

Custom order pinch valve meet the deadline for single-use chromatography units

RESULTS

- Adapt existing, high-purity pinch valve for single-use applications
- Utilize cost-efficient anodized aluminum body
- Provide customer-specified mounting holes, seal and safety markings



APPLICATION

Single-use chromatography units in cleanroom setting.

CUSTOMER

Biopharmaceutical process developer and manufacturer.

CHALLENGE

The customer, a manufacturer of biopharmaceutical processing equipment, sought to build dedicated single-use chromatography units around custom, single-use pinch valves capable of accommodating braided silicone tube rated at 70 Shore A hardness/6 bar, sized 1/4" ID x 0.52" OD. These single-use pinch valves had to have valve bodies and components free of any coatings or leachable particles, since the chromatography units were to be used for processing high-purity fluids in a cleanroom environment. In addition, the customer required not only high cycling performance but also custom pinch valve features, including a body-mounted seal, special fixing holes, and valve-body markings indicating valve type — normally open or normally closed — as part of the deliverable.

SOLUTION

Emerson responded that it could rapidly engineer high-purity, cleanroom-ready ASCO™ Series 273 Pneumatic Pinch Valves to meet the customer requirements. The standard Series 273 pinch valve design features a hermetically separated control mechanism and provides uninterrupted containment of fluid in tubing to prevent contamination and ensure maximum purity. To ensure cost-effectiveness for single-use applications, Emerson further recommended an anodized aluminum body designed for easy insertion and removal of process tubing, plus a high-cycling (>20,000) pinch mechanism with operator safety features.

Emerson manufactured and delivered the engineered pinch valves quickly, working closely with the customer and a local tubing supplier to demonstrate pinch valve performance and support fast qualification of the braided silicone tubing specified for use in the chromatography units.



The ASCO series 273 are 2-Way normally closed and normally open pressure-operated pinch valves designed for use with high-purity liquids in biotech applications.