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VPPCV21SPD617

Automatic flow limiting valve with remote electric control - E3114-01 / E4114-01

The E3114-01 / E4114-01 automatic valve maintains the flow rate within a set maximum limit, regardless of pressure fluctuations.

If the flow rate remains below the value required the valve remains fully open.

Thanks to a solenoid valve, the valve can also be opened and closed remotely.

The pilot is connected to a flanged orifice to be installed on the pipeline.

Equipped with a visual position indicator in the standard version, the valve is made of stainless steel and ductile iron coated with epoxy paint using a fluidized bed technique.

		PN 10		PN 16	
Version	**DN (mm)**	**Mass (kg)**	**References**	**Mass (kg)**	**References**
E3114-01	80	31.00	E34A8016P01	31.00	E34A8016P01
E3114-01	100	37.00	E34B1016P01	37.00	E34B1016P01
E3114-01	125	57.00	E34B1216P01	57.00	E34B1216P01
E4114-01	150	97.00	E44B1516P01	97.00	E44B1516P01
E3114-01	150	64.00	E34B1516P01	64.00	E34B1516P01
E3114-01	200	110.00	E34B2010P01	110.00	E34B2016P01
E3114-01	250	188.00	E34B2510P01	188.00	E34B2516P01
E3114-01	300	305.00	E34B3010P01	305.00	E34B3016P01
E3114-01	400	516.00	E34B4010P01	516.00	E34B4016P01
E3114-01	500	862.00	E34B5010P01	862.00	E34B5016P01

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		PN 10		PN 16	
Version	DN (mm)	Mass (kg)	References	Mass (kg)	References
E3114-01	600	1002.00	E34B6010P01	1002.00	E34B6016P01

		PN 10		PN 16	
Version	DN (mm)	Mass (kg)	References	Mass (kg)	References
E4114-01	40/50	25.00	E44A5016P01	25.00	E44A5016P01
E4114-01	65	27.00	E44A6516P01	27.00	E44A6516P01
E4114-01	80	31.00	E44A8016P01	31.00	E44A8016P01
E4114-01	100	49.00	E44B1016P01	49.00	E44B1016P01
E4114-01	150	97.00	E44B1516P01	97.00	E44B1516P01
E4114-01	200	154.00	E44B2010P01	154.00	E44B2016P01
E4114-01	250	265.00	E44B2510P01	265.00	E44B2516P01
E4114-01	300	441.00	E44B3010P01	441.00	E44B3016P01
E4114-01	400	784.00	E44B4010P01	784.00	E44B4016P01
E4114-01	600	2250.00	E44B6010P01	2250.00	E44B6016P01

Applications

- Downstream of pumps to prevent overloads and damages related to cavitation with remote control in case of emergency.
- On the supply lines of the tanks to limit the range, even in combination with an electronic floating probe.
- In the distribution networks of residential neighborhoods and industrialists to limit the flow in rush hour.

Accessories

- The position indicator with 4-20 mA output.
- The open-close indicator.
- Manometers.
- Self-cleaning high capacity filter.

Notes to the designer

- Modulation systems ensure accurate regulation even with low flow rates and high pressure differentials.
- For best operation, it is recommended to leave a straight section of pipe 5 diameters long between the valve and the calibrated flange, and another segment, 3 diameters long, downstream of the latter (image on the next page).

Optional configurations

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- Flow control valve with solenoid control and anti-backflow system.
- Flow regulation with solenoid control and high sensitivity pilot.

Operating conditions

- Fluid: treated water.
- Minimum pressure: 1,2 bar.
- Maximum pressure: 16 bar.
- Maximum temperature: 70 °C.

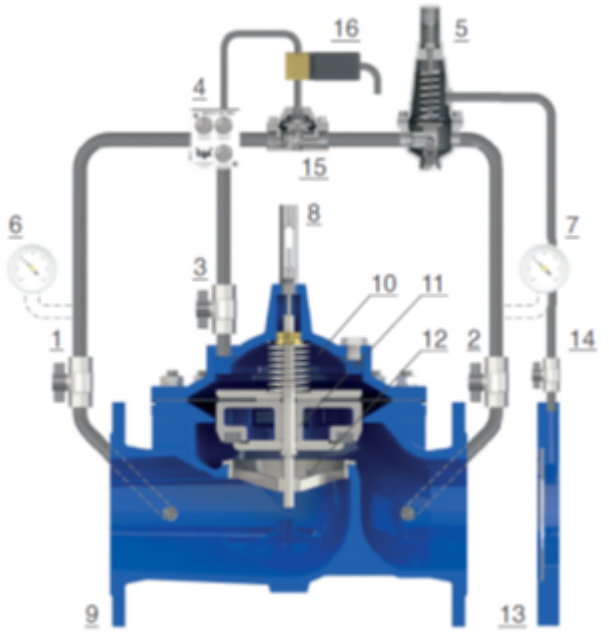
Pilot flow regulation field

- The flanged orifice is sized according to the maximum design flow rate. Variations from the setting value are possible in accordance with the flow rate table supplied with the valve.

Solenoid valve data

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

How it works



The valve is controlled by an adjustable two-way pilot (5) for flow control, which receives the pressure downstream of the flanged orifice (13) in its cap.

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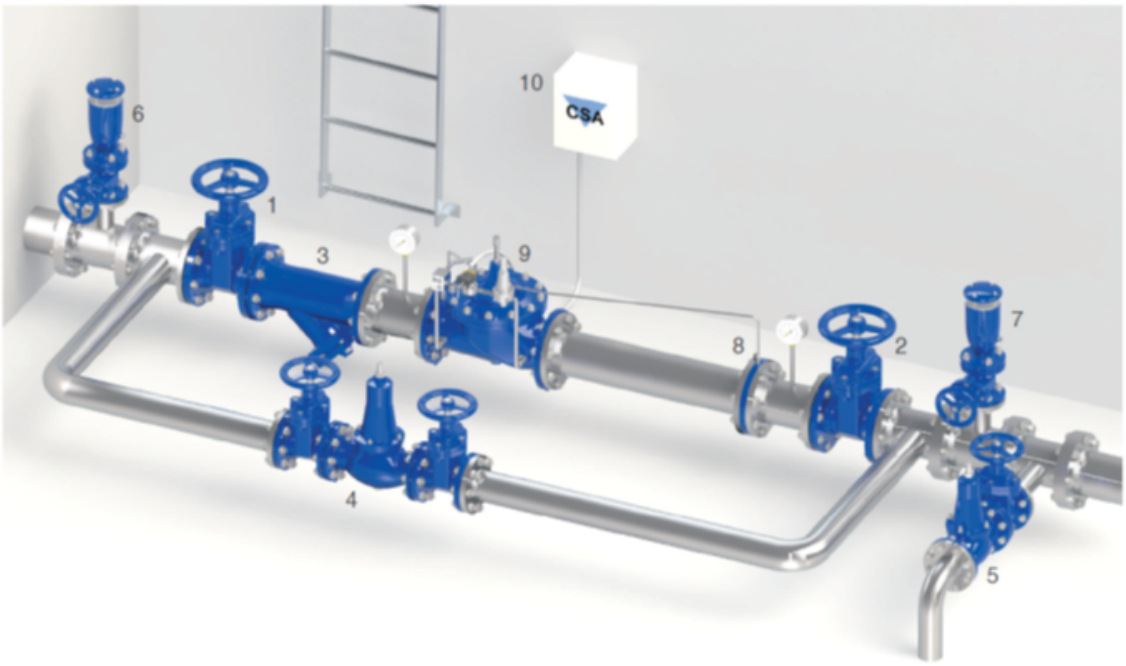
When the flow rate exceeds the maximum value, the pilot (5) modulates the flow passing through it by directing the upstream pressure into the valve chamber (10), so as to lower the shutter (11) towards the seat (12) to reduce the flow.

When the flow rate remains below the established limit, the pressure at the flanged orifice (13) is less than the force of the pilot spring, so that the pilot remains completely open, as does the main valve.

Furthermore, a solenoid (16), in combination with an auxiliary two-way valve (15), by regulating the flow of the circuit, closes or opens the main valve depending on the impulses received.

The flow into and out of the main chamber (10) is controlled by the exclusive regulation unit (4), necessary to ensure stability and make the opening and closing speeds of the valve independent of each other.

Installation diagram



The valve must be connected to a control unit (10) or other electronic control devices.

The calibrated flange (8), with an orifice sized according to the project requirements, is connected to the pilot (9).

Shut-off devices (1, 2) and bypasses, with direct-acting valves (4), are recommended to allow maintenance.

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The insertion of combined anti-water hammer vents FBA (6, 7) and a DRV-S relief valve (5) is also recommended.

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