

Schneider Electric AV-400

Schneider Electric AV-400 Pneumatic Actuator Valve Linkage Kit User Manual

INTRODUCTION

The Schneider Electric AV-400 Valve Linkage Kit is designed for field assembly, enabling the connection of mk-2690 Pneumatic actuators to various 1/2 inch through 2 inch valve bodies. This kit is manufactured in the United States by Schneider Electric Buildings, ensuring compatibility and reliable performance within HVAC control systems.

KIT COMPONENTS

The AV-400 kit includes essential components required for linking pneumatic actuators to valve bodies. These components are designed for specific pressure ranges and valve types.



Figure 1: AV-400 Linkage Kit Components. This image displays the various parts included in the kit: three distinct springs (one blue, one black, and one yellow), a flat metal linkage plate, a small brass cylindrical rod, a brass washer, and a brass valve component with multiple openings. These parts collectively facilitate the connection between a pneumatic actuator and a valve body.

- **Springs:** Provided for various control signal applications, including 3 to 7 psig, 5 to 10 psig, and 8 to 13 psig. These springs ensure proper operation across different pressure ranges.
- **Linkage Components:** The kit includes all necessary mechanical parts to establish a secure and functional connection between the actuator and the valve.
- **Compatibility:** This kit is designed to fit both current and obsolete TAC Barber-Colman valve bodies, offering broad applicability.

SETUP AND INSTALLATION

Proper installation of the AV-400 linkage kit is crucial for optimal performance of your pneumatic actuator and valve system. Always ensure power is disconnected before beginning installation.

1. **Preparation:** Ensure the pneumatic actuator and valve body are clean and free from debris. Identify the correct valve

body size (1/2 inch to 2 inch) for compatibility.

2. **Spring Selection:** Select the appropriate spring from the kit based on the required control signal application (e.g., 3-7 psig, 5-10 psig, or 8-13 psig). Refer to your system's specifications for the correct pressure range.
3. **Assembly:** Carefully assemble the linkage components, connecting the pneumatic actuator to the valve body. Follow the specific assembly instructions provided with your actuator and valve for precise alignment and secure fastening.
4. **Secure Connections:** Ensure all connections are tight and secure to prevent air leaks or mechanical play that could affect performance.
5. **Testing:** After assembly, perform a functional test of the actuator and valve system to verify correct operation and responsiveness to control signals.

For detailed assembly diagrams and specific instructions pertaining to your particular actuator and valve model, consult the respective manuals provided by Schneider Electric or TAC Barber-Colman.

OPERATION

The AV-400 linkage kit itself does not have an independent operational function; rather, it facilitates the operation of the pneumatic actuator and the connected valve. Once properly installed, the linkage kit ensures the mechanical transfer of motion from the pneumatic actuator to the valve stem, allowing the valve to open or close in response to pneumatic control signals.

- **Actuator Response:** The linkage translates the force generated by the pneumatic actuator's diaphragm or piston into linear motion for the valve stem.
- **Valve Control:** This mechanical connection enables precise control over fluid flow through the valve, based on the pneumatic signal received by the actuator.
- **Spring Function:** The selected spring provides the necessary opposing force or return mechanism for the actuator, ensuring the valve returns to its default position (e.g., normally open or normally closed) when the control signal changes or is removed.

Ensure that the pneumatic control system is correctly calibrated and supplying the appropriate pressure signals for the selected spring and desired valve operation.

MAINTENANCE

The AV-400 linkage kit is designed for durability and minimal maintenance. However, periodic inspection can help ensure long-term reliability and prevent system failures.

- **Visual Inspection:** Regularly inspect all components of the linkage kit for signs of wear, corrosion, or damage. Check for any loose connections or excessive play.
- **Cleanliness:** Keep the linkage components clean and free from dust, dirt, or other contaminants that could impede smooth operation.
- **Lubrication:** While not typically required for the linkage components themselves, ensure that the actuator and valve stem are properly lubricated according to their respective maintenance schedules.
- **Spring Integrity:** Verify that the installed spring is not deformed or fatigued, as this could affect the actuator's response and valve positioning.
- **Replacement:** If any component of the linkage kit shows significant wear or damage, replace it with genuine Schneider Electric parts to maintain system integrity and performance.

Always disconnect power and relieve pneumatic pressure before performing any maintenance or inspection on the system.

TROUBLESHOOTING

Issues related to the AV-400 linkage kit typically manifest as improper valve operation or actuator response. Here are some common troubleshooting steps:

- **Valve Not Opening/Closing Fully:**
 - Check for obstructions or binding in the linkage mechanism.
 - Verify that the correct spring is installed for the pneumatic control signal range.
 - Inspect the actuator and valve for internal issues (refer to their respective manuals).
- **Sluggish Response:**
 - Ensure all linkage connections are secure and free of excessive play.
 - Check for friction or debris within the linkage components.
 - Confirm adequate pneumatic pressure supply to the actuator.
- **Unusual Noises:**
 - Inspect for loose components or worn parts that may be rattling.
 - Check for misalignment between the actuator and valve.
- **Spring Issues:**
 - If the valve does not return to its default position, the spring may be fatigued or incorrectly installed.
 - Ensure the spring is seated correctly and not bent.

If troubleshooting steps do not resolve the issue, it may indicate a problem with the pneumatic actuator or the valve itself, or a need to replace worn linkage components. Contact qualified service personnel if you are unable to diagnose or fix the problem.

SPECIFICATIONS

Attribute	Value
Product Model Number	AV-400
Compatibility	mk-2690 Pneumatic Actuators to 1/2 inch through 2 inch Valve Bodies (including current and obsolete TAC Barber-Colman valve bodies)
Spring Control Signal Ranges	3 to 7 psig, 5 to 10 psig, 8 to 13 psig
Manufacturer	Schneider Electric Buildings
Country of Origin	United States
Package Dimensions	6.85 x 4.45 x 1.65 inches
Item Weight	6.4 ounces

WARRANTY INFORMATION

Specific warranty details for the Schneider Electric AV-400 Pneumatic Actuator Valve Linkage Kit are not provided in the available product information. For warranty terms and conditions, please refer to the official Schneider Electric website or contact their customer service directly. It is recommended to retain your proof of purchase for any warranty claims.

CUSTOMER SUPPORT


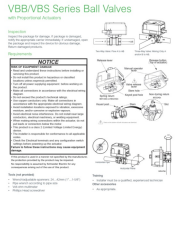


For technical assistance, product inquiries, or support regarding the Schneider Electric AV-400 Pneumatic Actuator Valve Linkage Kit, please contact Schneider Electric customer support. Contact information can typically be found on the official Schneider Electric website or within the packaging of your product.

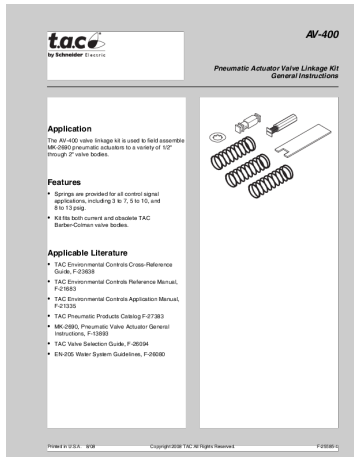
Online Resources: Visit the official Schneider Electric website for product documentation, FAQs, and support resources.
Professional Assistance: If you are unsure about installation or troubleshooting, it is always recommended to consult with a qualified HVAC professional.



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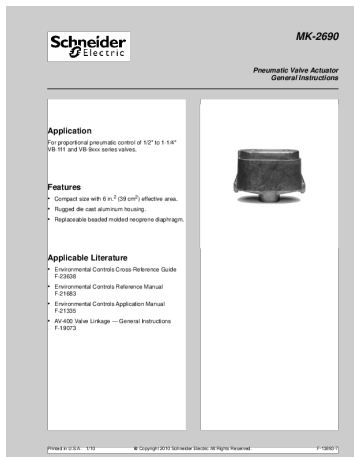


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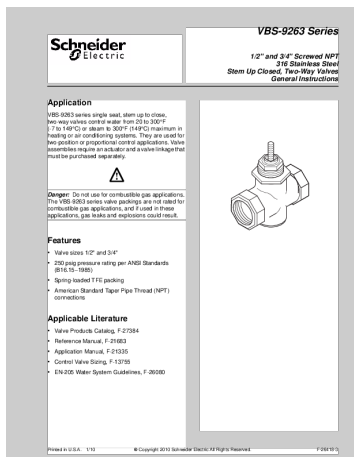


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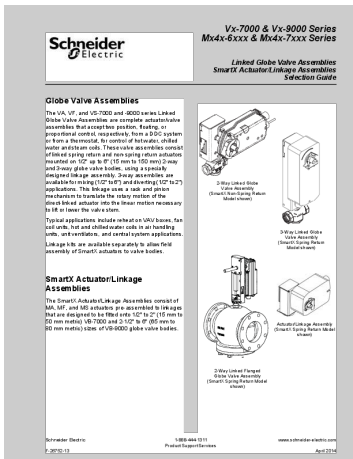


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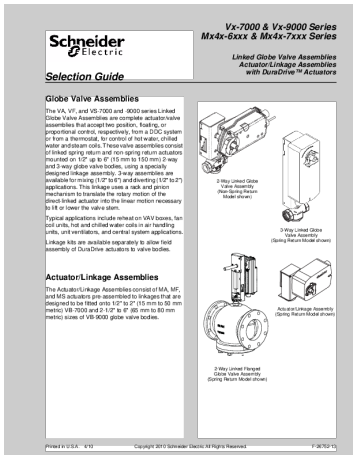
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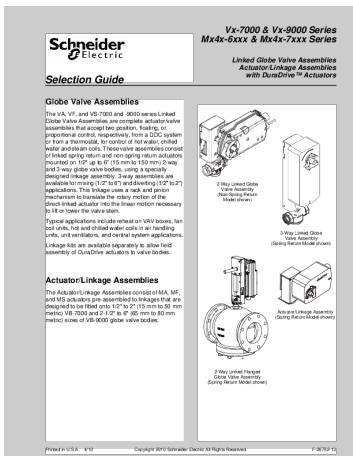
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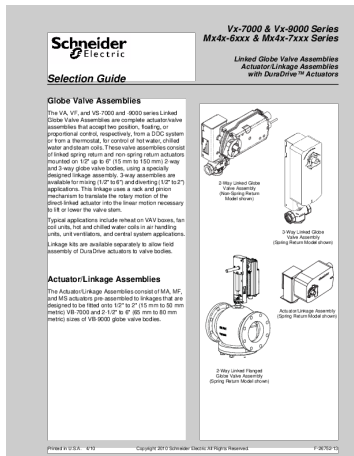
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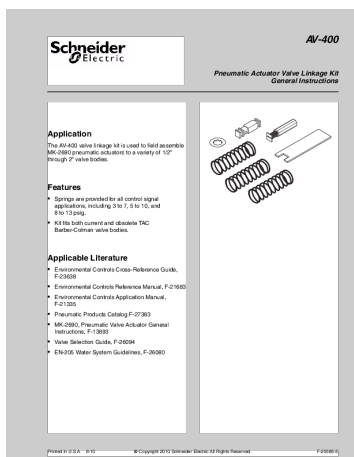
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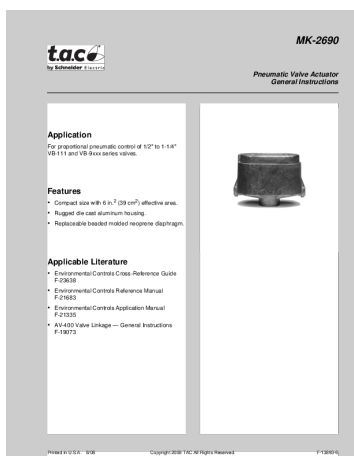
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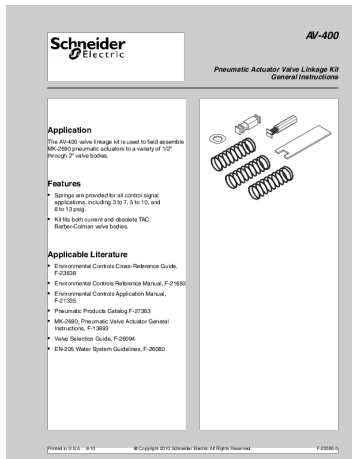


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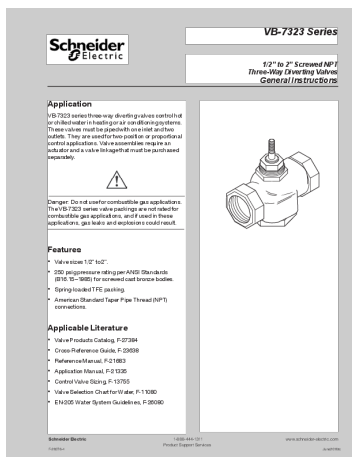


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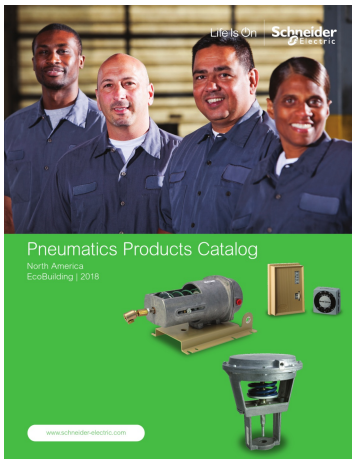


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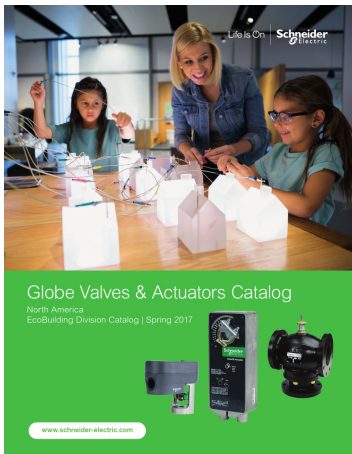


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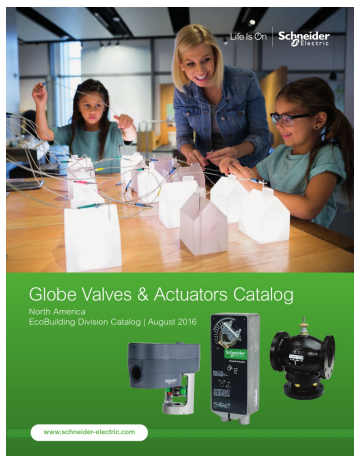


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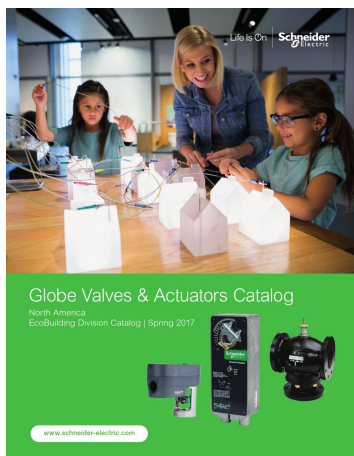


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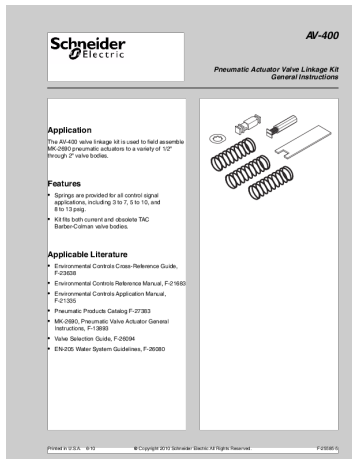


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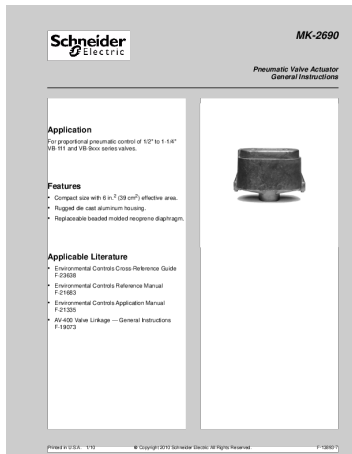


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