Installation, Operation & Maintenance

Aquestia
Directing the Flow

DOROT Electrically Controlled Valve, (EC)

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Applicable Series:	Sizes:
S300, S100, S500	2" - 14" / 50-350mm

1. Function Description

Dorot Electronic Control Valve (EC) is an automatic solenoid control valve, activated by the pressure of the pipeline. Valve control is done via our exclusive, versatile "ConDor" Smart Controller; enabling complete remote control and monitoring of hydraulic valve functionality with extreme accuracy — optimizing system performance. Can be controlled by any pulse- activating controller.

2. Technical Features

- Media: Water; natural, non-aggressive fluids
- Pressure rating: PN16 or PN25 (250psi or 360 psi) per specific valve-model
- Temp. range:
  S300: 2 – 80°C (35 - 176°F)
  S500/S100: 2 – 60°C (35 - 140°F)
- Flow velocity for continuous operation: 0.05 – 5.5 m/sec (0.3 – 18 ft/sec)
  Max. flow velocity for intermittent operation: 8 m/sec (26 ft/sec)

Notes:

- In case the designed/actual operating conditions are not suitable for the above defined standard features, please contact Aquestia applications-engineering.
- Refer to specific valve model publications for further details.

3. Safety Guidelines

- Injury or damage to the system/surroundings may occur if installation, commissioning, operation or maintenance instructions are not followed correctly, or if applicable codes of practice and regulations are ignored.
- Dorot valves are designed for use in fresh water-systems. Please consult Aquestia applications-engineering in case other media is to be used.
- Be sure to depressurize the valve, prior to any disassembly of valve or control-trim parts.
- Electrical works (e.g. connection of solenoid-valves, limit-switches etc.), must be executed by a certified electrician.
- Errors in the layout-design, installation or operation may affect valve performance and may be a risk to the system and operators/users. Please note, the system layout, installation and commissioning of valves is the responsibility of the system designer, installer and/or user.
- In any case of doubt and prior to taking any further action, please contact Aquestia representative for assistance.

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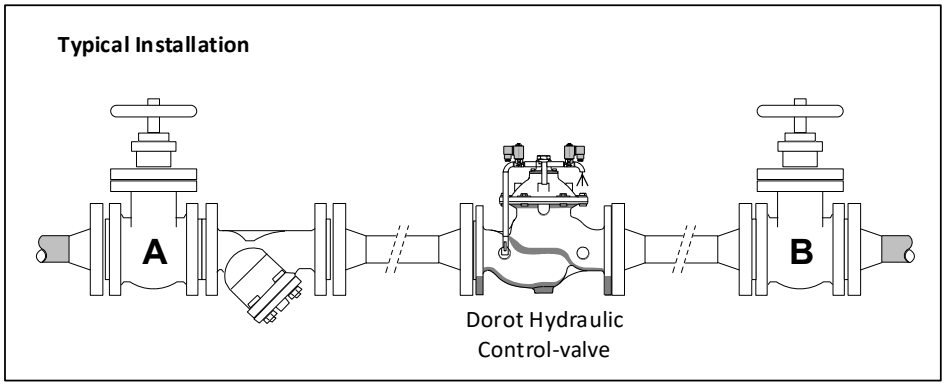
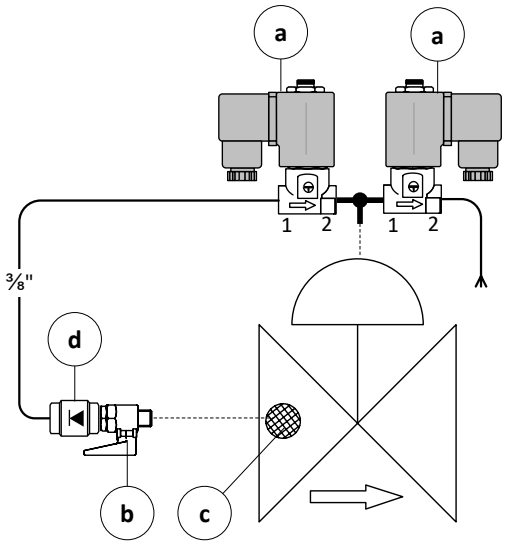
4. Installation



a. The valve can be installed in any position, although installation with the bonnet facing up is recommended for ease of maintenance.
b. Flow direction should match the engraved arrow on the bonnet.
c. For maintenance considerations, it is recommended that manual isolation valves (gate or butterfly) are installed, both sides with a strainer between the upstream isolation valve and the valve inlet (as shown in the diagram above).
d. Flush pipeline upstream of the valve, before assembly of the control valve.

5. Control-trim Design



Main Parts

a. 2/2, NC Solenoid valve 12VDC
b. Isolation ball valve
c. Self-flushing, inline control filter
d. Check valve

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6. Commissioning & Adjustment

a. Open ball valve [b]
b. Start the pump, or open isolation valve [A].
c. Bleed air out of the control chamber (refer to 'Air-Bleed Procedure' below).

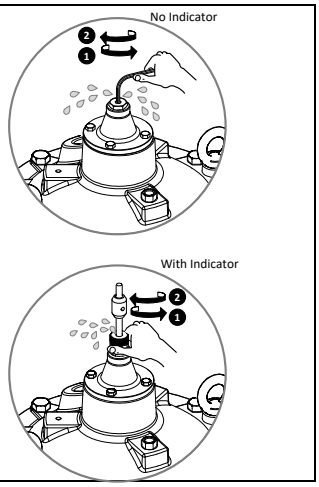
ⓘ Charging the downstream system must be done slowly to prevent pressure surges

<u>Air bleed in S-300/500 valves</u>

This should be done with the control chamber pressurized (main valve closed)

Using the supplied Allen key – open air-bleed-screw at the top of the bonnet and reclose it when only water, (no air) is discharged (refer to diagram on the right).

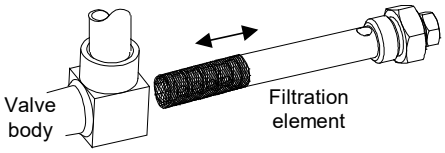
In cases where an indicator rod exists – using hand force only – release and tighten the round nut at the top of the indicator guide.



7. Maintenance

a. Inspect and clean the inline filter [c] as water quality dictates. This service should be performed every few months.
During this operation, the main valve must be isolated from external pressure by closure of up- and downstream isolation valves [A, B].

b. Inspect valve performance by checking pressure gauge(s) periodically.



Extraction of screen element, filter

8. Troubleshooting

General check list	Ball valves [b]	All must be opened when operated
	Schematic diagram	Verify that the piping is consistent with the schematic diagram
	Release air trapped in the control chamber	
	Filter	Check and clean