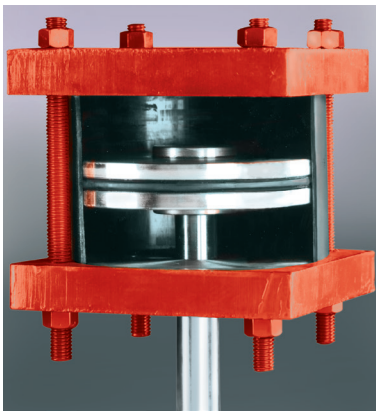
Control Pinch Valve Actuators



- Self-lubricating for high cycle life.
- Impact and dent resistant.
- Resistant to chemical attack for a variety of processes.
- Double-acting or single-acting spring return.

Materials of Construction

- Fiber-reinforced thermoset epoxy matrix material cylinder tube.
- Chloroprene (CR) O-ring seal.
- 304 Stainless Steel piston rod.
- Polypak or Acrylonitrile-Butadiene (NBR) wiper ring.
- SAE grade 5 carbon steel threaded tie rods.
- Stainless steel fastening nuts.
- T6061 aluminum cylinder heads and piston.

Red Valve pneumatic cylinder actuators are manufactured with lightweight fiber-reinforced thermoset epoxy matrix material. The cylinder tube is impregnated with an anti-friction additive to reduce the piston and O-ring to cylinder friction. The actuator is self-lubricating and the inside of the cylinder is honed to a 5-15 micro inch finish. The combination of the surface finish and the self-lubricating feature greatly increase the O-ring life.

Fiber-reinforced thermoset epoxy matrix material is resistant to chemical attack and corrosion, making it ideal for most environments. It has an impact strength of 40 izod ft-lbs, which makes the actuator much more dent-resistant than aluminum or brass.

Red Valve actuators have a maximum operating pressure of 150 psi (1030 kPa) and can withstand external operating temperatures of -90 to 225°F (-68 to 107°C).

Piston rods are made of polished 304 stainless steel and the piston rod is sealed with a polyurethane lip seal. Both the piston rod and seal are protected by a wiper ring that cleans the piston rod before it passes through the lip seal. The rod seal and wiper ring are held in place by a bronze stem bushing which prevents galling of the piston rod. The combination of a stainless steel piston rod, wiper ring and lip seal contribute to extended actuator life.

Double-Acting Actuator

Air to Open/Air to Close (ATO/ATC) R-style actuators are used on Series 5200, 5200 D-Port, 5400, 5300 Open-Frame, and 5700 Control Pinch Valves. They are also used on Series D and DX Knife Gate Valves. These actuators use air to open and close the valve.

Single-Acting Actuator

Air to Open/Fail Close Spring (ATO/FCS) and Air to Close/Fail Open Spring (ATC/FOS) RS-style actuators consist of either a fail-close sping (which is preloaded to provide enough force to close and seal the sleeve upon air loss), or a fail-open spring (which drives the valve open upon air loss). Fail-open spring actuators are used primarily in low pressure or partial vacuum services where the line pressure is not sufficient to fully open the valve.

Standard tubing to connect pressurized air is polyethylene; optional tubing includes copper and stainless steel.