

## Type 25R

## 1/4" and 1/2" Air-to-Open & Air-to-Close Pinch Valves RESEARCH® CONTROL Valves

# Technical Brief

### DESCRIPTION

The Type 25R pinch valve is available in two basic sizes: 1/4" and 1/2", in either air-to-open or air-to-close action. The design consists of a standard pneumatic actuator and a tube holder assembly. The function of the unit is simple. A length of flexible rubber or Tygon tubing is placed through the tube holder underneath the ball, which is attached to the actuator stem. As the stem travels either up or down in response to a pneumatic signal, the tubing is either compressed or relaxed. Although the valve is normally used for on-off control, some throttling can be accomplished from the closed position through 35% of stroke. Three basic tube holder sizes accommodate several tubing sizes from 3/8" to 1-1/6" O.D. The tubing must be flexible and have sufficient elastic memory.

### APPLICATIONS

The Type 25R pinch valve is widely used in applications that would normally plug or foul a conventional needle valve, since the fluid never contacts the valve. It can be used in any application where a rubber-like tubing is acceptable. When used as an on-off valve, it will handle pressures up to 40 psi and will achieve acceptable shutoff, provided the integrity of the tubing remains intact. Several uses for this type valve are:

- acid flow to cooling towers
- fluids with high particle content
- viscous or sticky fluids
- high purity systems requiring sanitary conditions
- food or beverage products

Since Badger® does not supply the tubing, the manufacturer should be consulted for proper tube selection. It is critical that the proper tubing wall thickness and material be selected. This type valve is not a substitute for a conventional valve and should not be used in applications where failure of the tubing could cause damage or injury to surrounding personnel or equipment. However, its unique design can offer the user some advantages.

**Note:** For outdoor use, specify solid spring adjuster on ATO version.



Shown as 1/4" air to open

### MATERIALS OF CONSTRUCTION

Actuator housing	Epoxy coated aluminum
External hardware	Stainless steel*
Tube holder	Aluminum
Ball foot	Aluminum
Base	Aluminum

### ACTUATOR CHOICES

Air-to-open, fail close	3-15#, 0-15#, 0-30#
Air-to-close, fail open	3-15#, 0-30#, 0-30#

### Accessories:

Filter regulator, gauges, solenoid, I/P converter

### Tube holder sizes:

1/4" valve	3/8" or 5/8" holder
1/2" valve	1 1/16" holder

\*prior to 10-86, some hardware may be steel or aluminum

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