01/07/2026
VPPCV21SPD628

Upstream pressure relief surge anticipating control valve - E3116-52

ACV Model E3115-52, installed in derivation from the main line, will act as a protection of the system against the devastating effects of water hammer caused by pump failure.

Thanks to a circuit composed of two pilots and an exclusive flow control stabilizer, the valve will serve both as a pressure relief, in case of rise of pressure, and as an anticipator of water hammer in case of pump failure providing the valve with a response time almost instantaneous.

For the proper sizing and water hammer analysis please contact t us.

		PN 10		PN 16	
Version	**DN (mm)**	**Mass (kg)**	**References**	**Mass (kg)**	**References**
E3116-52	80	28.00	E36A8016P52	28.00	E36A8016P52
E3116-52	100	35.00	E36B1016P52	35.00	E36B1016P52
E3116-52	125	51.00	E36B1216P52	51.00	E36B1216P52
E3116-52	150	58.00	E36B1516P52	58.00	E36B1516P52
E3116-52	200	100.00	E36B2010P52	100.00	E36B2016P52
E3116-52	250	174.00	E36B2510P52	174.00	E36B2516P52
E3116-52	300	290.00	E36B3010P52	290.00	E36B3016P52
E3116-52	400	499.00	E36B4010P52	499.00	E36B4016P52
E3116-52	500	862.00	E36B5010P52	862.00	E36B5016P52
E3116-52	600	1002.00	E36B6010P52	1002.00	E36B6016P52

Saint-Gobain PAM Canalisation
21, avenue Camille Cavallier - BP 129 | 54705 PONT-A-MOUSSON CEDEX | FRANCE
Tel : (33) 03 83 80 67 89 | E-mail : Pamline@saint-gobain.com | pamline.fr

Applications

- At the pumping stations, downstream of pumps check valves in derivation from the main line.
- The valve is usually associated to anti-surge combination air valves FBA and other products chosen by a proper water hammer analysis.

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.
- CSFL mechanical flow regulator.

Notes for engineer

- For the recommended flow rate, and operating conditions, please use the charts available on the ACV series engineering.
- We need the project data for a surge analysis which is highly recommended for the sizing and setting of E3116-52.
- The AC (anti-cavitation) system is always recommended for this kind of valve.

Working conditions

- Fluid: treated water.
- Minimum operating pressure: 1,5 bar.
- Maximum operating pressure: 25 bar.
- Maximum temperature: 70 °C.

Upstream pressure pilot adjustment range

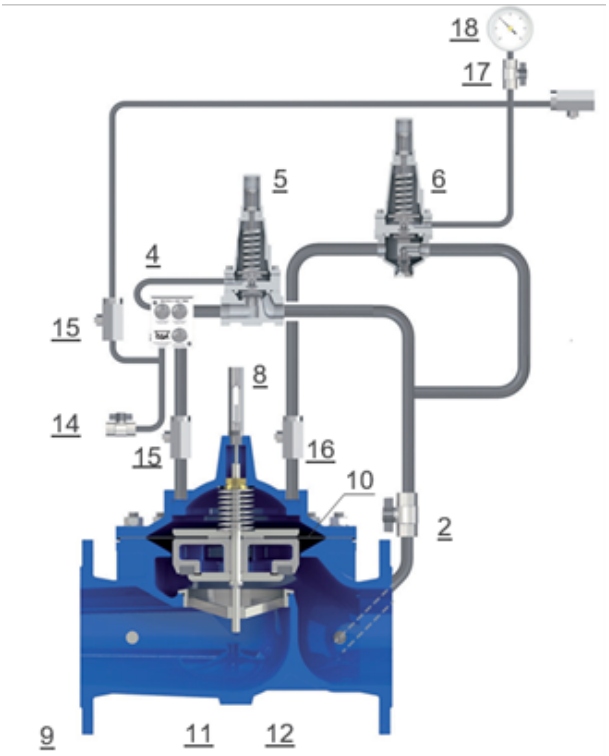
- Blue spring: 0.7 to 7 bar.
- Red spring: 1.5 to 15 bar.
- Larger values up to 25 bar on request

Pressure relief pilot adjustment range

- Red spring: 1.5 to 15 bar.
- Higher values up to 25 bar on request

Saint-Gobain PAM Canalisation
21, avenue Camille Cavallier - BP 129 | 54705 PONT-A-MOUSSON CEDEX | FRANCE
Tel : (33) 03 83 80 67 89 | E-mail : Pamline@saint-gobain.com | pamline.fr

Simplified circuit for E3000 up to DN 200 and E4000 up to DN 150 - Operating principles



The circuit is sensing the pressure of the main line through a dedicated pressure port (14).

Two pilots, one for high pressure (5) and the second for low pressure (6), are both pre-set according to the results of the water hammer analysis.

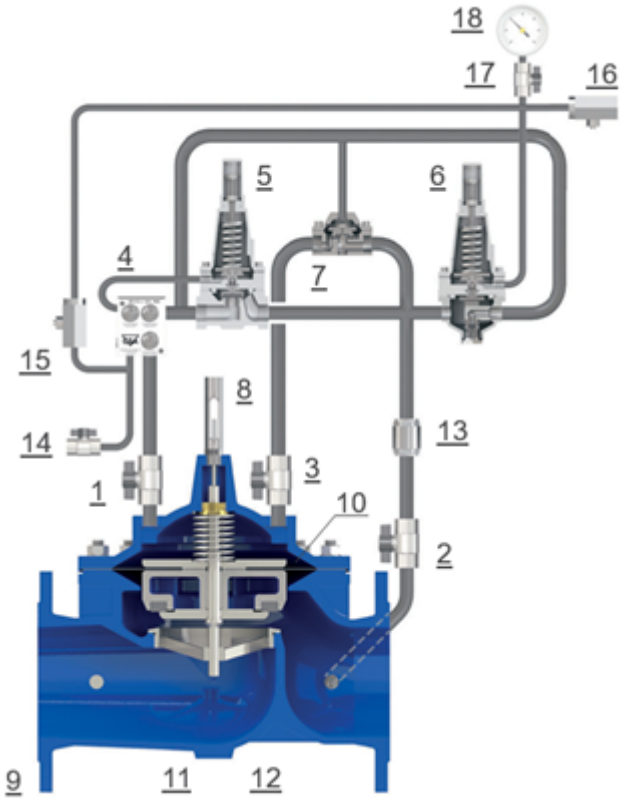
Should the upstream pressure rise above the high-pressure pilot (5) the latter will open putting the main chamber (10) in communication with the downstream boundary condition (usually atmosphere, tank or other lower pressure values) thus pushing the obturator upwards in order to open the main valve (9) and discharge the exceeding pressure.

Should the pump trip due to power failure, then the lower pressure pilot (6) will first sense the decrease in pressure, and it will relieve the pressure on the control chamber (10), thus causing the opening of the main valve (9) with an almost immediate response.

Needle valves (15 and 16) are used for the proper regulation and set up. The flow in and out of the main chamber is controlled by a flow stabilizer device (4) providing accuracy and absence of chattering.

Saint-Gobain PAM Canalisation
21, avenue Camille Cavallier - BP 129 | 54705 PONT-A-MOUSSON CEDEX | FRANCE
Tel : (33) 03 83 80 67 89 | E-mail : Pamline@saint-gobain.com | pamline.fr

Standard circuit for E3000 above DN 200 and E4000 above DN 150 - Operating principles



The circuit is sensing the pressure of the main line through a dedicated pressure port (14). Two pilots, one for high pressure (5) and the second for low pressure (6), are both pre-set according to the results of the water hammer analysis.

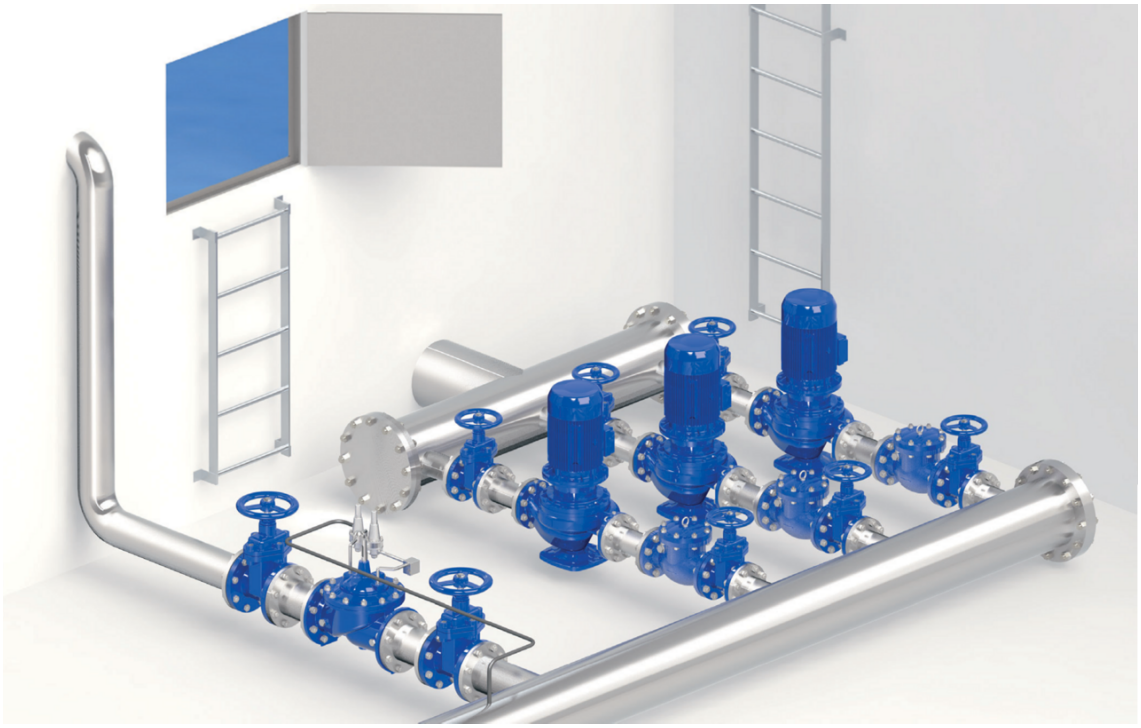
Should the upstream pressure rise above the high-pressure pilot (5) the latter will open putting the main chamber (10) in communication with the downstream boundary condition (usually atmosphere, tank or other lower pressure values) thus pushing the obturator upwards in order to open the main valve (9) and discharge the exceeding pressure.

Should the pump trip due to power failure the lower pressure pilot (6) will first sense the decrease in pressure, to allow flow through the accelerator (7) and relieve pressure of the control chamber (10), thus causing the opening of the main valve (9) with a response time almost immediate.

Needle valves (15 and 16) are used for the proper regulation and set up. The flow in and out of the main chamber is controlled by a flow stabilizer device (4) providing accuracy and absence of chattering

Saint-Gobain PAM Canalisation
21, avenue Camille Cavallier - BP 129 | 54705 PONT-A-MOUSSON CEDEX | FRANCE
Tel : (33) 03 83 80 67 89 | E-mail : Pamline@saint-gobain.com | pamline.fr

Installation layout



The installation lay-out of the E3116-52 valve, used as a protection device in derivation from the main line includes sectioning devices, very important for maintenance operations. Whenever possible a filter too is needed to prevent dirt from reaching the control valve.

Anti-surge combination air valves FBA are advised near the E3116-52 valve to avoid negative pressure conditions (if likely to occur), and used as a static pressure sensing port for the circuit through their drainage valve.

Saint-Gobain PAM Canalisation
21, avenue Camille Cavallier - BP 129 | 54705 PONT-A-MOUSSON CEDEX | FRANCE
Tel : (33) 03 83 80 67 89 | E-mail : Pamline@saint-gobain.com | pamline.fr