The Models 127LF and 727LF have a wide range of applications: anywhere a pressure must be reduced to a manageable level under a wide range of demand that cannot normally be provided by a single valve. A typical application is for commercial buildings such as apartment complexes, condominiums, hospitals, etc.

**FEATURES**

- Reduces a higher inlet pressure to a lower outlet pressure
- Combination of bypass regulator and pilot-operated main valve delivers widest possible flow range
- Constant outlet pressure over wide flow range
- Pilot-operated main valve not subject to pressure fall off
- Can be maintained without removal from the line
- Isolation ball valves to facilitate maintenance and troubleshooting
- Adjustable opening speed
- Factory tested and can be pre-set to your requirements

*Model 127LF uses a “full port” basic valve. Model 727LF uses a “reduced port” basic valve that enables proper sizing without the use of pipe reducers. Refer to Sizing Guidelines and Valve Dimensions.

**OPERATION**

The bypass regulator, typically set 5-10 psi higher than the main valve pilot, controls the pressure under low flow conditions while the main valve remains closed. When the flow capacity of the regulator is exceeded, the pressure drops to the set point of the main valve pilot, causing the main valve to open and provide the higher flow. Response of the main valve is adjusted by an opening speed control.

**COMPONENTS**

The Model 127 consists of the following components, arranged as shown on the schematic diagram:

1.) Basic 65 Valve Valve Assembly
2.) Model 1340 Pressure Reducing Pilot
3.) Model 1340 Bypass Regulator
4.) Model 126 Ejector
5.) Model 141-3 Flow Control Valve (opening speed control)
6.) Model 159 Y-Stainer
7.) Model 141-4 Isolation Ball Valve
8.) Model 155 Visual Indicator (optional)

**RECOMMENDED INSTALLATION**

**SCHEMATIC**

**SIZING**

The chart shows the minimum maximum recommended flows based on the differential between inlet and outlet pressures. Consult factory for additional differentials or sizing assistance.

<table>
<thead>
<tr>
<th>Model</th>
<th>Size</th>
<th>Differential Pressure, PSID</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>127LF</td>
<td>1 1/4&quot;</td>
<td>0-93</td>
</tr>
<tr>
<td>127LF</td>
<td>1 1/2&quot;</td>
<td>0-109</td>
</tr>
<tr>
<td>127LF</td>
<td>2&quot;</td>
<td>0-189</td>
</tr>
<tr>
<td>127LF</td>
<td>2 1/2&quot;</td>
<td>0-274</td>
</tr>
<tr>
<td>727LF</td>
<td>3&quot;</td>
<td>0-280</td>
</tr>
</tbody>
</table>

*727LF are reduced port models.

The sizes shown have a low flow of 0-12 GPM. There is a flow gap between 12 GPM and the minimum shown. Valves operated continuously in the "gap" area may not provide optimum performance.

<table>
<thead>
<tr>
<th>Model</th>
<th>Size</th>
<th>Differential Pressure, PSID</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>127LF</td>
<td>3&quot;</td>
<td>16-483</td>
</tr>
<tr>
<td>727LF</td>
<td>4&quot;</td>
<td>18-545</td>
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<tr>
<td>127LF</td>
<td>4&quot;</td>
<td>27-805</td>
</tr>
<tr>
<td>727LF</td>
<td>6&quot;</td>
<td>29-865</td>
</tr>
</tbody>
</table>

*727LF are reduced port models.

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

Global performance. Personal touch.

REVISED 05/04/17
Models 127LF & 727LF

SIZES

Full Port Model 127LF
GLOBE/ANGLE
Screwed Ends - 1 1/4" - 3"
Grooved Ends - 1 1/4" - 4"
Flanged Ends - 1 1/4" - 4" (globe);
1 1/2" - 4" (angle)

Reduced Port Model 727LF
GLOBE Only
Flanged Ends - 3", 4", 6"

SPRING RANGES

(5-30 psi, 20-90 psi, 65-180 psi, 100-300 psi)

TEMPERATURE RANGE

(Valve Elastomers)
Buna-N -40°F - 180°F
Viton 0°F - 400°F
EPDM 0°F - 300°F

MATERIALS

Body/Bonnet: Ductile Iron (epoxy coated), Carbon steel (epoxy coated), Stainless steel, Bronze
- Others available (consult factory)

Seat Ring: Bronze, Stainless steel

Stem: Stainless Steel, Monel

Spring: Stainless Steel

Diaphragm: Nylon Reinforced Buna-N, Viton, EPDM

Seat Disc: Buna-N, Viton, EPDM

Pilot: Bronze, Stainless Steel

Other pilot system components:
Bronze/Brass - All stainless steel

Tubing & Fittings: Copper/brass, Stainless steel

**Valves 1-1/4" through 24" are certified to NSF/ANSI 372. Valves 4" through 24" are also certified to NSF/ANSI 51-3.**

U.S. DIMENSIONS - INCHES

<table>
<thead>
<tr>
<th>DIM</th>
<th>END CONN</th>
<th>Model 127</th>
<th>Model 727</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>SCREWED</td>
<td>8.75 9.88 10.5 13 - - -</td>
<td>- - - - -</td>
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<tr>
<td></td>
<td>GROOVED</td>
<td>8.75 9.88 10.5 13 15.25 - -</td>
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<tr>
<td></td>
<td>150# FLGD</td>
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<tr>
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<td>B</td>
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<td>1.44 1.69 1.88 2.25 - - -</td>
<td>- - - - -</td>
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<td></td>
<td>GROOVED</td>
<td>1 1.19 1.44 1.75 2.25 - -</td>
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<td>2.31 2.5 3 3.5 3.75 4.5 4.5 5.5 5.5</td>
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<tr>
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<td>300# FLGD</td>
<td>2.63 3.06 3.25 3.75 4.13 5 6.12 6.25</td>
<td>- - - - -</td>
</tr>
<tr>
<td>C</td>
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<td>4.375 4.75 6 6 6.6 7.625 - -</td>
<td>- - - - -</td>
</tr>
<tr>
<td>ANGLE</td>
<td>GROOVED</td>
<td>4.95 4.75 6 6 6.6 7.625 - -</td>
<td>- - - - -</td>
</tr>
<tr>
<td></td>
<td>150# FLGD</td>
<td>4.25 4.75 6 6 6.6 7.625 - -</td>
<td>- - - - -</td>
</tr>
<tr>
<td></td>
<td>300# FLGD</td>
<td>4.375 5 6 6.375 8.75 12.5 14 16 18</td>
<td>- - - - -</td>
</tr>
<tr>
<td>D</td>
<td>SCREWED</td>
<td>3.125 3.675 4 4.5 5 5.625 - -</td>
<td>- - - - -</td>
</tr>
<tr>
<td>ANGLE</td>
<td>GROOVED</td>
<td>3.125 3.675 4 4.5 5 5.625 - -</td>
<td>- - - - -</td>
</tr>
<tr>
<td></td>
<td>150# FLGD</td>
<td>3.125 3.675 4 4.5 5 5.625 - -</td>
<td>- - - - -</td>
</tr>
<tr>
<td></td>
<td>300# FLGD</td>
<td>3.125 4.125 4.375 4.375 5.625 5.625 - -</td>
<td>- - - - -</td>
</tr>
<tr>
<td>E</td>
<td>ALL 8 - 14</td>
<td>6 8 8 11 11 12 11 11 11 12 12</td>
<td>- - - - -</td>
</tr>
</tbody>
</table>

**GROOVED END NOT AVAILABLE IN 1 1/4"**

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" 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 Model 127LF and 727LF valve

When Ordering please provide:
Fluid to be controlled - Model Number - Size
Globe or Angle - End Connection - Body Material
Trim Material - Pilot Options - Pressure Setting or Spring Range - Special Requirements / Installation requirements.

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

SPECIFICATIONS (Typical Water Application)

The pressure reducing valve with low-flow bypass shall function to reduce a higher upstream pressure to a constant, lower downstream pressure regardless of fluctuations in supply or demand.

DESIGN

The pressure reducing valve with low-flow bypass shall be a single-seated, line pressure operated, diaphragm actuated, pilot controlled globe 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, a Y-strainer, and isolation ball valves. The pressure reducing valve shall be operationally and hydrostatically tested prior to shipment.

MATERIALS OF CONSTRUCTION

The main valve body and bonnet shall be ductile iron per ASTM A536. Grade 65-45-12. All ferrous surfaces shall be coated with 4 mils of NSF-approved epoxy. The main valve seat ring shall be bronze. Elastomers (diaphragms, resilient seats, and O-rings) shall be Buna-N. Control pilot and bypass regulator shall be ASTM B62 bronze. The opening speed control and isolation ball valves shall be brass and control line tubing shall be copper.

OPERATING CONDITIONS

The pressure reducing valve with low-flow bypass shall be suitable for reducing from inlet pressures of <X to X> psi to a constant outlet pressure of <X> psi at flow rates ranging from <X to X> gpm.

ACCEPTABLE PRODUCTS

The pressure reducing valve with low-flow bypass shall be a <size> Model 127LF <globe pattern, angle pattern>, with <150# flanged, 300# flanged, threaded, grooved> end connections, or Model 727LF, globe pattern, <150# flanged, 300# flanged> as manufactured by OCV Control Valves, Tulsa, Oklahoma, USA.

**Represented by:**

![Diagram of valve](image-url)