



# DOROT Non-return Hydraulic Check Valve (CV)

Non-return, Hydraulic Check Valve	
Applicable Series:	Sizes:
S300	1.5" - 14" / 50 - 350mm

## 1. Function Description

An automatic, pressure-controlled non-return Hydraulic Check Valve. The valve opens when the upstream pressure is higher than the downstream pressure and closes drip-tight in cases where the upstream pressure is equal to, or lower than the downstream pressure. Opening / closing speed is slow and controllable, preventing risk of water-hammer / surge.

## 2. Technical Features

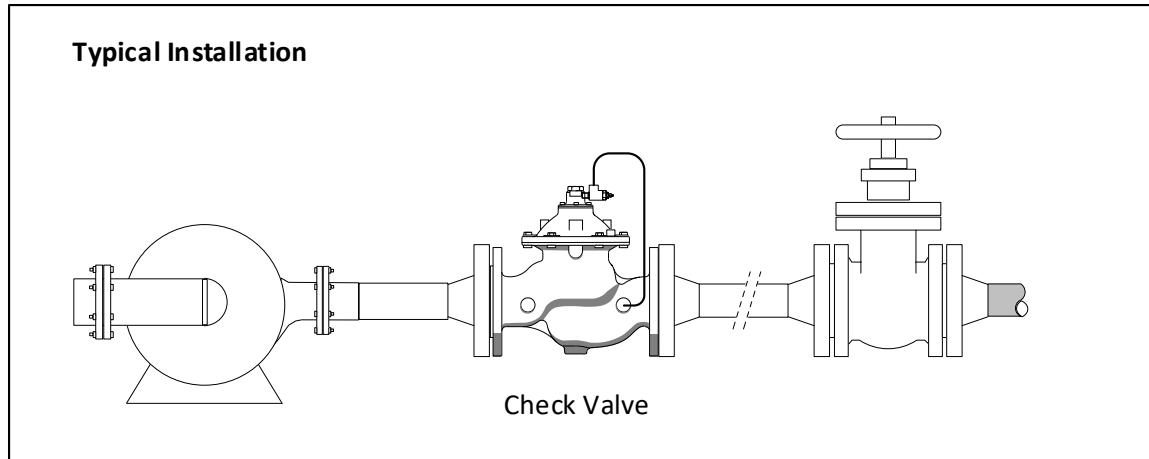
- Media: Water; natural, non-aggressive fluids
- Pressure rating: PN16 or PN25 (250psi or 360 psi) per specific valve-model
- Temp. range:
  - S300: 2 – 80°C (35 - 176°F)
- Flow velocity for continuous operation: 0.05 – 5.5 m/sec (0.3 – 18 ft/sec)  
Max. flow velocity for intermittent operation: 8 m/sec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

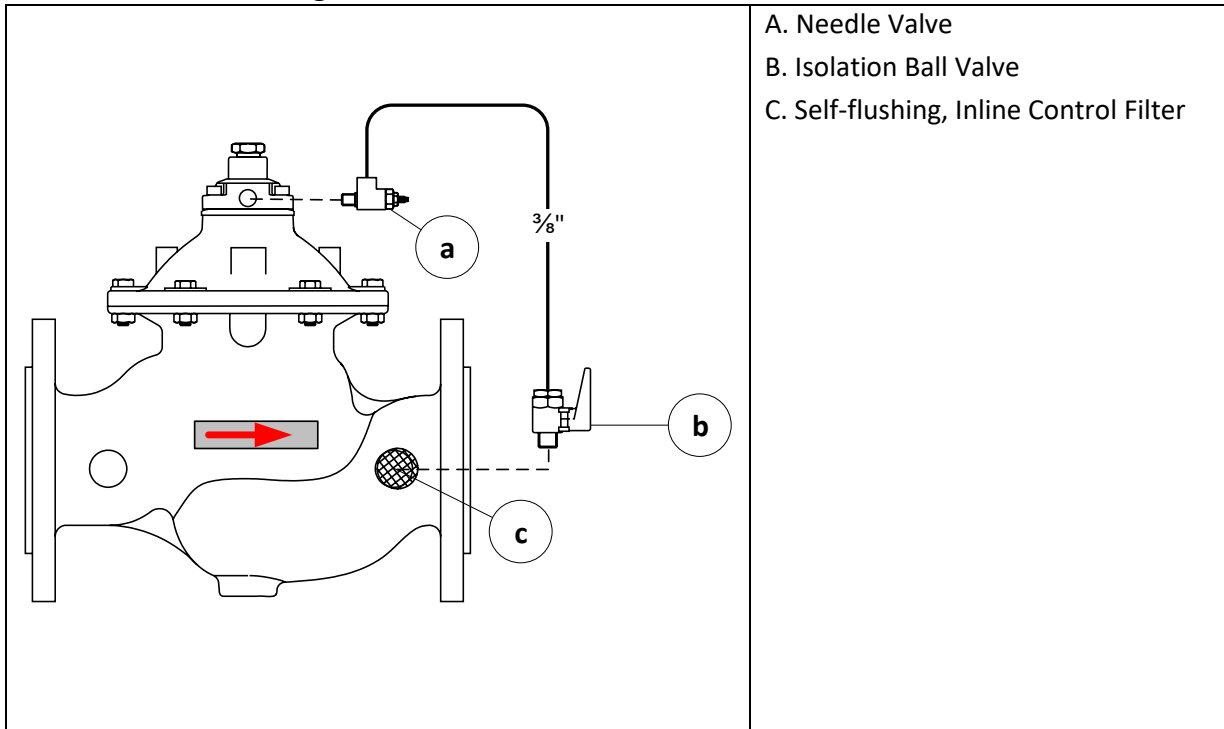
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#### 4. Installation

- 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.

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### 5. Control Trim Design



### 6. Commissioning & Adjustment

- a. Install Valve - **NO ADJUSTMENT NEEDED**
- b. Open downstream Ball Valve
- c. Open downstream Isolation Valve
- d. Start the Pump.
- e. Release trapped air from control chamber by opening the air-release nut.

### 7. Maintenance

- a. Inspect and clean Self-flushing, Inline Control Filter [c] as water quality dictates.
- b. Unless the water is very dirty, this service should be performed once a year.
- c. During this operation, the Main Valve must be isolated from external pressure by closure of upstream and downstream Isolation Valves.


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**8. Troubleshooting**

<b>Problem</b>	<b>Probable Cause</b>	<b>Remedy</b>
Main valve does not open	Inlet pressure is lower than minimal operating pressure	Verify there is sufficient inlet pressure (upstream separation valve is open)
	Ball valve [b] is closed	Open ball valve
Main valve does not close	Ball valve [b] is closed	Open ball valve
	Filter [c] is clogged	Extract filter [c] and clean
	Foreign object stuck in valve	Disassemble main valve and flush out
	Crack in valve diaphragm	Replace diaphragm

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