Mounting the Thermal Barrier - Continued

To mount the optional thermal barrier:

1. Install the thermal barrier drive shaft into the thermal barrier by aligning the tab on the drive shaft with the slot on the thermal barrier (Figure 8).

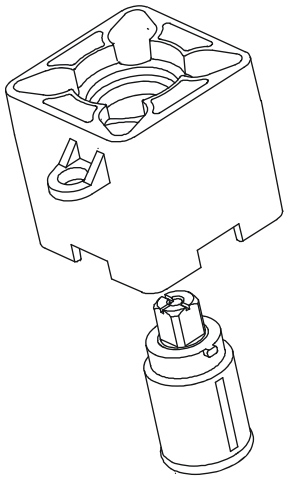

Figure 8: Installing the Drive Shaft into the Thermal Barrier

2. Rotate the drive shaft to align marks on the top of the thermal drive shaft with matching marks on the valve stem.
3. Mount the thermal barrier onto the valve using the four included M5x16 mm machine screws and four M5 flange nuts. Tighten the screws to a recommended torque of 21 to 25 lb·in. (2.4 to 2.8 N-m) (Figure 9).

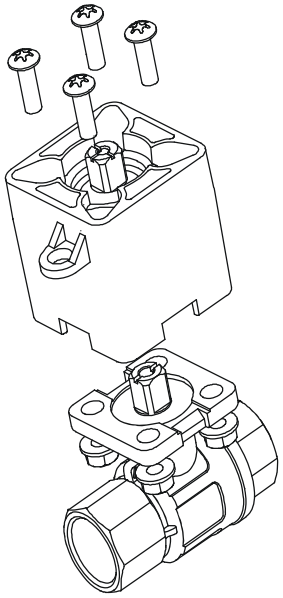

Figure 9: Installing the Barrier

4. Proceed to Mounting the Actuator. Follow the same steps as mounting directly to the valve when mounting the actuator to the thermal barrier.

Wiring - *(Plenum Cable)*

The VA24-35-P and VA24-35-PTO Series Electric Non-Spring Return valve actuators require an AC 24 V input signal and work with a variety of controllers. These electric actuators include an integrated 120 in. (3.05 m) long cable.

Note: For all VA24-35-P Series actuators, use a controller and/or software that provides a timeout function at the end of rotation (stall) to avoid excessive wear or drive time on the actuator motor.

When using the VA24-35-P with a controller featuring triac output, add a 4.7 Kohm, one .5 watt resistor between the common (black wire) and counter clockwise (orange wire).

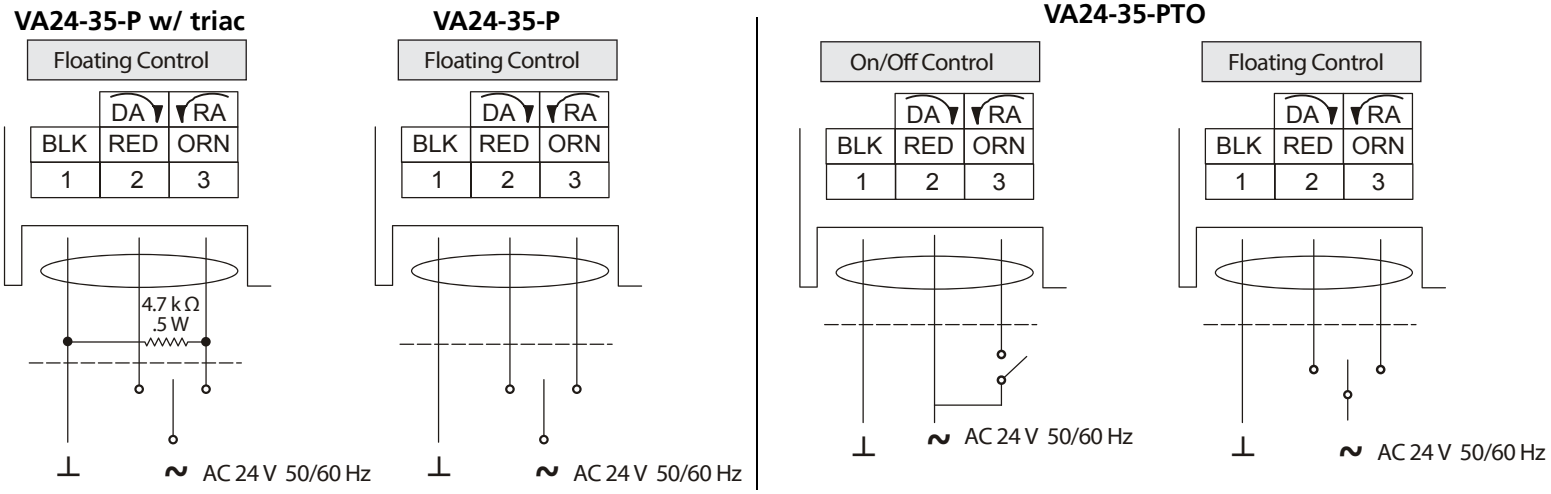

Figure 10: VA24-35-P and VA24-35-PTO Control Wiring Diagram

Wiring Continued - *(Plenum Cable)*

The VAM24-35-P Series Electric Non-Spring Return valve actuators require AC 24 V power and a DC 0(2) to 10 V or 0(4) to 20 mA controller input signal. These electric actuators include an integrated 120 in. (3.05 m) long cable; see Figure 11 for proper wiring.

VAM24-35-P

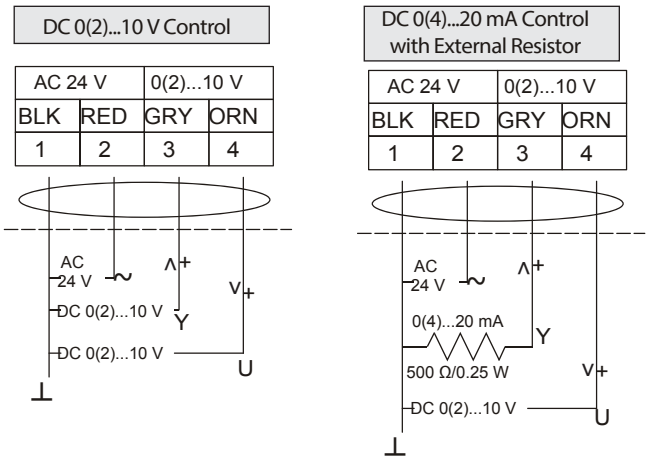

Figure 11: VAM24-35-P Control Wiring Diagram

For Reverse Acting (RA) operation, a minimum control signal drives the actuator to the full CW position and a maximum signal drives the actuator to the full CCW position. To change the factory settings, remove the actuator cover and adjust the switches on the circuit board as shown in Figure 12.

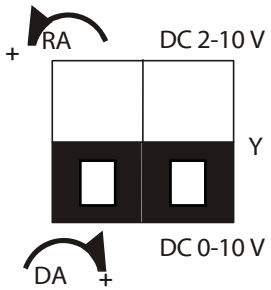

Figure 12: VAM24-35-P Factory Switch Setting

VAM24-35-P Actuators are factory set for Direct Acting (DA) mode and for a 0 to 10 VDC input control signal.

CAUTION: Risk of Electric Shock. Disconnect the power supply before making electrical connections to avoid electric shock.

CAUTION: Risk of Property Damage. Do not apply power to the system before checking all wiring connections. Short circuited or improperly connected wires may result in permanent damage to the equipment.

IMPORTANT: Make all wiring connections in accordance with local, national, and regional regulations. Do not exceed the electrical ratings of the VA(M)24-35 Series Electric Non-Spring Return Valve Actuator.

Setup and Adjustments

Commissioning

After wiring is complete, apply power to the Variable Air Volume (VAV) or Variable Air Volume and Temperature (VVT) controller and provide input signals to the actuator to drive it at least one complete cycle open and closed.

Troubleshooting

If the VA(M)24-35 Series Electric Non-Spring Return Valve Actuator is not responding or working properly:

- verify that the actuator assembly is properly secured to the valve.
- check that all electrical connections are complete and that power is applied.
- verify that the valve fully opens and closes, using the gear release button on the actuator and the manual override handle, shown in Figure 5.