Installation, Operation & Maintenance

Aquestia
Directing the Flow

DOROT Control Function PR(D)

Control Function PR(D) **Proportional Pressure Reducing**	
Applicable Series:	Sizes:
S300	1½" - 20" / 40-500mm

1. Function Description

Automatic, proportional Pressure Reducing Valve. A double-chambered valve that controls downstream pressure to vary in a fixed proportion in relation to the upstream pressure value.

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)
- 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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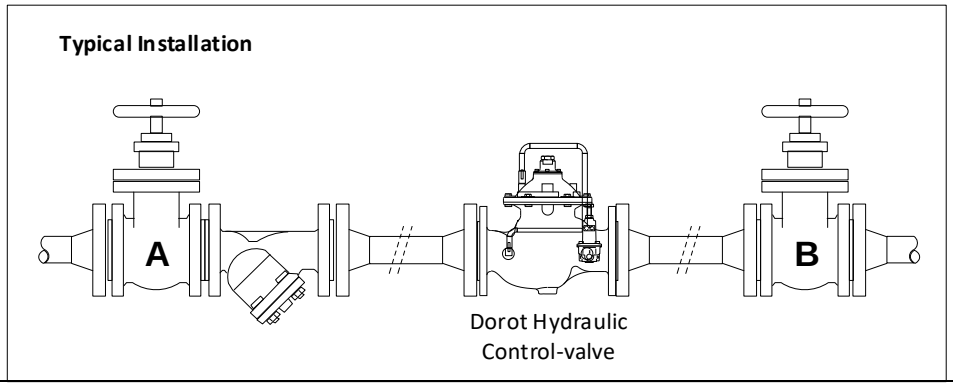
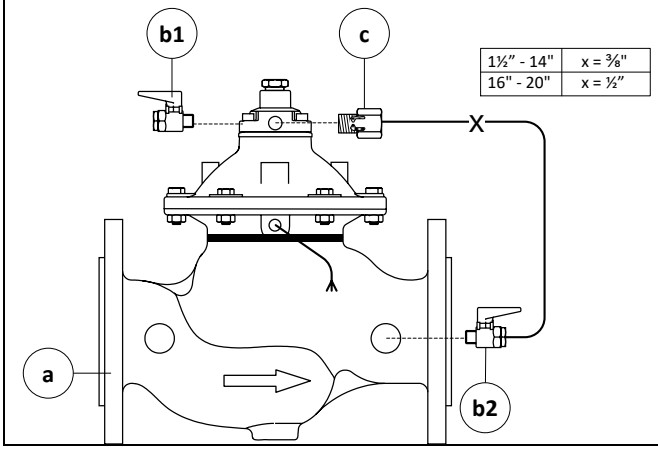


4. Installation

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. Double-chamber S300 Valve
b. Isolation Ball Valve
c. Orifice (1.5 mm)

- Orifice Diameter:
  1.5mm, 1½"-6" Valves
  2mm, 8"-14" Valves
  3mm, 14''-20'' Valves

6. Commissioning & Adjustment

a. Install Valve- **NO ADJUSTMENT IS NEEDED**
b. Open downstream Ball Valve
c. Slowly open downstream Isolation Valve

① Charging the downstream system must be done slowly to prevent pressure surges

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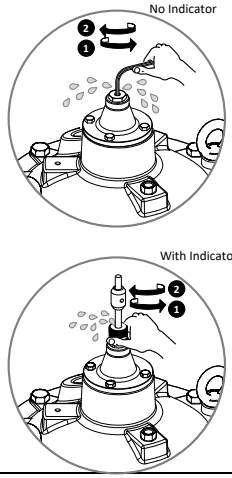
Air bleed in S-300/500 valves

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. Manual Activation

ⓘ Note that

a. The valve can be opened manually by closing Ball Valve [b2] while Ball Valve [b1] is opened.
b. The valve can be set in a fixed position, for maintenance of control circuit, by closure of valve [b2].

ⓘ Return the valves [b2] to "open" position after maintenance is completed.

ⓘ Make sure that valve [b1] is closed after maintenance is completed.

8. Maintenance

a. Inspect valve performance by checking pressure gauge(s) periodically.
b. No special maintenance it required.

9. Troubleshooting

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