



Waterworks

Deep Well (Borehole) Pump Control Valve

Operation

The Dorot Series 300 Deep Well Pump Control Valve ('S300-DW') is an automatic controlled valve, activated by the pressure of the pipeline. When the pump starts, the valve slowly closes, gradually increasing network pressure. Before pump shut-off, the valve slowly opens, gradually reducing network pressure.

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

- The valve should be sized to match the well flow at 5 mwc / 8 psi in the valve site (pump head water table depth):
- $D[\text{mm}] \geq 170 \times \sqrt{\text{Flow} [\text{m}^3 / \text{hr}]}$
- $D[\text{inch}] \geq 0.55 \times \sqrt{\text{Flow} [\text{gpm}]}$

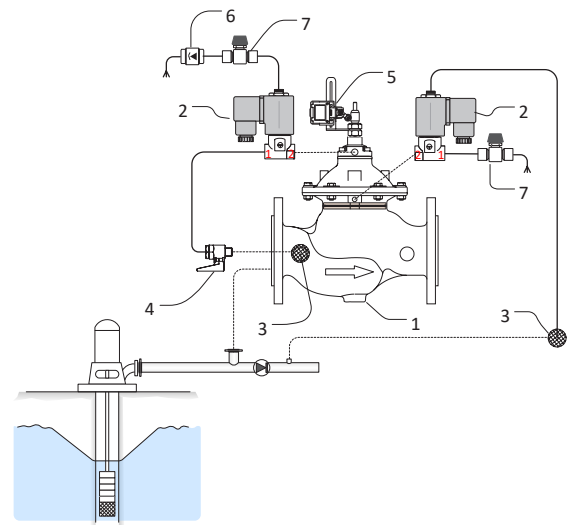
Pressure Rating

- 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. S300 Valve
2. 3 / 2, N.O& N.C Solenoid Valves
3. Self-flushing, Inline Control Filter
4. Isolation Ball-Valve
5. Limit Switch Assembly
6. Check Valve
7. Needle Valve

* Indicative drawing



Typical Installation

Typical applications include a Pump Control Valve Model S300-DW. The valve eliminates surges caused by the start-up and shut-off of vertical or submersible pumps. It is a relieve valve, assembled on a T-junction of the main pipeline.

