



Waterworks

## Hydraulic Non-Return Valve

### Operation

The Dorot Series 300 Hydraulic Non-Return Valve ('S300-CV'), is activated by the pressure of the pipeline. The valve opens when the upstream pressure is higher than the downstream pressure and closes, drip tight, in cases when upstream pressure is equal or lower than the downstream pressure. Opening and closing speed is slow and controllable, to prevent risk of water-hammer / surge.

### S300 Features

#### Superb performance

- Regulates at a stable mode, regardless of valve-size, down to near-zero flow. Thus, eliminating the need for a special low flow plug-design (such as 'V-port') or a bypass valve.
- 'Floating', low-friction internal-trim design, guided by a unique LPT® device.

#### High reliability

- All control ports are fitted with SST sleeves for preventing corrosion-blockage.
- Pre-shaped reinforced diaphragm – for easier assembly and improved longevity.

#### Reduced periodic inspection / maintenance labor

- The control-trim is fitted with a self-flushing, inline control-filter.
- Easy in-situ adjustment and maintenance.

#### Versatility

- A standard and simple single-chamber valve design, provides smooth operation. Conversion to a double chamber is a patented option.

### Standard Materials

- Body & Cover – Ductile Iron  
Optional – Cast Steel, SST, N.A.B, S.Duplex
- Main Internal – SST (1.5"-6), Coated Steel (8"-32")  
Optional – Cast Steel, SST, N.A.B, S.Duplex
- Elastomers – EPDM  
Optional – NBR, Neoprene, Viton or others
- Coating – Polyester, Epoxy / Optional – Halar and others
- Control Trim – Brass, PA / Optional – SST316, Duplex

### Purchase Specifications

- The valve will be hydraulic, pilot-operated globe type.
- Face-to-face length dimension meets ISO 5752 Standard.
- The stem will be guided at the top by a replaceable guide bearing and at the bottom by a stainless steel unique LPT® device.
- The valve will regulate any flow within the specified range without the need for a smaller bypass valve or throttling plug.
- All control ports will be corrosion free protected by stainless steel 316 inserts.

### Design Considerations

- The valve should be suited for the maximal flow and allowed Headloss.
- Large pressure differentials may cause cavitation damage. Consult Dorot for solutions if such conditions are expected.

## Quick Sizing

- Valve sized to be the same as line-size or one nominal-size smaller.
- Maximum recommended flow velocity for continuous operation 5.5 m / sec (18 ft. / sec).

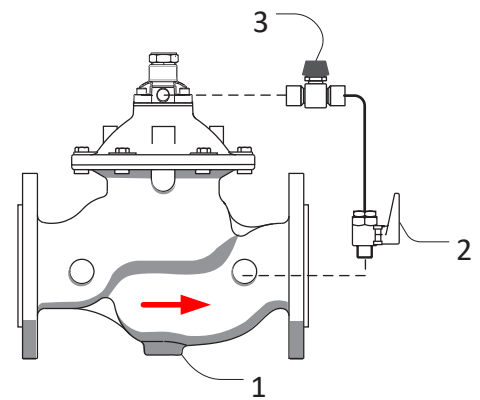
## Pressure Rating

- Model 30, 30A for medium pressure (PN16 bar / 250 psi)
- Model 31, 31A for high pressure (PN25 bar / 360 psi)

## Main Control System Components\*

1. Main Valve
2. Ball Valve
3. Needle Valve

\* Indicative drawing



## Typical Installation

Typical applications Include a Two-stage Check Valve, Model S300-CV. The valve opens when the upstream pressure is higher than the downstream pressure and closes, drip tight, in cases when upstream pressure is equal or lower than the downstream pressure.

