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VPPCV21SPD614

Step by step control ACV with electric remote control - E3113-40 / E4113-40

The E3113-40 / E4113-40 step-by-step control valve electric remote control opens and closes in response to pulses sent to two normally closed solenoids.

Thanks to the needle valves included in the circuit, the closing and opening speeds the valve can be varied independently of each other to ensure smooth and accurate operation.

Usually supplied with manual emergency circuit to intervene when the solenoids are inoperative, and equipped with a 4-20 mA position indicator, the valve is designed to reduce pressure drop, vibration and cavitation damage.

		PN 10		PN 16	
Version	**DN (mm)**	**Mass (kg)**	**References**	**Mass (kg)**	**References**
E3113-40	80	25.00	E33A8016P40	25.00	E33A8016P40
E3113-40	100	32.00	E33B1016P40	32.00	E33B1016P40
E3113-40	125	47.00	E33B1216P40	47.00	E33B1216P40
E3113-40	150	54.00	E33B1516P40	54.00	E33B1516P40
E3113-40	200	97.00	E33B2010P40	97.00	E33B2016P40
E3113-40	250	172.00	E33B2510P40	172.00	E33B2516P40
E3113-40	300	287.00	E33B3010P40	287.00	E33B3016P40
E3113-40	400	496.00	E33B4010P40	496.00	E33B4016P40
E3113-40	500	862.00	E33B5010P40	862.00	E33B5016P40
E3113-40	600	1002.00	E33B6010P40	1002.00	E33B6016P40

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		PN 10		PN 16	
Version	**DN (mm)**	**Mass (kg)**	**References**	**Mass (kg)**	**References**
E4113-40	40/50	19.00	E43A5016P40	19.00	E43A5016P40
E4113-40	65	20.00	E43A6516P40	20.00	E43A6516P40
E4113-40	80	25.00	E43A8016P40	25.00	E43A8016P40
E4113-40	100	39.00	E43B1016P40	39.00	E43B1016P40
E4113-40	150	84.00	E43B1516P40	84.00	E43B1516P40
E4113-40	200	138.00	E43B2010P40	138.00	E43B2016P40
E4113-40	250	248.00	E43B2510P40	248.00	E43B2516P40
E4113-40	300	420.00	E43B3010P40	420.00	E43B3016P40
E4113-40	400	784.00	E43B4010P40	784.00	E43B4016P40
E4113-40	600	2250.00	E43B6010P40	2250.00	E43B6016P40

Applications

- In combination with controllers, to manage pressure according to flow rate variations order to reduce losses.
- For constant or variable level control on tank supply pipes.
- At the outlet of tanks to regulate the flow according to consumption.
- In systems used for heating and cooling to regulate the flow according temperature variations.

Accessories

- Position indicator.
- The open-close beacon.
- Manometers.
- Self-cleaning high-capacity filter.
- Manual opening limiter.

Notes for the designer

- Modulation systems accurate regulation even with low flow rates and high-pressure differentials.
- Recommended flow rates and operating conditions can be found in the E3000/E4000 valve catalogue.
- The duration of the pulses sent to the solenoid changes depending on the size of the valve and the operating conditions.

Optional configurations

- Remote-controlled valve with step-by-step regulation and anti-backflow system.
- Remote controlled valve with step-by-step control and solenoid for remote emergency opening.
- Remote-controlled valve with step-by-step regulation and quick-action overflow pilot.

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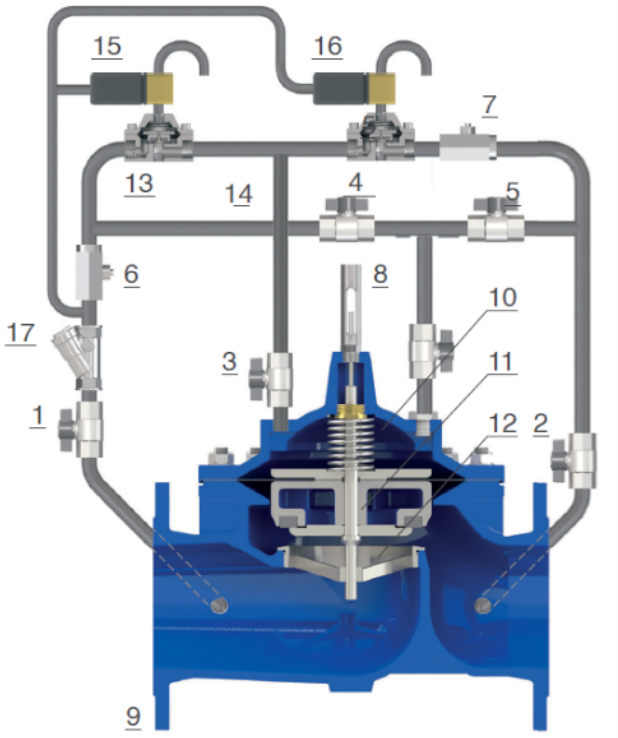
Operating conditions

- Fluid: treated water.
- Minimum pressure: 1,5 bar.
- Maximum pressure: 16 bar. Higher on request.
- Maximum temperature: 70 °C.

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.

Operation



The valve includes two normally open solenoids (15 and 16), which act on two flow accelerators (13 and 14).

When the upstream solenoid (15) is energized, the throttle 13 allows a flow to the valve chamber (10) proportional to the number and duration of pulses received; the passage between the plug (11) and seat (12) is reduced in this case.

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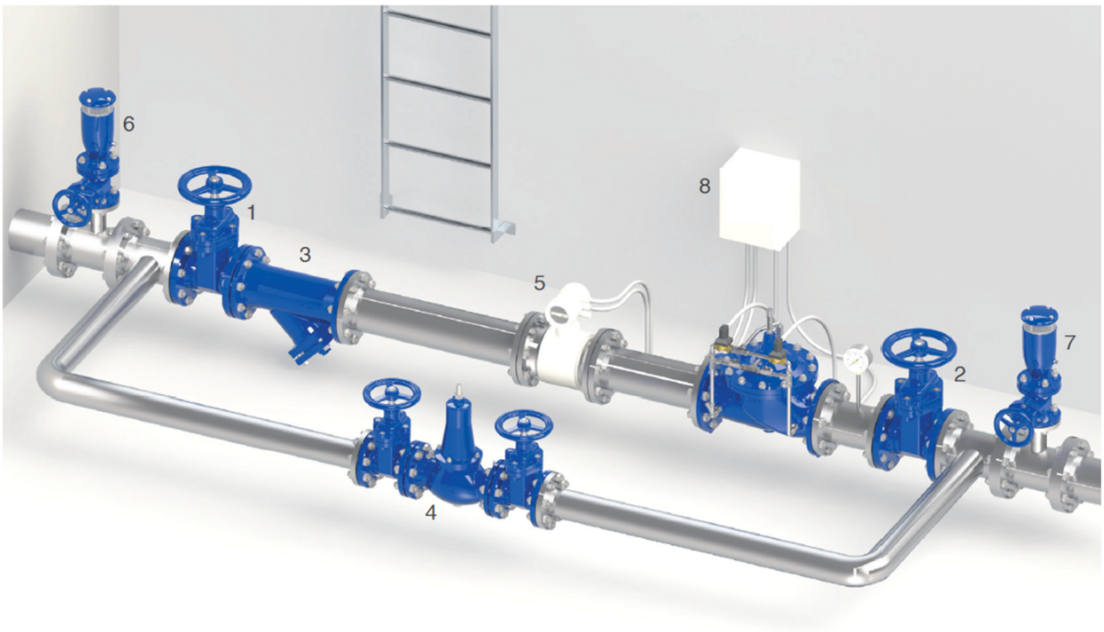
The use of the downstream solenoid (16), on the other hand, allows a flow which reduces the pressure in the chamber (10), resulting in a gradual opening of the main valve. The flow in the circuit is in any case controlled by the two needle valves (6 and 7).

The manual control (4, 5) is always provided, unless otherwise requested, to regulate the valve when the solenoids are not in operation due to power failure. A filter (17), installed upstream, also protects the solenoid and other circuit components from contact with impurities and debris.

Installation diagram



In the following picture, the valve is connected to a flow meter (5).

A control unit (8) constantly pulses the solenoids to maintain a constant flow regardless of upstream pressure fluctuations, or to regulate the downstream pressure according to changes in flow rate while minimising pressure losses.

Shut-off devices (1, 2) and bypasses are required for maintenance, a filter (3) and combined FBA water hammer vents (6, 7) upstream and downstream.

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