

SERIES "SE" STEEL BODY PETITE PINCH VALVES **INSTALLATION, OPERATION, AND MAINTENANCE MANUAL**



Elasto-Valve's SE series petite pinch valves are pneumatically actuated valves designed to control various types of media/process fluids. Manufactured from top quality elastomeric materials, SE series pinch valves incorporate a single, rubber sleeve made with a smooth, full port profile. Each valve's outer housing is available in electroplated carbon or stainless steel.

Connected to piping using NPT threaded ends, this valve's simple design ensures reliable operation over a long service life. The inner rubber sleeve has a smooth full-port inner surface that eliminates clogging. SE series pinch valves can also be supplied with solenoids and/or booster relays for remote actuation and throttling control.

Advantages of using EVR SE Series Petite pinch valves:

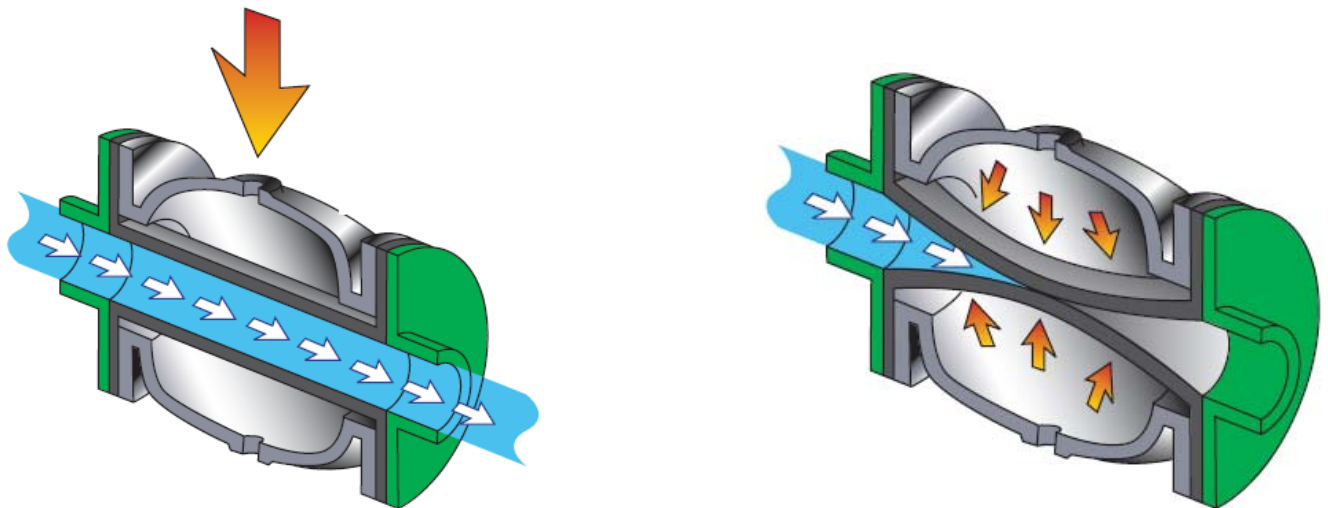
- SIMPLE OPERATION (ONLY ONE MOVING/WETTED PART)
- TIGHT SEAL AROUND TRAPPED SOLIDS
- STRAIGHT THROUGH FLOW
- OPTIONAL SOLENOID CONTROL FOR REMOTE USE
- MINIMAL MAINTENANCE

INSTALLATION

1. All SE series pinch valves have female NPT threaded ports at each end for piping connections.
2. Do not over-tighten valve "end caps" since this may cause the rubber sleeve to twist in its seat and cause leakage. Due to moulding and/or machine tolerances, a slight gap may be visible between the end caps and the valve body. Do not tighten the end cap further.
3. Standard piping connection procedures should be followed when installing the valve into a piping system.
4. EVR Series "SE" Pinch Valves are designed to be installed in any position.
5. Technicians should consult separate manufacturer's operating instructions for auxiliary controls.

OPERATION

Elasto-Valve Series "SE" Petite Pinch Valves are a fully enclosed body, direct loaded pressure jacket type. These operate by a simple application of pneumatic pressure through the annular, 1/4" NPT connection in the housing to the elastomeric sleeve. Pressure causes the sleeve to collapse and provide a tight seal.



Various control instruments (i.e. vacuum generators, solenoids, pressure reducing valves etc.) can be connected to the valve to suit the required application.

SUPPLYING AIR PRESSURE TO THE PINCH VALVE

Notes:

- (i) EVR pinch valve sleeves are designed for long-term, reliable operation. In order to ensure the sleeves last as long as possible, take care not to supply significantly more air pressure to close the valve than is required. The supply pressure required to close a valve will vary depending on the size of the valve, elastomers used within the valve sleeve, the type of sleeve as well as the line pressure.
- (ii) 'Supply' or 'Operating' pressure refers to the air pressure used to close the valve (supplied to the valve body connection).
- (iii) 'Line' pressure refers to the pressure of the process fluid that will flow through and be controlled by the pinch valve.

1. Attach the air supply to the valve housing at the threaded connection. (For operation of control instruments refer to the manufacturer's installation and operation manuals supplied).
2. Always use a pressure **reducing valve and an integral gauge** on the air supply line. Regulation of supply pressure can affect sleeve life by 50%. For brand new sleeves, after 2 – 3 weeks of operation the supply pressure can be reduced by 5 psi because the valve elastomers will have become "worked in".
3. Only use clean, dry air or specified hydraulic fluid to operate the valve.
4. With no line pressure applied to the valve, slowly increase the supply pressure applied to the valve until the valve sleeve is observed to close completely.
5. Determine the maximum line pressure that will be applied to the valve and increase the supply pressure to equal the pressure determined in the preceding step plus the maximum line pressure.
6. If possible, test that the valve is closing properly under normal operating conditions. An additional 5 – 10 psi of operating pressure may have to be applied to close the valve "bubble tight" when subjected to maximum line pressure.

As a general rule of thumb, SE series petite pinch valves require approximately 30 – 50 psi above line pressure to close the valve. (Note: Actual supply pressure required to close the valve will vary depending on the size of valve, type of elastomers used in the sleeve and other factors.)

MAINTENANCE

EVR Series "SE" Petite Pinch Valves have no moving parts, and are maintenance free except for the replacement of the rubber sleeve if/when needed.

A spare sleeve should always be ordered when the valve is placed in service.

Note: No sharp instruments, (i.e. screwdrivers), should be used to remove, install or maintain an SE series pinch valve as these may cut or puncture the rubber sleeve.

Disconnecting an SE Series valve

1. The SE Series valve should be isolated, (if possible), and the process line drained.
2. The valve sleeve should be fully open and the air supply turned off.
3. Disconnect the air supply (and any solenoids) from the valve body.
4. Remove the valve from the line.

Removing a sleeve from an SE Series valve.

1. Loosen the valve end caps and disconnect them from the valve body
2. At one end of the valve, use a dull instrument or your fingers to pry under the sleeve flange and pull/lever it away from the valve body. Simultaneously, compress the sleeve flange at the other end of the valve and push it through the valve body.

Inserting a sleeve in an SE Series valve (refer to pictures 1 – 9)

1. Apply a lubricant, (that is compatible to the process, valve body and sleeve material), to the outside of the sleeve flange and the inside of the valve body.
2. Compress one sleeve flange and push it through the valve body as far as possible.
3. Using a dull instrument or your fingers, pry under the flange and snap it over the valve seat while pushing the sleeve from the other end.
4. Ensure the sleeve is properly seated by pulling the outer edges of the sleeve flanges.
5. Lubricated the sleeve flanges to prevent the sleeve from twisting when the end caps are tightened.
6. Tighten the end caps onto the valve body taking care not to over-tighten them.
7. Re-install the valve in pipeline and re-connect the air supply.
8. Once the valve is in operation, recheck all hardware for tightness and fitness.



Picture 1 – Start with new sleeve



Picture 2 – Begin compressing one sleeve flange



Picture 3 – Completely compress flange



Picture 4 – Use tape to keep flange compressed (if required)



Picture 5 – Insert compressed sleeve flange into valve body



Picture 6 – Pull/push compressed flange through valve body



Picture 7 – Snap sleeve flange over valve seat



Picture 8 – Ensure sleeve flange is properly seated



Picture 9 – Lubricate sleeve flanges prior to tightening end caps

Warranty:

Our warranty as expressed on the back of all "EVR" brochures is as follows:

All EVR products are guaranteed for one full year against defects resulting from faulty workmanship or materials. If any such product is found to be defective, by reason of faulty workmanship or materials, upon written notice and return of the product, the defective product will be replaced by us free of charge, including the shipping charges for the replacement product. Claims for labour costs and other expenses required to replace such defective product, or to repair damage resulting from the use thereof will not be allowed by us. Our liability is limited to the price paid for the defective product. EVR Products shall not be bound by any warranty other than the above set forth unless such warranty shall be in writing. This literature is published in good faith and is believed to be reliable, however, EVR Products does not represent and/or warrant in any manner the above information and suggestions contained in this brochure. Data presented is the result of laboratory tests and field experience.