

# Type R Air Operated Pinch Valve Installation, Operation and Maintenance Manual



The Red Valve Type R Air Operated Pinch Valve is 100% full ported bidirectional valve designed for tough slurry applications. The elastomer sleeve closes on entrapped solids in the line. The flexing action of the sleeve breaks any sediment or build-up in the valve, which makes the Type R reliable low maintenance valve.

The elastomer body is reinforced with high strength fabric. A variety of elastomers and reinforcing fabrics are available to suit your specific needs.

Type R valves are constructed with slip-on ends for ease of installation.

- Simple design
- No Packing to maintain, ever
- Cost effective
- No cavities or dead spots to bind valve operation
- Low maintenance

## IMPORTANT

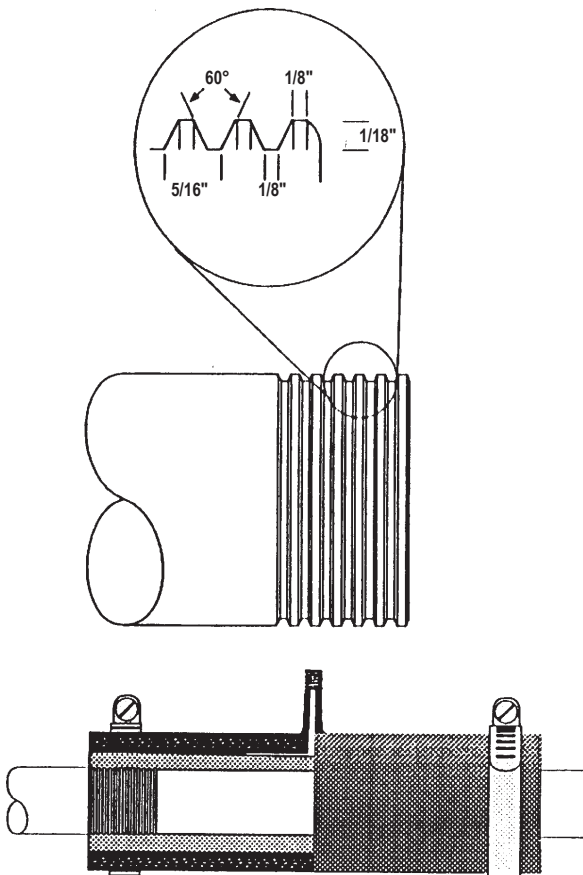
**Please take a moment to review this manual. Before performing any maintenance on the valve be sure that the pipeline has been depressurized.** The improper installation or use of this product may result in personal injury, product failure, or reduced product life. Red Valve Company can accept NO liability resulting from the improper use or installation of this product. If you have any questions or problems, please call the customer service hotline at (412) 279-0044. We appreciate your comments. Thank you for choosing Red Valve.

# INSTALLATION

**CAUTION: DO NOT ATTEMPT TO OPERATE THE TYPE R VALVE UNLESS BOTH ENDS ARE SECURELY CLAMPED TO THE PROPER SIZE MATING PIPE. UNLESS SECURELY CLAMPED, THE LINER MAY DELAMINATE FROM THE HOUSING, CAUSING AIR LEAKAGE.**

## INSPECTION OF VALVES:

Check the valve visually for signs of deterioration and/or damage. DO NOT apply air pressure to the valve body prior to test operation unless the valve is securely clamped to proper size mating pipe. Operation of the valve without being clamped to proper size mating pipe may cause the liner to de-laminate from the body, resulting in permanent damage. Damage caused by improper operation is not covered by the warranty.



## PREPARATION OF PIPE ENDS:

Pipe ends should be square, clean, free of burrs, and serrated as shown in the sketch below. Serrations are especially important when using smooth pipe such as PVC. NOTE: A threaded end such as pipe thread is NOT acceptable. It will allow line pressure to leak through the threaded spiral groove. Each groove must be a separate groove not connected to the adjacent grooves. The end of the pipe should be rounded to prevent cutting the valve.

## GASKETS:

Gaskets are not required.

**CAUTION:** Do not use any sharp tools such as a crowbar or screwdriver on the rubber during installation. Sharp instruments can damage the rubber bore and cause possible leakage.

## INSTALLATION:

Loosen the end clamps and slip the valve onto the ends of the pipe. Be sure each end of pipe goes into the valve to the insertion depth shown in the table on page 4. Tighten the end clamps.

## VALVE ORIENTATION:

The Type R Valve can be installed in any direction in the pipeline. The air connection can be located in any position to permit ease of installation.

**CAUTION: Do not introduce full pressure, unregulated plant air to the valve. Excess air pressure can result in premature valve failure. Refer to page 4 of this manual for correct air working pressures.**

## TESTING:

Pressurize the line and apply appropriate air pressure to the air fitting, to cycle the valve open and closed. Inspect for leaks.

# OPERATION

**THE MOST CRITICAL FACTOR FOR SUCCESSFUL OPERATION OF RED VALVE'S TYPE R IS USING A MINIMUM AMOUNT OF AIR PRESSURE TO OPERATE THE VALVE!**

The amount of air pressure required to close the valve depends upon the line pressure of the pipeline.

Red Valve's standard Puer Gum Rubber Sleeve requires 25 to 35 psi above line pressure for closure. An increase in plant air pressure may be required, depending upon the choice of elastomer.

**NEVER...**  
Use sharp tools on rubber valve.

**NEVER...**  
Apply full pressure sure unregulated shop air.

**DO...**  
Use minimum air pressure to extend sleeve life.

**DO...**  
Tighten clamps evenly.

# MAINTENANCE

## **INSPECTION:**

Valves should be inspected for damage and wear on a regular basis. The inspection period should be determined by the severity of the service environment. Valves that are damaged or worn should be replaced.

**CAUTION: Do not remove any valve with pressure in the line. It is easy to inspect the valve for obvious problems.**

## **STORAGE:**

If your Type R Valve is to be stored for a period of time prior to installation, the following storage guidelines will help your valve trouble free installation.

1. Store valve in a clean, cool, dry location. Avoid exposure to light, electric motors, dirt or chemicals.
2. Store valve to prevent other items from contacting the valve to prevent possible damage.
3. Store this manual with valve, so that it is readily available at time of installation.

# TROUBLESHOOTING GUIDE

## **SYMPTOMS:**

**AIR LEAKAGE AT ENDS**

- Tighten end clamps.

## **SYMPTOMS:**

**SLEEVE RUPTURE (At juncture of valve end and pipe)**

- Excess closing pressure.

**SLEEVE RUPTURE (At mid point of valve)**

- Water hammer or pressure surge.
- High velocity of abrasive media with valve crack open.

## **SYMPTOMS:**

**VALVE WILL NOT SEAL**

- At low temperatures, the rubber liner may become stiff. Actuate valve 25 to 50 times with pressure increased by 10 psi to "break in" the valve.

## **SYMPTOMS:**

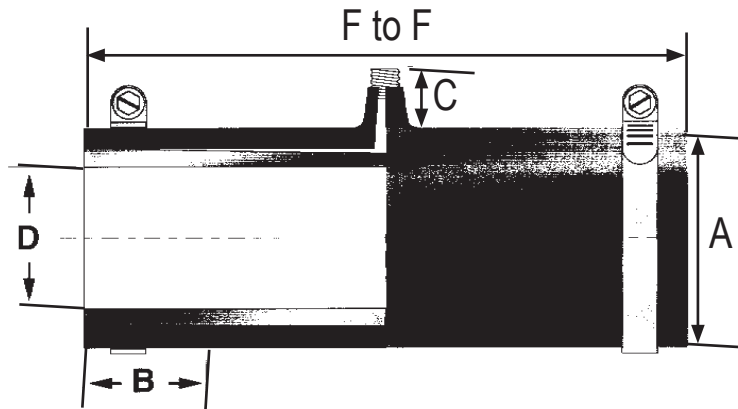
**VALVE WILL NOT OPEN**

- Air pressure not vented from body.

## TYPE R PINCH VALVE CLOSING AND WORKING PRESSURES

VALVE SIZE D	WORKING PRESSURE	INSERTION DEPTH B	NO. OF CLAMPS EACH END	APPROXIMATE AIR CLOSING PRESSURE		
				PGR SLEEVES	SYNTHETIC SLEEVES	VITON SLEEVES
1/2"	100	1"	1"	25	30	35
3/4"	100	1"	1"	25	30	35
1"	100	1"	1"	25	30	35
1-1/4"	100	1"	1"	24	29	34
1-1/2"	100	1-1/2"	1"	24	29	34
2"	100	2"	2"	24	29	34
2-1/2"	75	2"	2"	22	27	32
3"	75	3"	2"	22	27	32
4"	75	3"	3"	22	27	32
5"	75	3"	3"	22	27	32
6"	75	3"	3"	20	25	30
8"	50	3"	3"	20	25	30

\* Air Closing Pressure should be added to the line pressure for complete closure.  
The Type R is not to ysed for end of line service.



## Limited Warranty

Red Valve Company ("Seller") manufactured products, auxiliaries and parts thereof that we manufacture for a period of twenty-four (24) months from date of shipment from Seller's factory, are warranted to the original purchaser only against defective workmanship and material, but only if properly stored, installed, operated, and serviced in accordance with Seller's recommendations and instructions.

For items proven to be defective within the warranty period, your exclusive remedy under this limited warranty is repair or replacement of the defective item, at Seller's option, FCA Incoterms 2020 Seller's facility with removal, transportation, and installation at your cost.

Products or parts manufactured by others but furnished by Seller are not covered by this limited warranty. Seller may provide repair or replacement for other's products or parts only to the extent provided in and honored by the original manufacturer's warranty to Seller, in each case subject to the limitations contained in the original manufacturer's warranty.

No claim for transportation, labor, or special or consequential damages or any other loss, cost or damage is being provided in this limited warranty. You shall be solely responsible for determining suitability for use and in no event shall Seller be liable in this respect.

This limited warranty does not warrant that any Seller product or part is resistant to corrosion, erosion, abrasion or other sources of failure, nor does Seller warrant a minimum length of service.

Your failure to give written notice to us of any alleged defect under this warranty within twenty (20) days of its discovery, or attempts by someone other than Seller or its authorized representatives to remedy the alleged defects therein, or failure to return product or parts for repair or replacement as herein provided, or failure to store, install, or operate said products and parts according to the recommendations and instructions furnished by Seller shall be a waiver by you of all rights under this limited warranty.

This limited warranty is voided by any misuse, modification, abuse or alteration of Seller's product or part, accident, fire, flood or other Act of God, or your failure to pay entire contract price when due.

The foregoing limited warranty shall be null and void if, after shipment from our factory, the item is modified in any way or a component of another manufacturer, such as but not limited to; an actuator is attached to the item by anyone other than a Seller factory authorized service personnel.

All orders accepted shall be deemed accepted subject to this limited warranty, which shall be exclusive of any other or previous warranty, and this shall be the only effective guarantee or warranty binding on Seller, despite anything to the contrary contained in the purchase order or represented by any agent or employee of Seller in writing or otherwise, notwithstanding, including but not limited to implied warranties.

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## Sales and Service

For information about our worldwide locations, approvals, certifications and local representative:

Web site: [RedValve.com](http://RedValve.com) E-Mail: [support@redvalve.com](mailto:support@redvalve.com)



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