Guidelines for Valve Actuator Conversion (Pneumatic-to-Electric)

The following are simple guidelines to use when converting a current or discontinued pneumatic valve actuator, or a discontinued electric valve actuator, to a current electric model.

**Current Pneumatic V-3000 Series Actuators to Current Electric Actuators**

Any pneumatic valve with a V-3000 Series Actuator can be converted to electric actuation by simply removing the spring plates and spring for conversion to an M100 Series Actuator. On V-3000 actuated valves in sizes up to 1-1/2 inch, a VA-805X Series Actuator may be used. However, the lower spring plate must be retained. All current and discontinued pneumatic valves with a V-3000 style actuator have the same 1/4-28 stem.

On V-3000 and V-5000 (size 4R) actuated valves in sizes up to 2 inches, a VA-715X Series Actuator may be used. Refer to the VA-715X Product Bulletin for installation instructions.

On V-3000 and V-5000 (size 4R) actuated valves in sizes of 1-1/2 and 2 inches, a VA-720X Series Actuator may be used. Refer to the VA-720X Product Bulletin for installation instructions.

**Discontinued Electric VA Series Actuators to Current Electric Actuators**

If an M100 Series Electric Actuator is being used to replace a VA-3200, VA-5000, or VA-6001 Series Actuator, the stem diameter must be noted and a Y20 Series Valve Linkage Kit must be used to make the conversion. The components furnished in the Y20EBD Series Linkage Kits are suitable for coupling to 1/4 and 3/8 inch stem diameters. If the valve stem is 5/16-22, or if an older actuator with an alphabetic suffix was used, a Y20EBE-1 Valve Adapter Kit is required to make the conversion. Valves with a VA-3400 Series Electro-Hydraulic Actuator cannot be converted to a Johnson Controls electric actuator. These valves used a 1/2 inch diameter stem and a coupling to fit Fisher Controls Company actuators. Contact Fisher Controls directly for the recommended actuator replacement. The VA-3400 Series Actuator produced 1000 pounds of force with a maximum stroke of 2-1/2 inch; the valves used a maximum lift of 1-1/4 inch.

**Current or Discontinued Pneumatic R-Top Actuators to Current Electric Actuators**

Conversion of pneumatic 3R, 4R, and 5R valves to electric actuation must be analyzed on an individual basis due to the varying stem diameters involved. Valves with 3R actuators (discontinued) had 1/4 inch diameter stems, 4R actuated valves (current) have either 5/16 or 3/8 inch diameter stems, and 5R actuated valves (current) have 3/8 inch diameter stems. Refer to the Y20 linkage discussion, to the left, for conversion to an M100 Series Actuator.

All valves with an 8R actuator (current) and a 1/2 inch diameter stem cannot be adapted to an M100 Series Actuator. The M100 Actuator does not produce enough force to actuate iron body flanged valves equipped with 8R actuators. Cage trim valves Series V-5254, V-5456, and V-5844 (1-1/2 and 2 inch with 4R actuators) can be easily converted to electric. These valves have a 1/4 in. stem and can be field mounted with either the VA-720X Series (with no additional parts) or the M100 with Y20 linkage.

**Repair Parts for Discontinued Electric Actuators**

Repair parts are no longer available for discontinued M80, Y20A, M81, M41, and M40 Series Electric Actuators. In addition, all VA-2000, VA-3000, VA-3200, VA-3300, VA-3400, VA-5000, and VA-6001 Series Hydraulic and Thermal Actuators have also been discontinued and repair parts are not available. Unit replacement with a current actuator style is recommended for the above mentioned discontinued models.