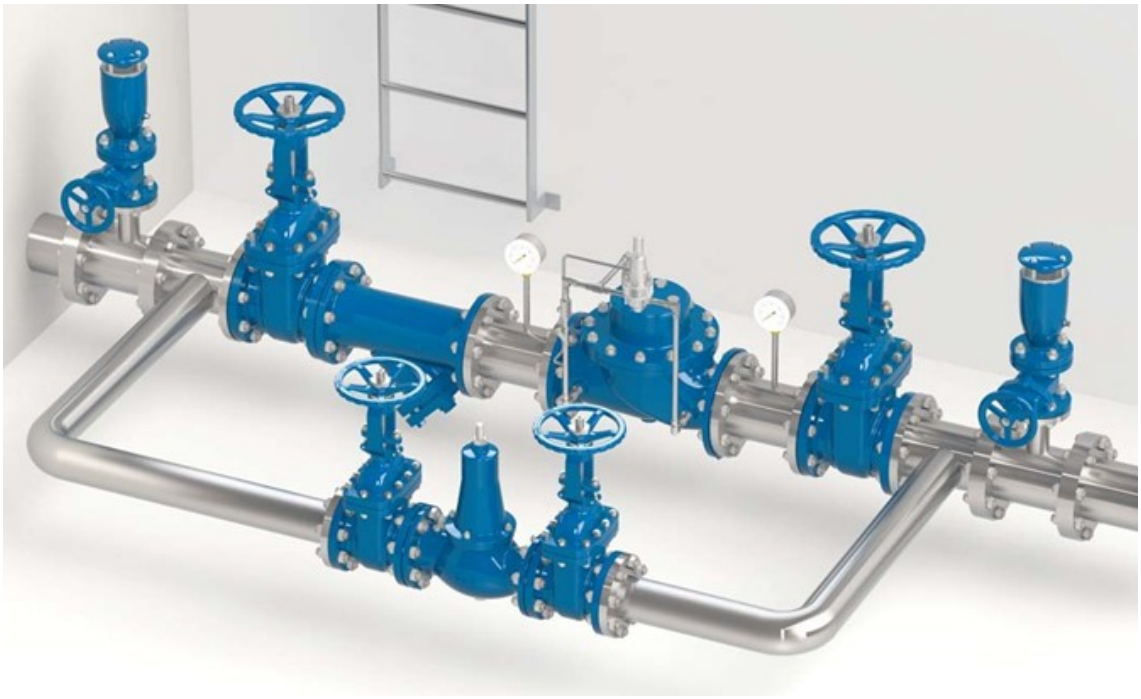
Installation diagram



The recommended installation scheme of the hydrovalve, used for pressure support, includes shut-off and bypass organs to allow maintenance, and a filter, which holds any impurities.

The direct-acting back-up valve the best solution for bypass, usually not in operation. The inclusion of combined upstream and downstream anti-water hammer vents is also recommended.

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