

Booster Pump with Upstream Pressure Sustain - E3113-16 / E4113-16



The valve sustains the upstream pressure and isolates the pump from the system during start-up and stop-up to prevent overpressure and water hammer.

The valve opens and closes in response to signals sent to the solenoid of the circuit in which the regulating unit, controlling the response time, allows for accurate and gradual regulation.

Equipped with an end-of-stroke sensor activated by the movement of the position indicator rod and made of stainless steel and ductile iron, the valve reduces pressure drops, vibrations and damage related to the phenomenon of cavitation.

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

Certification and testing according to EN 1074.

| Version | DN (mm) | PN 10 | | PN 16 | |
|----------|---------|-----------|-------------|-----------|-------------|
| | | Mass (kg) | References | Mass (kg) | References |
| E3113-16 | 80 | 26.00 | E33A8016P16 | 26.00 | E33A8016P16 |
| E3113-16 | 100 | 32.00 | E33B1016P16 | 32.00 | E33B1016P16 |
| E3113-16 | 125 | 48.00 | E33B1216P16 | 48.00 | E33B1216P16 |
| E3113-16 | 150 | 55.00 | E33B1516P16 | 55.00 | E33B1516P16 |
| E3113-16 | 200 | 97.00 | E33B2010P16 | 97.00 | E33B2016P16 |
| E3113-16 | 250 | 172.00 | E33B2510P16 | 172.00 | E33B2516P16 |
| E3113-16 | 300 | 288.00 | E33B3010P16 | 288.00 | E33B3016P16 |
| E3113-16 | 400 | 496.00 | E33B4010P16 | 496.00 | E33B4016P16 |
| E3113-16 | 500 | 862.00 | E33B5010P16 | 862.00 | E33B5016P16 |
| E3113-16 | 600 | 1002.00 | E33B6010P16 | 1002.00 | E33B6016P16 |

| | | PN 10 | | PN 16 | |
|----------|---------|-----------|-------------|-----------|-------------|
| Version | DN (mm) | Mass (kg) | References | Mass (kg) | References |
| E4113-16 | 40/50 | 20.00 | E43A5016P16 | 20.00 | E43A5016P16 |
| E4113-16 | 65 | 21.00 | E43A6516P16 | 21.00 | E43A6516P16 |
| E4113-16 | 80 | 26.00 | E43A8016P16 | 26.00 | E43A8016P16 |
| E4113-16 | 100 | 40.00 | E43B1016P16 | 40.00 | E43B1016P16 |
| E4113-16 | 150 | 84.00 | E43B1516P16 | 84.00 | E43B1516P16 |
| E4113-16 | 200 | 138.00 | E43B2010P16 | 138.00 | E43B2016P16 |
| E4113-16 | 250 | 248.00 | E43B2510P16 | 248.00 | E43B2516P16 |
| E4113-16 | 300 | 421.00 | E43B3010P16 | 421.00 | E43B3016P16 |
| E4113-16 | 400 | 784.00 | E43B4010P16 | 784.00 | E43B4016P16 |
| E4113-16 | 600 | 2250.00 | E43B6010P16 | 2250.00 | E43B6016P16 |

Applications

- Near pumps to avoid water hammer when starting and stopping and to sustain upstream pressure.
- To prevent water hammer during parallel operation or switching in pump banks.
- To ensure an accurate overpressure prevention system.

Accessories

- Manometers.
- Self-cleaning high capacity filter.

Directions for use

- The various systems of modulation they guarantee an accurate one regulation also with low flow rates and high pressure differentials.
- The duration of the pulses sent to the solenoids varies depending on the valve size and operating conditions

Optional configurations

- Pressure reducing valve for booster pumps.
- Flow control valve for booster pumps.

Operating conditions

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

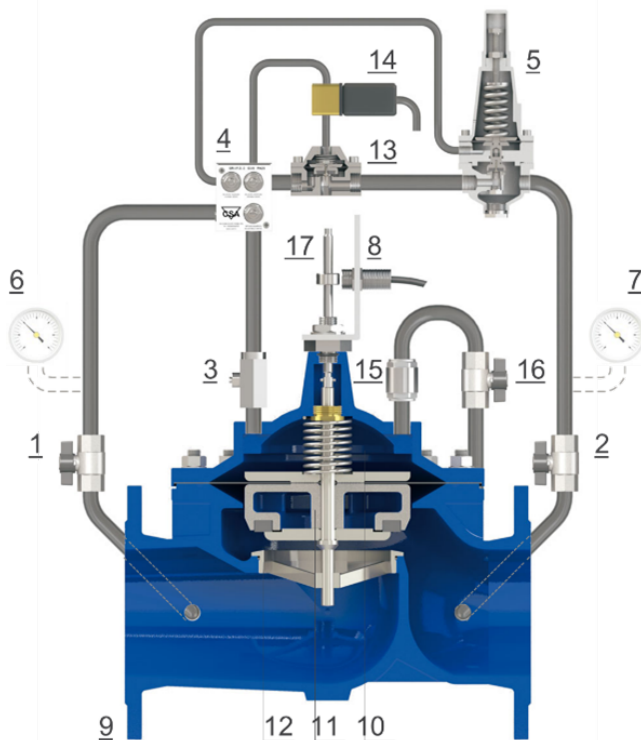
Flow pilot adjustment range

- Spring blue: from 0.7 to 7 bar.
- Spring red: from 1.5 to 15 bar.
- Values lower than 0.7 bar available with high sensitivity pilots.

Solenoid valve data

- Voltage: 24 V DC, 24 V/50 Hz, 230 V/50 Hz. Other voltage on request.
- Consumption electrical: inrush AC (VA) 24, hold AC (VA) 17 (8 W), DC hot/ cold coil 8/9 W.

How it works



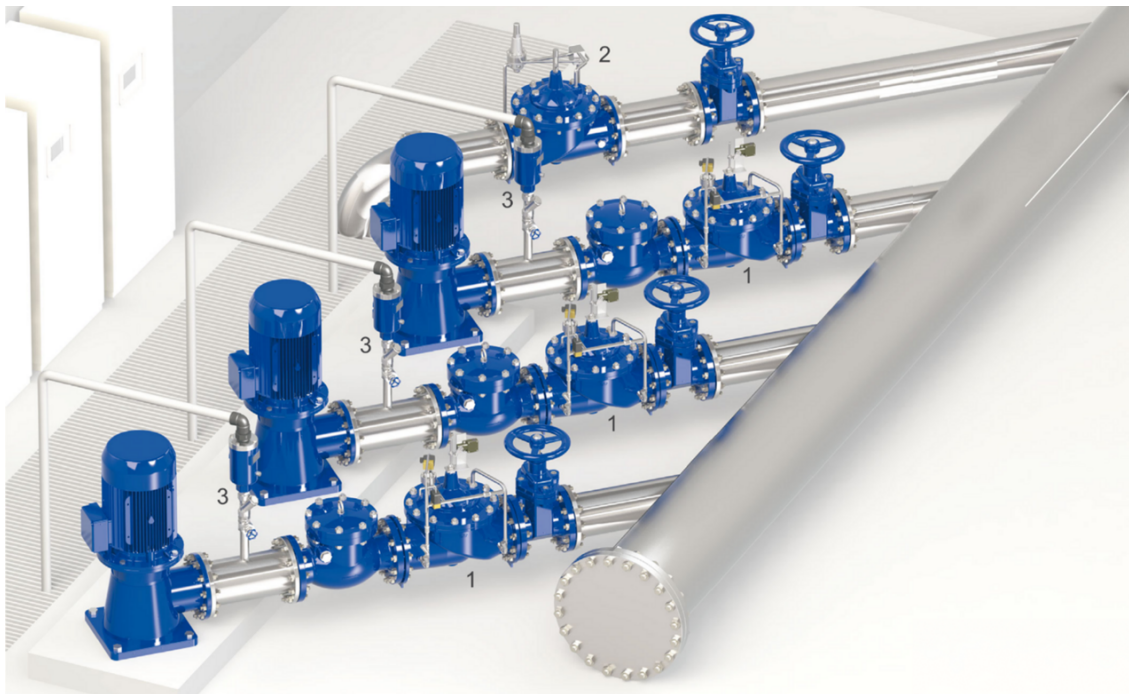
When the pumps are started, the solenoid (14) is activated and this opens the auxiliary valve (13); if the upstream pressure is greater than the calibration value of the pilot (5), this also remains open; this allows a flow out of the control chamber (10), the shutter (11) to rise and pass through the valve.

The support pilot (5) prevents the upstream pressure from falling below the value it has been set to.

When it is necessary to stop the pumps, before they are switched off, the solenoid (14) is deactivated, the auxiliary (13) then closes; the pressure consequently introduced into the control chamber (10) gradually closes the main valve.

Only when the position indicator rod (17) has reached a set position (adjustable; usually 20% of the travel of the mobile block of the valve), the switch (8) sends the signal to stop the pumps. In the event of an unexpected shutdown, the check valve (15), allowing downstream pressure to enter the control chamber, prevents backflow through the main valve, reducing the risk of water hammer.

Installation diagram



The following figure shows the recommended installation scheme of 1) used as a system for preventing overpressure and protecting lifting stations, in combination with pressure relief valves (2) or water hammer anticipators.

It is recommended to install sectioning and bypass devices to allow maintenance and combined anti-water hammer vents upstream (3) and downstream of the control valve.

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