

30-REEL Surge Anticipating Valve

Principal of operation

The Dorot Series 300 Surge Anticipating Valve ('30-REEL') is an automatic, solenoid controlled surge anticipating valve, activated by the pressure of the pipeline. The valve will maintain a drip tight closed position under normal operating conditions and will open fully when the solenoid is energized; the valve closes at a slow pace preventing secondary surges when the solenoid de-energized. The valve will also open to relief access pressure in the line.



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 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.
- Install a manual separation/throttling valve, upstream of the valve position.
- The valve sensor tube must be connected to the main line.

Quick Sizing

- The valve should be sized to match the 80% of the normal flow at static head in the valve site:

$$D[\text{mm}] \leq \sqrt{(250 \times \text{Flow}[\text{m}^3/\text{hr}] / \sqrt{\text{Pressure}[\text{mwc}]})}$$

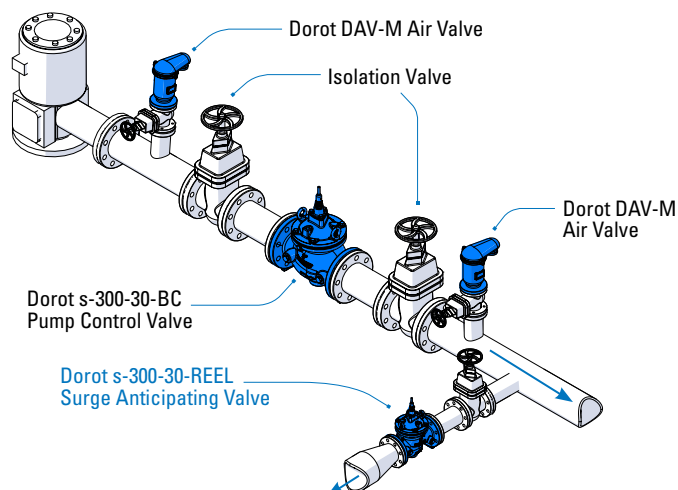
$$D[\text{inch}] \leq \sqrt{(0.109 \times \text{Flow}[\text{gpm}] / \sqrt{\text{Pressure}[\text{psi}]})}$$

Pressure rating

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

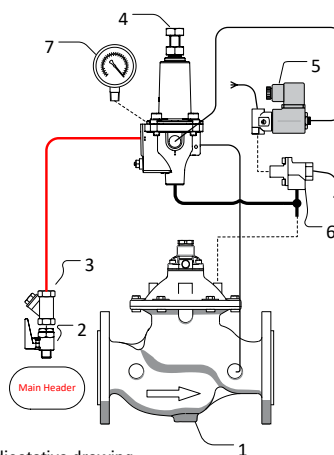
Typical Installation

Typical applications include Pressure Sustaining Valve Model 30-REEL. The Dorot Surge Anticipating Valve prevents water-hammer surges caused by an un-expected pump shut-off.



Main Control System Components*

1. Main Valve
2. Ball valve
3. Filter
4. 2W Pilot Valve
5. Solenoid Valve
6. Fast Acting Relay
7. Pressure Gauge



* Indicative drawing