### 3A120-420 SERIES AIR PILOT VALVE

![Image of 3A120-420 Series Air Pilot Valve]

<table>
<thead>
<tr>
<th>Valve Model</th>
<th>3A120-1/8</th>
<th>3A220-1/4</th>
<th>3A320-3/8</th>
<th>3A420-1/2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port &amp; Mounting</td>
<td>Body Ported</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Action &amp; Motion</td>
<td>Double Air Pilot, Spool Design</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Pressure</td>
<td>Valve: 0 to 115 PSI, Pilot: 40 PSI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Port Sizes</td>
<td>1/8 NPT</td>
<td>1/4 NPT</td>
<td>3/8 NPT</td>
<td>1/2 NPT</td>
</tr>
<tr>
<td>$C_v$</td>
<td>0.67</td>
<td>0.78</td>
<td>1.68</td>
<td>2.79</td>
</tr>
<tr>
<td>SFCM @ 100PSI</td>
<td>25</td>
<td>53</td>
<td>80</td>
<td>160</td>
</tr>
<tr>
<td>Working Medium</td>
<td>40 micron filtered air or inert gas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valve Body Material</td>
<td>Anodized Aluminum</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seal Material</td>
<td>NBR (Buna N)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lubrication</td>
<td>Not Required</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:**
- All models are suitable for use in a variety of industrial applications.
- The series includes models with different port sizes and pressure ratings to accommodate a wide range of pneumatic systems.
- The 3A120-420 Series is designed for use in environments where precise control of air flow is required.

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**Key Features:**
- **Model Variations:** 3A120-1/8, 3A220-1/4, 3A320-3/8, 3A420-1/2
- **Port Sizes:** 1/8 NPT, 1/4 NPT, 3/8 NPT, 1/2 NPT
- **SFCM @ 100PSI:**
  - 3A120-1/8: 25
  - 3A220-1/4: 53
  - 3A320-3/8: 80
  - 3A420-1/2: 160

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**Technical Specifications:**
- **Operating Pressure:** Valve: 0 to 115 PSI, Pilot: 40 PSI
- **Valve Body Material:** Anodized Aluminum
- **Seal Material:** NBR (Buna N)
- **Lubrication:** Not Required

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**Application:**
- Ideal for use in pneumatic systems requiring controlled air flow and pressure regulation.
- Suitable for a variety of industrial applications, including manufacturing, packaging, and material handling.

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**Additional Information:**
- The 3A120-420 Series is known for its durability and reliability in challenging environments.
- Regular maintenance and inspection are recommended to ensure optimal performance.

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**Contact Information:**
- For detailed specifications and customization options, please contact our sales team.
- Visit our website for the latest updates and product information.
MODEL: 3A320-3/8

TYPE: 3A420-1/2

3A120-420 SERIES AIR PILOT VALVE DIMENSIONS
### 3-Way 2 Air Pilot Valve
Models 3A120-3A420
Installation Procedure

**Note:**
- This valve is designed for air flow only.
- Make sure the pilot sources are operating at pressures specified for the valve.

**Attaching the Pilot Source to a Valve:**
1. Attach connector to the pilot port.
2. Connect pilot source to connector.

**Installing a Valve onto a Manifold:**
**Note:**
- Manifolds can fit 2, 4, 6, 8 and 16 valves.
- Secure screws until the component will not move freely, and tighten another quarter turn.

**Procedure:**
1. Place a rubber seal over the manifold openings.
2. Line up the valve with port “A” and corresponding pilot holes for the screws.
3. Secure the valve into place.
4. Cover the remaining holes with the provided gaskets.

**Installation:**
1. Connect the source to the port labeled “P”.
2. Connect the outlet to the port labeled “A”.
3. Connect the exhaust to the port labeled “EA”.

**Operational Notes**
- A continuous air supply is not required to maintain the solenoid position.
- To move the piston to a new position, activate the appropriate pilot source. Do not activate both pilots at the same time.

**Maintenance and Troubleshooting**

**Procedure:**
1. Remove any pilot connections attached to the valve.
2. Unscrew the pilot block and remove the piston and spring.
3. Check for any debris that may have collected on the piston and in the hole in the center of the valve.
4. Insert the piston and spring back into the valve body.
5. Screw the pilot block back into the valve.

**Reference Figures**

![Image](image.png)

**Figure 1:** Model 3A220 with port labels and a pilot port shown.
3A120-420 (3 way valve)

Operations:
1. When Valve is in Position 1, Port A is connected to Port E. Port P is closed.
2. When Valve is in Position 2, Port P is connected to Port A. Port E is closed.

4A120-420 (4 way valve)

Operations:
1. When Valve is in Position 1, Port P is connected to Port A. Port B is connected to Port EB.
2. When Valve is in Position 2, Port P is connected to Port B. Port A is connected to Port EA.
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