DOROT AUTOMATIC CONTROL VALVES

Founded in 1946, DOROT is a leading developer, manufacturer, and marketer of a wide range of superior quality automatic control valves. DOROT’s experienced Research & Development Dept. has a long tradition of generating innovative solutions for the application of water control systems. These include, waterworks distribution networks, sewage and effluent disposal, fire protection, mining, and irrigation systems.

DOROT’s commitment to excellence begins with using the highest quality materials. The company’s engineering experts are constantly working to provide customers with a broad range of valve patterns and sizes in a wide variety of metals and grades including: Cast Iron, Ductile Iron, Cast Steel, SST, Bronze, Marine Bronze, Polyamide, and P.V.C.

The experts at DOROT custom-design each valve application according to specific control requirements. Most of the production process, which includes, machining, and coating, takes place in modern in-house facilities. Before leaving the factory, each product is hydraulically tested. An advanced testing laboratory simulates the anticipated field conditions.

With distribution in more than 70 countries world-wide, a key component of the DOROT difference is its outstanding customer service. This includes field assistance, technical advice, training programs, and follow-up consultations.

It is all of these factors that make DOROT a leader in fluid control technology and customer satisfaction.
Features and Benefits

- The capability to regulate "near zero" flow, as standard on all sizes, achieved by the LTP® ("Linear Throttling Plug") device, completely eliminates the need for a low flow bypass valve.
- The unique bottom guide together with the hydrodynamically designed structure enables very low head loss in the "fully-open" position.
- A standard valve model fits a wide variety of control applications using Dorot pilot valves.
- An especially short face-to-face dimension, ensures maximal saving in installation space.
- An innovative internal trim ensures frictionless operation, easy maintenance and high reliability.
- During closure, the pace slows down to prevent slamming or water hammer / surges.
- The series includes, as an optional feature, a position indication rod, attached by a floating connection, enabling smooth movement with no wear or tear of the indicator seal.
- Very quite and stable operation makes the valves especially suitable for housing and residential applications.
- All materials are WRc approved for potable water.

Remote Control & Check Valves

EL - Solenoid Controlled Valve
A 3-way solenoid valve, activated by an electric current or an electric pulse, opens or closes the main valve. The standard valve is supplied in the "normally closed" position. The "normally open" position is optional. Electric activation can be added to other control applications on request.

CV - Hydraulic Check Valve
The valve is in the "open" position when the upstream pressure is higher than the downstream pressure. Should the upstream pressure drop below the downstream pressure, the valve will instantly close, preventing return flow. Opening and closing speeds can be adjustable.

RC - Hydraulic Remote Control Valve
A hydraulic relay opens or closes the valve (on which it is assembled), in response to a pressure command, carried by a control tube from a remote control center.

Pressure Reducing Valves

PR - Pressure Reducing Valve
The valve maintains a preset downstream pressure, regardless of upstream pressure or flow rate fluctuation. The main valve is controlled by either a 3-way pilot valve (allowing full opening when downstream pressure drops below the set-point), or by a 2-way pilot valve (creating minimal a pressure differential in open position).

PR/EL - Electrically Operated - Pressure Reducing Valve
The valve is a Pressure Reducing Valve which maintains a preset downstream pressure, regardless of upstream pressure or flow rate fluctuation. The valve's opening is controlled by an electric solenoid valve. This either causes the valve to open (and regulate) or to close.
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**Pressure Sustaining & Relief Valves**

**PS - Pressure Sustaining Valve**
The valve maintains upstream pressure, regardless of flow rate variations.

**PS(R) - Pressure Relief Valve**
The valve will be in the “closed” position if the upstream pressure drops below the set-point and will fully open when the upstream pressure exceeds the set-point.

**DI - Pressure Differential Sustaining Valve**
The valve maintains a preset pressure differential between the upstream and downstream pressures. The valve controls the booster pump discharge, heating and cooling systems, bypass configurations, etc...

**QR - Quick-Relief Safety Valve**
The valve opens instantly when the pressure in the pipeline exceeds the safe level, thus relieving excessive pressure from the network. When the pressure returns to normal, the valve closes slowly, at an adjustable pace.

**Flow Rate Control Valves**

**FR - Flow Rate Control Valve**
The valve limits the flow rate in the network to a preset level, regardless of upstream pressure variations. The valve fully opens when the flow rate drops below the set-point.

**FE - Excessive Flow Shut-Off Valve**
The valve closes when the flow rate exceeds the normal value (due to pipe rupture, for example).

**Level Control Valves**

**FL - Modulating Float Controlled Valve**
The main valve is controlled by a float valve, located in the tank or reservoir and set at the required maximum water level. The valve maintains the maximum level continuously.

**Optional Addition:** Surge-Preventing Closure (SP)

**FLDI 1 - Differential Float Controlled Valve**
A float valve (model 70-550) controls the main valve, closing it when the water reaches maximum level, and opening it when the water drops to its preset minimum level. The differential between the maximum and the minimum levels is adjustable, at a wide range.

**Optional Addition:** Surge-Preventing Closure (SP)

**FLDI 2 - Differential Float Controlled Valve**
A float valve (model 70-610) controls the main valve, closing it when the water reaches maximum level, and opening it when the water drops to its preset minimum level. The differential between the maximum and the minimum levels is adjustable, at a limited range.

**Optional Addition:** Surge-Preventing Closure (SP)

**AL - Altitude Control Valve**
The main valve is controlled by a highly sensitive pilot, located outside the tank. The pilot opens or closes the valve in response to the static pressure of the water. The pilot allows for differential adjustments between the maximum and minimum level.

**Optional Addition:** Surge-Preventing Closure (SP)

**Special Control Applications**

**SP - Surge-Preventing Closure**
The device automatically adjusts the closing speed of a valve that is located at the end of a long pipeline, preventing pressure surges. Please consult DOROT, or your local distributor for details.
Pressure Vessels & Relief Valves

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Technical data

<table>
<thead>
<tr>
<th>Diameter</th>
<th>40mm / 1 1/2&quot;</th>
<th>50mm / 2&quot;</th>
<th>65mm / 2 1/2&quot;</th>
<th>80mm / 3&quot;</th>
<th>100mm / 4&quot;</th>
<th>150mm / 6&quot;</th>
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<tbody>
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<td>20 / 1 1/8</td>
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<td>200 / 7.8</td>
<td>200 / 7.8</td>
<td>210 / 8.3</td>
<td>285 / 11.2</td>
<td>300 / 11.8</td>
<td>385 / 15.1</td>
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<td>H</td>
<td>160 / 6.3</td>
<td>215 / 8.5</td>
<td>215 / 8.5</td>
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<td>455 / 17.9</td>
</tr>
<tr>
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<td>38 / 1.5</td>
<td>85 / 3.3</td>
<td>93 / 3.6</td>
<td>105 / 4.1</td>
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<td>145 / 5.7</td>
</tr>
</tbody>
</table>

Technical specifications

- Available sizes: 40 to 150 mm (1 1/2" to 6")
- Operating pressure: 0.5 to 16 bar (8 to 230 psi)
- Temperature range: 60°C (140°F)

Flow chart

- 2 way control system
- 3 way control system

Materials

- Component No. 1: Body - Cast Iron
- Component No. 2: Trim LTP, Guides and top - Composite Materials
- Component No. 3: Trim bolts - SST
- Component No. 4: Trim cylinder - Cast Iron
- Component No. 5: Cover - Cast Iron
- Component No. 6: Spring - SST
- Component No. 7: Cover bolts - SST
- Component No. 8: Washer - Cast Iron
- Component No. 9: Diaphragm - Rubber
- Component No. 10: Plug seal - Rubber
- Component No. 11: Seal - SST

Components

- Innovative diaphragm-trim assembly guided by low-friction top & bottom guides
- LTP® (Linear Throttling Plug) for superior low flow regulation
- Special valve design: reduction in head-losses
- Technically applied, oven baked Polyester
- UV resistant, and certified for use in potable water applications

Dimensions and Weights

<table>
<thead>
<tr>
<th>Diameter</th>
<th>40</th>
<th>50</th>
<th>65</th>
<th>80</th>
<th>100</th>
<th>150</th>
</tr>
</thead>
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<tr>
<td>L [mm]</td>
<td>100 / 3.9</td>
<td>155 / 5.2</td>
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<td>285 / 11.2</td>
<td>300 / 11.8</td>
<td>385 / 15.1</td>
</tr>
<tr>
<td>H [mm]</td>
<td>110 / 4.3</td>
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<td>105 / 4.1</td>
<td>105 / 4.1</td>
<td>145 / 5.7</td>
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<tr>
<td>Weight [kg / lbs]</td>
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<td>9 / 20</td>
<td>11 / 24</td>
<td>18 / 40</td>
<td>25.8 / 56.9</td>
<td>60 / 133</td>
</tr>
</tbody>
</table>

Flow chart

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<th>150 / 6&quot;</th>
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</thead>
<tbody>
<tr>
<td>Nominal flow</td>
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<td>20 / 80</td>
<td>20 / 80</td>
<td>40 / 180</td>
<td>75 / 325</td>
<td>150 / 705</td>
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<tr>
<td>Max. continuous flow</td>
<td>m³/h</td>
<td>25 / 110</td>
<td>40 / 175</td>
<td>40 / 175</td>
<td>90 / 400</td>
<td>160 / 705</td>
<td>350 / 1540</td>
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<tr>
<td>Max. intermittent flow</td>
<td>m³/h</td>
<td>35 / 160</td>
<td>55 / 250</td>
<td>55 / 250</td>
<td>145 / 640</td>
<td>225 / 995</td>
<td>510 / 2240</td>
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<tr>
<td>Minimally</td>
<td>m³/h</td>
<td>&lt; 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>m³/h</td>
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<td>L</td>
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<td>1.5</td>
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<td>189.4</td>
<td>265.6</td>
<td>60 / 139</td>
<td></td>
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**Dimensions and Weights**

**Flow chart**

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Operating pressure: 0.5 to 16 bar (8 to 230 psi)

Temperature range: 60 °C (140 °F)

End connections: Valves diameters 40-150 mm (1 1/2" - 6") supplied in the following international flange standards: ISO 2084, 2441, 5752; ANSI B16; AS 10; JIS B22.

Valves diameters 40-50 mm (1 1/2" - 2") supplied also in the following thread standards: F-BSP; F-NPT

Other standards are available upon request.

Coating: Electrostatically applied, oven baked Polyester

Innovative diaphragm-trim assembly guided by low-friction top & bottom guides

Coating: UV resistant, and certified for use in potable water applications

**Materials**

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<thead>
<tr>
<th>Component No.</th>
<th>Description</th>
<th>Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Body</td>
<td>Cast Iron</td>
</tr>
<tr>
<td>2</td>
<td>Trim, LTP, Guides and top</td>
<td>Composite Materials</td>
</tr>
<tr>
<td>3</td>
<td>diaphragm washer</td>
<td>GRP approved GMP</td>
</tr>
<tr>
<td>4</td>
<td>Trim bolts</td>
<td>SST</td>
</tr>
<tr>
<td>5</td>
<td>Trim cylinder</td>
<td>Cast Iron</td>
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- Innovative diaphragm-trim assembly guided by low-friction top & bottom guides
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- LTP® (Linear Throttling Plug) for superior low flow regulation
- Wear & corrosion resistant SST seat

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