Isolation Valves
Bellowless Poppet Valves & Leak Valves

### Pneumatic Bellowless Angle Valves
Right angle bellowless poppet valves are now available in sizes from ½ to 1½ inches. These valves are typically used for applications with large differential pressures, extremely high cycle rates or “dirty” processes that cause frequent bellows failures. Poppet shafts are sealed with double O-rings. Heater jackets and other port and flange configurations are available on request.

### Specifications
- Port ODs: ½ to 1½ inches
- Materials: Body: Electropolished 304 stainless steel, Bonnet seal: Viton, Other O-ring compounds available
- Actuation: Normally closed ¼ to ½ inch ODs: Air-to-open, spring-to-close ½ inch: Micro-switches and actuators
- Operating pressure: 60 to 80 psig
- Differential pressure: Port side: Maximum 100 psi, Poppet: Maximum 20 psi
- Maximum temperature with Viton seals: Sustained: ≤150°C, Intermittent: ≤204°C
- Vacuum range: >2x10⁻⁹ Torr - High Vacuum
- Options: Fittings, O-rings, air solenoids, micro-switches and actuators. See page 101

### Replacement O-Ring & Valve Rebuild Kits
<table>
<thead>
<tr>
<th>MODEL NUMBER</th>
<th>PORT OD</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESVP-075-95-S</td>
<td>½ to 1½</td>
<td>O-ring kit</td>
</tr>
<tr>
<td>ESVP-150-95-S</td>
<td>½ to 1½</td>
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<tr>
<td>ESVP-075-NWB-99-5</td>
<td>⅝ to 1½</td>
<td>Complete rebuild kit, includes all valve parts except valve body</td>
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### Leak Valves
Leak valves are used for controlling gas introduction into high- and ultra-high vacuum systems. They utilize an optically flat sapphire poppet and a metal seat seal, allowing bakeout temperatures to 450°C. These valves are manually actuated by a cantilever arm with precision adjustment threads. The adjustment knobs can be set to allow controlled leak rates as small as 1x10⁻¹⁰ Torr l/sec. Replacement sapphire and gasket assemblies are available. Call for pricing.

### Specifications
- Materials: Body: Electropolished 304 stainless steel, Flanges: Inlet: 1.33 CF, rotatable, clearance bolt holes, Outlet: 2.75 CF, nonrotatable, clearance bolt holes
- Poppet: Sapphire, Poppet seat: Copper
- Actuation: Manual, adjustable set point
- Maximum temperature: Sustained: ≤250°C, Intermittent: ≤450°C
- Vacuum range: >1x10⁻¹¹ Torr - UHV
- Minimum leak rate: Normal: 1x10⁻¹¹ Torr l/sec, Non-condensible gas: 1x10⁻⁸ Torr l/sec
- Inlet gas pressure: 500 psig maximum
- Poppet seat life: Unbaked: 250 to 300 closures ≤250°C: 80 to 100 closures ≤450°C: 20 to 30 closures

All dimensions are in inches (mm) & weights are in pounds (kg), unless otherwise noted.