The Lee Company’s 375 Bypass Valve is the latest addition to Lee’s line of miniature fluid control components. Designed to shunt flow across an actuator piston when the system pressure is either shut off or lost, the 375 Bypass Valve is normally open, with a hydraulically-actuated pilot-to-close feature.

This miniature valve weighs only 16 grams, and the metal components are constructed entirely of stainless steel for durability and long life. Each Lee Bypass Valve is 100% tested and inspected to ensure reliable, consistent performance. Contact your local Lee Sales Engineer for additional information and technical assistance.

P = System Pressure
R = Return Pressure
Ps = Pilot Port Pressure

BPOA3750104H

PERFORMANCE

- Low Leakage: 1 Drop/Minute
- 70 Lohms* Maximum Restriction When Open
- Weighs only 16 grams
- All Metal Components Made from Stainless Steel
- 100% Tested and Inspected
- Endurance Tested to 250,000 Cycles Minimum
- Designed for System Pressures up to 4000 psi

* The Lohm is a measure of flow resistance. Additional information can be found on the reverse side and at www.TheLeeCo.com.
LEE LOHM LAWS

LOHMS LAWS (liquids)

Every engineer will be interested in our simple system of defining the fluid resistance of Lee hydraulic components.

Just as the OHM is used in the electrical industry, we find that we can use a liquid OHM or "Lohm" to good advantage on all hydraulic computations.

When using the Lohm system, you can forget about coefficients of discharge and dimensional tolerances on drilled holes. These factors are automatically compensated for in the Lohm calculations, and confirmed by testing each component to establish flow tolerances. The resistance to flow of any fluid control component can be expressed in Lohms.

The Lohm has been selected so that a 1 Lohm restriction will permit a flow of 100 gallons per minute of water with a pressure drop of 25 psi at a temperature of 80°F.

LIQUID FLOW FORMULA

The following formulas are presented to extend the use of the Lohm laws to many different liquids, operating over a wide range of pressure conditions.

These formulas introduce compensation factors for liquid density and viscosity. They are applicable to any liquid of known properties, with minimum restrictions on pressure levels or temperature.

The units constant (K) eliminates the need to convert pressure and flow parameters to special units.

\[
L = \frac{KV}{T} \sqrt{\frac{H}{S}}
\]

\[
L = \frac{KV}{w} \sqrt{HS}
\]

LIQUID FLOW - UNITS CONSTANT K

VOLUMETRIC FLOW UNITS

<table>
<thead>
<tr>
<th>Flow Units</th>
<th>Pressure Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPM</td>
<td>psi bar kPa</td>
</tr>
<tr>
<td>20</td>
<td>76.2 7.62</td>
</tr>
<tr>
<td>L/min</td>
<td>75.7 288 28.8</td>
</tr>
<tr>
<td>ml/min</td>
<td>75 700 288 000</td>
</tr>
<tr>
<td>in³/min</td>
<td>4.620 17600 1760</td>
</tr>
</tbody>
</table>

GRAVIMETRIC FLOW UNITS

<table>
<thead>
<tr>
<th>Flow Units</th>
<th>Pressure Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPH</td>
<td>psi bar kPa</td>
</tr>
<tr>
<td>10 000</td>
<td>38 100 3810</td>
</tr>
<tr>
<td>gm/min</td>
<td>75 700 288 000</td>
</tr>
</tbody>
</table>

NOMENCLATURE

\[ L = \text{Lohms} \]
\[ S = \text{Specific gravity}^* \]
\[ H = \text{Differential pressure} \]
\[ V = \text{Viscosity compensation factor}^{**} \]
\[ I = \text{Liquid flow rate: Volumetric} \]
\[ w = \text{Liquid flow rate: Gravimetric} \]
\[ K = \text{Units Constant – Liquid (see chart above)} \]

*S = 1.0 for water at 80°F.

**V = 1.0 for water at 80°F.

For other fluids and temperatures, contact your Lee Sales Engineer or visit us at www.TheLeeCo.com.