Pneumatic Lock-up Valve
Type 3709

Application
Pneumatic lock-up valve for shutting off the signal pressure line of pneumatic actuators

The pneumatic lock-up valve shuts off the signal pressure line either when the air supply falls below an adjusted value or upon complete air supply failure. This causes the actuator to remain in its last position.

Versions
Type 3709-1 (Fig. 1) · Lock-up valve for direct attachment to Type 476x, Type 376x and Type 373x Positioners. Designed for linear actuators and rotary actuators according to VDI/VDE 3845, fixing level 1 (not in combination with Types 4708-53/-54/-63 Supply Pressure Regulators).
Type 3709-2 (Fig. 2) · Lock-up valve for arbitrary installation in the signal pressure line.

Principle of operation (Fig. 3)
The supply air produces a force on the diaphragm (4) which is balanced by the spring (6). When the force produced on the diaphragm is greater than the spring force, input and output are connected, i.e. the signal pressure supplied by the positioner is transmitted unobstructed to the actuator. When the supply air pressure falls below the adjusted value, the spring force dominates, and the spring (6) moves the plug (3) fully into the seat (9). As a result, the pressure in the actuator is blocked.

Legend for Fig. 3
1 Housing 7 Spindle
2 Cover 8 Cap
3 Plug 9 Seat
4 Diaphragm 5 Signal pressure output
5 Diaphragm plate 6 Signal pressure input
6 Spring 7 Supply air

Fig. 1 · Type 3709-1 Pneumatic Lock-up Valve
Fig. 2 · Type 3709-2 Pneumatic Lock-up Valve
Fig. 3 · Sectional drawing of Type 3709-2
Typical applications

Closed loop control with interlocking  
Closed and open loop control with interlocking  
Closed loop control and safety interlocking

1 Pneumatic control valve  
2 Positioner  
3 Lock-up valve  
4 Solenoid valve

Technical data

<table>
<thead>
<tr>
<th>Connections</th>
<th>¼ NPT or G ¼</th>
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</thead>
<tbody>
<tr>
<td>Supply air</td>
<td>Max. 12 bar</td>
</tr>
<tr>
<td>Signal pressure</td>
<td>Max. 6 bar</td>
</tr>
<tr>
<td>Kvs coefficient</td>
<td>Approx. 0.2</td>
</tr>
<tr>
<td>Set point range</td>
<td>Continuously adjustable from 0 to 6 bar</td>
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<tr>
<td>Recommended setting</td>
<td>≥ 0.2 bar above required signal pressure, min 1.6 bar</td>
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<tr>
<td>Permissible ambient temperature</td>
<td>–25 ... 80 °C</td>
</tr>
<tr>
<td>Weight, approx.</td>
<td>0.4 kg</td>
</tr>
<tr>
<td>Materials</td>
<td></td>
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<tr>
<td>Housing</td>
<td>Die-cast aluminum, plastic-coated Stainless steel on request</td>
</tr>
<tr>
<td>Cover</td>
<td>Ultramid</td>
</tr>
<tr>
<td>Diaphragm</td>
<td>CR (chloroprene rubber with fabric)</td>
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<tr>
<td>Diaphragm plate</td>
<td>Aluminum</td>
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Ordering text

Pneumatic Lock-Up Valve Type 3709-...  
Attached to Positioner Type ...  
Connections ¼ NPT or G ¼

Specifications subject to change without notice.