The Model 108FPS is used to prevent the fire pump from outdrawing the available supply. In so doing, it protects the pump suction supply from damage associated with too low a pressure and assures adequate supply pressure to the fire system components.

**SERIES FEATURES**

- Maintains minimum pump suction pressure
- Installs on fire pump discharge; senses pump suction
- Suction pressure is adjustable with single screw
- Adjustable .34 - 2.0 bar range
- Sizes 3" (DN80) - 8" (DN200), globe and angle
- Pilot-operated main valve
- Maintain without removal from the line
- Adjustable opening speed
- Factory tested and can be pre-set to your requirements
- Factory Mutual Approved

**OPERATION**

The normally closed, spring loaded pilot, sensing pump suction pressure, opens when supply pressure exceeds the spring setting, allowing the main valve to open. Should suction pressure lower to the set point, the pilot, hence the main valve will begin modulating (throttling) to prevent the suction pressure from falling any lower. The pilot system is equipped with an opening speed control that fine tunes the valve response to the system variables.

**COMPONENTS**

The Model 108FPS consists of the following components, arranged as shown on the schematic diagram:

1.) **Model 65 Basic Control Valve**, a hydraulically-operated, diaphragm-actuated, globe or angle valve which closes with an elastomer-on-metal seal.
2.) **Model 1330HB Pressure Relief Pilot**, a two-way, normally-closed pilot valve which senses upstream pressure under its diaphragm and balances it against an adjustable spring load. An increase in upstream pressure tends to make the pilot open.
3.) **Model 126 Ejector**, a simple "tee" fitting with a fixed orifice in its inlet port. It provides the proper pressure to the diaphragm chamber of the main valve depending on the position of the pressure relief pilot.
4.) **Model 141-3 Flow Control Valve**, a needle-type valve which provides adjustable, restricted flow in one direction, and free flow in the opposite direction. On the 108FPS, the flow control valve is connected as an opening speed control.
5.) **Model 159 Y-Strainer** The strainer protects the pilot system from solid contaminants in the line fluid.
6.) **Model 155 Visual Indicator**, enables user to determine valves’ operating position.

**FLOW CHARACTERISTICS**

where:

- \( Q = \) Flow Rate in USGPM (U.S.)
- \( Q = \) Flow Rate in liters/sec (Metric)
- \( Cv = \) Flow Rate in USGPM @ 1 psi pressure drop (U.S.)
- \( Cv = \) Flow Rate in liter/sec @1 bar pressure drop (Metric)
- \( DP = \) Pressure Drop in psi (U.S.) or \( DP = \) Pressure Drop in bar (Metric)

**RECOMMENDED INSTALLATION**

Pump valve with sense line to pump suction.

**SCHEMATIC**

**FLOW CHARACTERISTICS**

<table>
<thead>
<tr>
<th>VALVE SIZE</th>
<th>3&quot;</th>
<th>4&quot;</th>
<th>6&quot;</th>
<th>8&quot;</th>
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<td>GLOBE US</td>
<td>DN80</td>
<td>DN100</td>
<td>DN150</td>
<td>DN200</td>
</tr>
<tr>
<td>Cv Metric</td>
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<td>47.9</td>
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<tr>
<td>Cv Metric</td>
<td>38.3</td>
<td>64.7</td>
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</tr>
</tbody>
</table>

TOLL FREE 1.888.628.8258 • phone: (918)627.1942 • fax: (918)622.8916 • 7400 East 42nd Place, Tulsa, Ok 74145
email: sales@controlvalves.com • website: www.controlvalves.com
**SPECIFICATIONS**

**DESIGN**
The valve shall be a single-seated, line pressure operated, diaphragm actuated, pilot controlled globe or angle valve. The valve shall seal by means of a corrosion-resistant seat and resilient, rectangular seat disc. These and other parts shall be replaceable without removing the valve from the line. The stem of the main valve shall be guided top and bottom by integral bushings. Alignment of the body, bonnet and diaphragm assembly shall be by precision dowel pins. The diaphragm shall not be used as a seating surface, nor shall pistons be used as an operating means. The pilot system shall be furnished complete and installed on the main valve, and shall include an opening speed control and a Y-strainer. The valve shall be operationally and hydrostatically tested prior to shipment.

**MATERIALS OF CONSTRUCTION**
The main valve body and bonnet shall be ductile iron (or other materials refer to MATERIALS). All internal ferrous surfaces shall be coated with 4 mils of epoxy. External surfaces shall be coated with 4 mils of epoxy followed by a coat of enamel paint. The main valve seat ring shall be bronze (or other materials refer to MATERIALS). - Elastomers (diaphragms, resilient seats, and O-rings) shall be Buna-N. Control pilot shall be bronze (or other materials refer to MATERIALS). The opening speed control shall be brass/stainless steel and control line tubing shall be copper (or other materials refer to MATERIALS).

**OPERATING CONDITIONS**
The fire pump suction control valves shall be suitable for sustaining suction pressures of 0.34 - 2.0 bar.

**ACCEPTABLE PRODUCTS**
The fire pump suction pressure control valve shall be a Model 108FPS, Factory Mutual Approved, <globe pattern, angle pattern>, with <150# flanged, 300# flanged> end connections, as manufactured by OCV Control Valves, Tulsa, OK, USA.

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For maximum efficiency, the OCV control valve should be mounted in a piping system so that the valve bonnet (cover) is in the top position. Other positions are acceptable but may not allow the valve to function to its fullest and safest potential. In particular, please consult the factory before installing 8" (DN200) and larger valves, or any valves with a limit switch, in positions other than described. Space should be taken into consideration when mounting valves and their pilot systems.

A routine inspection & maintenance program should be established and conducted yearly by a qualified technician. Consult our factory @ 1-888-628-8258 for parts and service.

How to order your valve
When Ordering please provide:
Series Number - Valve size - Globe or Angle - Pressure Class - Flanged - Trim Material - Adjustment Range - Pilot Options - Special needs / or Installation Requirements