

SERIES 5400 CYLINDER OPERATED DOUBLE-ACTING CONTROL PINCH VALVES
Specification #RV-5400

PART 1 GENERAL

1.01 SUBMITTALS

- A. Submit product literature that includes information on the performance and operation of the valve, materials of construction, dimensions and weights, sleeve trim design, elastomer characteristics, and flow data.
- B. Upon request provides shop drawings that clearly identify the valve dimensions including all supplied accessories.

1.02 QUALITY ASSURANCE

- A. Supplier shall have at least ten (10) years experience in the manufacture of pinch style valves, and shall provide references and a list of installations upon request.

PART 2 PRODUCTS

2.01 DUAL ACTING CYLINDER OPERATED PINCH VALVES

- A. Valves are to be of the full cast metal body, mechanical pinch type with flange joint ends. The valve length shall be as given in ISA S75.08. The flanges shall be drilled and tapped to mate with ANSI B16.1, Class 125 / ANSI B16.5, Class 150 flanges.
- B. The sleeve trim shall be one piece construction with integral flanges drilled to be retained by the flange bolts. The sleeve trim shall be reinforced with calendared nylon or calendared polyester fabric to match service conditions. The sleeve trim shall be connected to the pinch bar by tabs imbedded in the sleeve trim reinforcing ply. All internal valve metal parts are to be completely isolated from the process fluid by the sleeve trim. For full port and reduced port sleeves the port areas shall be 100% of the full pipe area at the valve ends. For Cone and Variable Orifice sleeves the port area at the inlet shall be 100% of the full pipe area, reducing to a smaller port size at the outlet.
- C. The steel mechanism shall be double acting, closing the pinch sleeve on the center line of the valve. The mechanism shall be interlocking so that any movement of the top pinch bar is mirrored by the lower pinch bar. The mechanism shall be supported by the mounting yoke. There shall be no cast parts in the operating mechanism. The pinch mechanism shall be adjustable for stroke without removing the valve from the line. The mechanism shall be connected to the cylinder actuator by a stainless steel stem.
- D. The single cylinder actuator shall be manufactured utilizing black Amalgon™ cylinder tubing. The cylinder is to have a working pressure of 150 psi. The spring for direction fail systems, when specified, shall be fully enclosed in the cylinder housing. The cylinder assembly shall be mounted on the valve body by means of an open yoke.
- E. The yoke shall be used to mount limit switches, valve positioner, stem position indicator and /or other accessories. The positioner shall be a high gain, cam characterizable, pilot directed, pneumatic or electro-pneumatic type. All accessories shall be factory set and field adjustable. Valve shall be manufactured in the USA.

2.02 FUNCTION

- A. Applying air pressure to one chamber of the actuator cylinder pushes the piston rod out of the cylinder actuator, forcing the stem into the valve body, causing the pinch bar to push the sleeve in one direction. Using a cantilevered mechanism, this action also simultaneously raises the two sidebars to pull the second pinch bar, pushing the sleeve in the opposite direction, pinching the sleeve closed at the centerline of the valve. Applying air to the opposite chamber of the actuator reverses the process, opening the valve.

2.03 MANUFACTURER

- A. All valves shall be of the Series 5400 as manufactured by the Red Valve Co., Inc. of Carnegie, PA 15106 or approved equal.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Valve shall be installed in accordance with manufacturer's written Installation and Operation Manual and approved submittals.

3.02 MANUFACTURER'S CUSTOMER SERVICE

- A. Manufacturer's authorized representative shall be available for customer service during installation and start-up, and to train personnel in the operation, maintenance and troubleshooting of the valve.

- B. Manufacturer shall also make customer service available directly from the factory in addition to authorized representatives for assistance during installation and start-up, and to train personnel in the operation, maintenance and troubleshooting of the valve.