


DOROT Flow-modulated Pressure Reducing Valve (HyMod)
Flow-modulated Pressure Reducing Valve (HyMod)

Applicable Series:	Sizes:
S300, S100, S500	2" - 6" / 50-150mm

1. Function Description

The Dorot 'HyMod' model is an automatic pilot-controlled, flow-modulated Pressure Reducing Valve, activated by the pressure of the pipeline. The valve reduces upstream pressure to a downstream pressure that increases or decreases simultaneously with flow demand. Pressure into the zone is continually adjusted according to actual demand, thus compensating for system loss. The pressure-flow profile can be adjusted via the HyMod, which controls from no flow, to maximal full open flow, without chattering or slamming.

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:

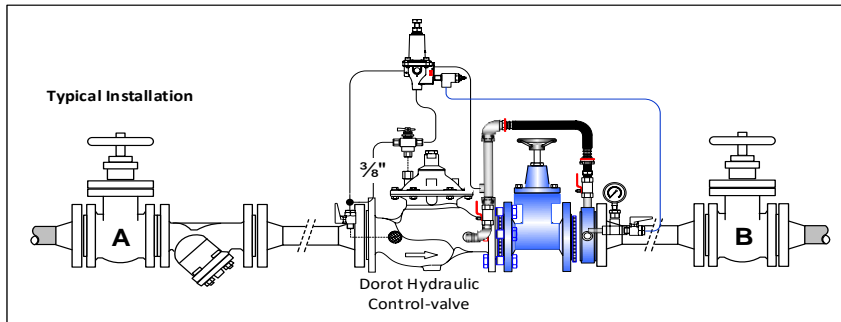
- In case the designed/actual operating conditions are not suitable for the above defined standard features, please contact Aquestia Applications-Engineering.
- Refer to specific valve model publications for further details.

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.

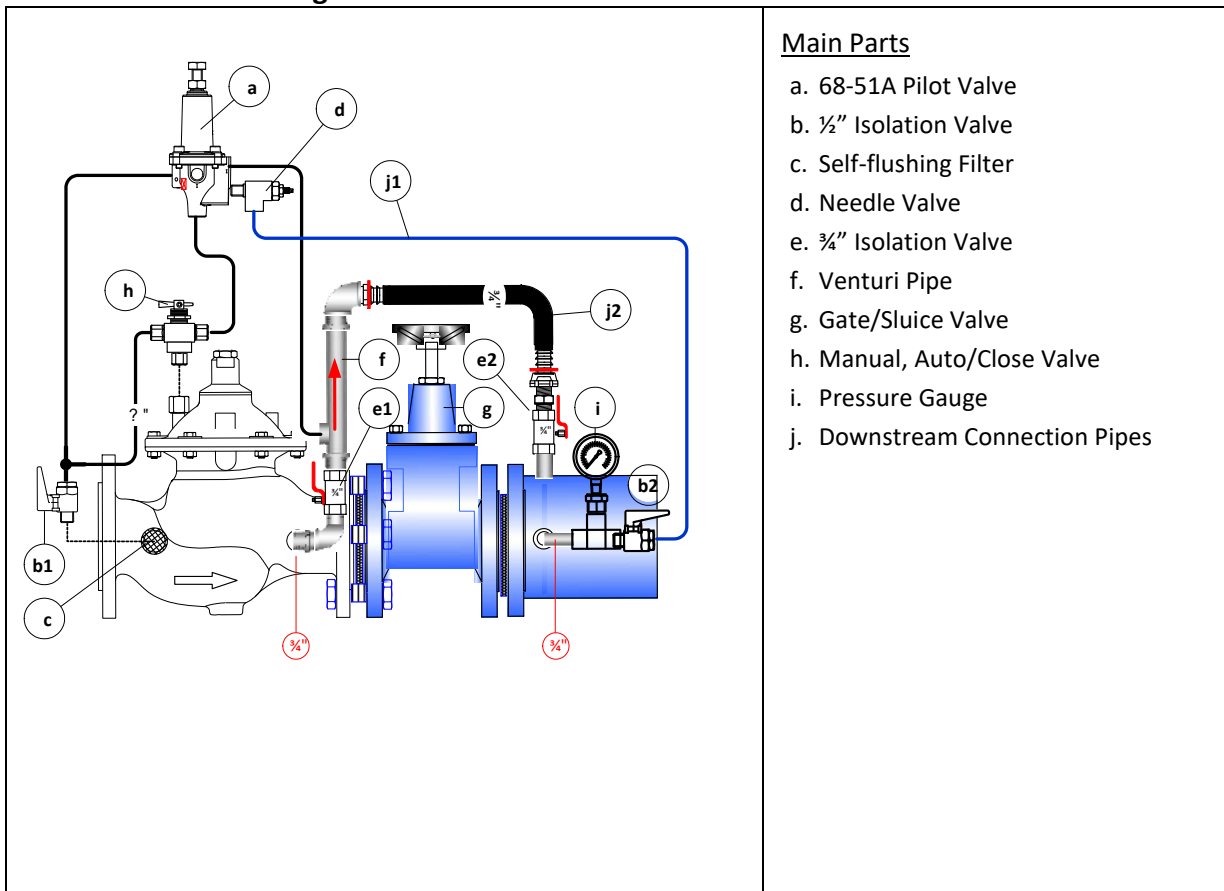
DOROT Flow-modulated Pressure Reducing Valve (HyMod)

4. Installation



- The valve can be installed in any position, although installation with the bonnet facing up is recommended for ease of maintenance.
- Flow direction should match the engraved arrow on the bonnet.
- 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).
- Flush pipeline upstream of the valve, before assembly of the control valve.

5. Control Trim Design




DOROT Flow-modulated Pressure Reducing Valve (HyMod)

6. Commissioning & Adjustment

- Turn adjustment bolt on pilot valve [a] counterclockwise (to release) until internal spring is completely loose.
- Close needle valve [d] and open it 1 full turn.
- Open modulation (gate/sluiice) valve [g] all the way.
- Open ball valves [b] and set selector valve [h] to "Auto" position.
- During low flow periods, very slowly tighten the adjustment bolt on pilot valve [a] clockwise until the required minimal pressure at the target point in the system is reached.
- During maximal flow periods, gradually close valve [g], until the target point pressure in the system rises to the required minimal value.
- Lock the modulation (gate/sluiice) valve [g] or remove the wheel.
 Remark: the modulation ratio (magnitude of pressure that rises when flow rate increases) is set by valve [g]. Closure of this valve causes higher pressure when flow increases.

Note: The system does not seal under no-flow conditions. If the system flow is "0" the downstream pressure will rise and equalize with the upstream pressure.

6.1 Manual control

- To close the system, set selector valve [h] to allow water directly from the upstream into the control chamber.
- To fully open the PRV, close ball valves [b1, b2] and release the pipe connection from needle valve [b2].

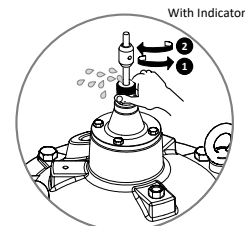
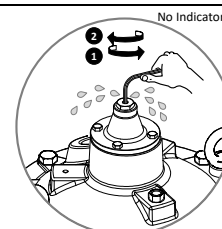
ⓘ Charging the downstream system must be done slowly to prevent pressure surges

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).


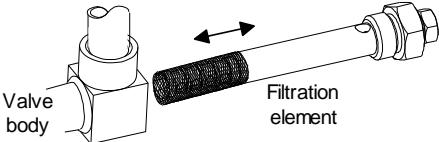
In cases where an indicator rod exists – using hand force only – release and tighten the round nut at the top of the indicator guide.



DOROT Flow-modulated Pressure Reducing Valve (HyMod)

7. Maintenance

- Inspect and clean the inline filter [f] 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].
- Inspect valve performance by checking pressure gauge levels periodically.

	 Valve body Filtration element Extraction of screen element, filter	
<h3>8. Troubleshooting</h3>		
General check list	Ball valves [b]	All must be open 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

Aquestia Ltd. reserves the right to make product changes without prior notice. To ensure receiving updated information on parts specifications, please contact us at info@aquestia.com.

Aquestia Ltd. shall not be held liable for any errors. All rights reserved