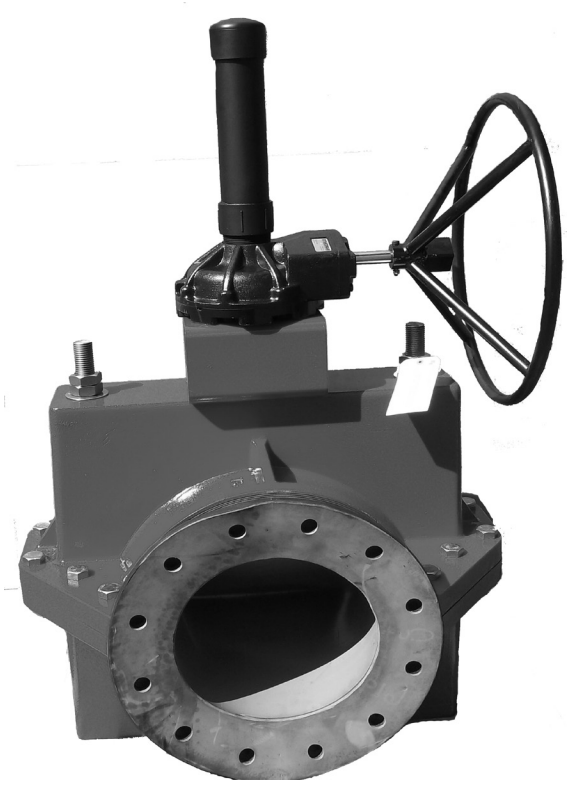
IOM RV04.02-3
March 2025

Series 5200H Control Pinch Valve
Installation, Operation and Maintenance Manual



The Red Valve Series 5200H Manually Actuated Pinch Valve is a bi-directional valve designed for tough on-off applications. The elastomer sleeve closes on entrapped solids in the line. The flexing action of the sleeve breaks up any sediment or build-up in the valve, which makes the Series 5200H a reliable, low maintenance shut-off valve.

A variety of elastomers are available to suit your specific needs.

- 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, Inc. 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 department at (412) 279-0044. We appreciate your comments. Thank you for choosing Red Valve.

GENERAL DESCRIPTION

The Red Valve Series 5200H Manually Operated Pinch Valve consists of four major components plus optional accessories:

1. Body - the body acts as a housing and support for the other valve components. It is not the primary pressure containing component.

2. Sleeve - the sleeve is the primary pressure containing component and is the only component in contact with the process fluid.

3. Mechanism - In sizes 14" and over, the pinching mechanism consists of a top pinch bar connected to a sliding stem and a bottom pinch bar guided and supported by side rails.

4. Manual Actuator - the manual gear actuator is used to operate the valve.

5. Accessories

   Limit Switches - limit switches are supplied when required to indicate the valve is open or the valve is closed.

   Instructions for the installation, operation, and maintenance of these accessories are included as supplements to these instructions, or with the accessory when the accessory is supplied as a separate item.

INSTALLATION

1. Series 5200H Valves have standard ANSI B16.1 Class 125 drilled flanges which are dimensionally equivalent to ANSI B16.5 Class 150 flanges. Due to clearances, the valves have tapped holes instead of through holes. CAUTION: Do not use bolts that are too long, as they may bottom out and crack the body. Stud bolts are recommended.

   2. The flanges mating to the Series 5200 must be flat faced, not raised face, and should be serrated approximately 1/16" x 90°. Rubber will creep along smooth metal, PVC, or Teflon flanges, eventually causing a leak. Flange I.D. should match the sleeve I.D. and should be free of sharp edges which could cut into sleeve flanges. Weld neck or socket weld flanges are recommended. Slip on or screw on flanges have a larger I.D. and can cut the rubber sleeve. If slip on or screw on flanges must be used, grind off all sharp I.D. edges.

3. Do not use sharp tools, such as screwdrivers or crow bars, on the rubber during installation. This can cut and damage the flange face and cause possible leakage.

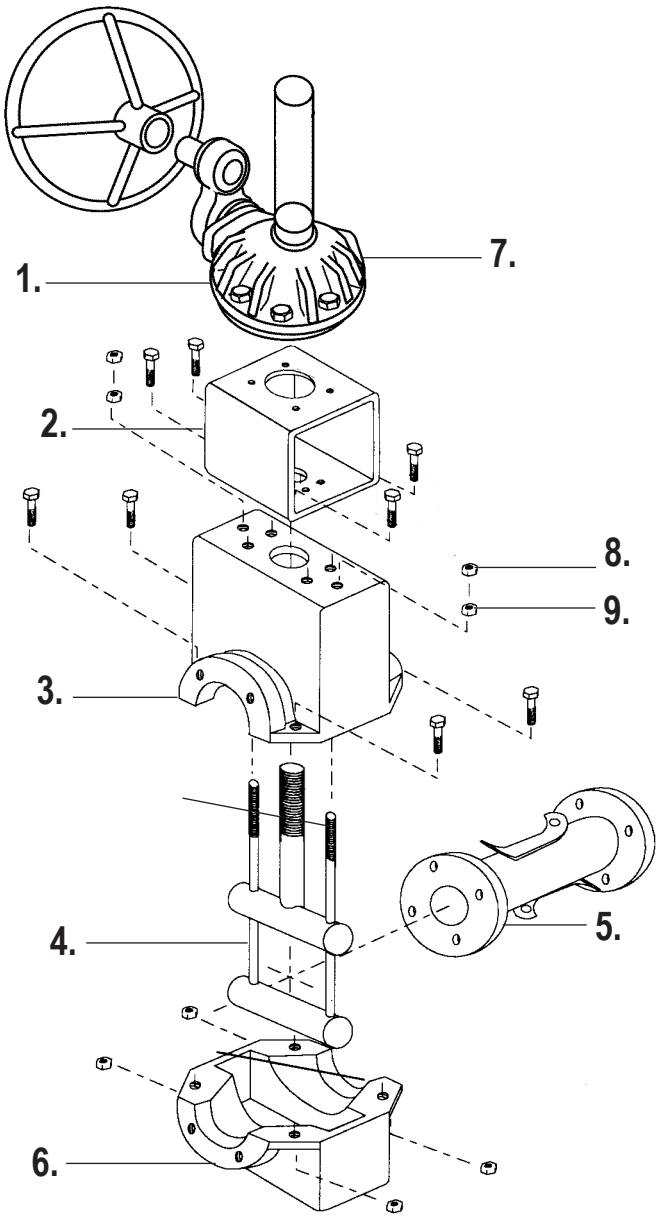
4. Do not remove the cable ties that are installed in the flange holes. They aid insallation. First install bolts/studs in holes that don't have ties. Only cut and remove the tie when you are ready to install a bolt/stud in that hole.

5. The valve should be completely open before installing the valve in the pipeline or tightening the flange bolts. Tighten all flange bolts to values listed in the table on the back page. You will not overtorque the flange rubber.

6. If flanges leak during operation, open the valve and retighten the flange bolts. Stroke the valve closed and then reopen and retighten the flange bolts.

PARTS – Series 5200H 14" and Larger

1. Actuator
2. Mounting Bracket
3. Body Top
4. Pinching Mechanism
5. Sleeve
6. Body Bottom
7. Stem Cover
8. Jam Nuts
9. Adjusting Nuts



OPERATION AND ADJUSTMENT

1. All units are adjusted, inspected, and tested at the factory before shipment. Calibration and stroke adjustment may change during shipment. An operational test is recommended before installation in the pipeline.

2. For on-off valves, be certain the valve is closed completely and not cracked open in the closed position.

   Operating the valve in a cracked open position can shorten sleeve life, since flow velocities are very high under these conditions. If the valve cannot be closed completely, the valve should be adjusted as follows:

   For valves 14" and larger, the lower pinch bar can be raised by turning the adjusting nuts on the top of the guide rails clockwise. First, loosen the jam nuts, then turn the lower adjusting nut on each side rail one to two turns in the clockwise (tightening) direction. Be sure to turn each nut an equal amount. Check for complete closure of the valve. If necessary, repeat these steps until the valve seals completely. Finally, tighten the jam nuts, being careful not to disturb the setting of the adjusting nuts.

3. A spare sleeve should be placed on order when this valve is placed in service.

MAINTENANCE

1. Lubrication - the valve mechanism and actuator were completely lubricated during final assembly and testing at the factory, and do not need to be lubricated at start-up.

2. Sleeve Replacement

   WARNING: BE SURE TO FLUSH ALL HAZARDOUS MATERIAL AND BLEED ALL PRESSURE FROM THE PIPELINE BEFORE PROCEEDING!

   1. Open the valve completely.
   2. Remove the valve from the pipeline.
   3. Disassemble the body by removing the body bolts and remove the lower half of the body.
   4. Remove the old sleeve by unfastening the positive opening tabs, collapsing one flange, and pulling the sleeve through the mechanism.
   5. Slide the new sleeve through the mechanism and repeat the above steps in reverse order. Be sure the flange bolt holes in the sleeve line up with the bolt holes in the body flange before bolting the two halves together.
   6. Install cable ties to ensure that the sleeve bolt holes and body bolt holes remain in alignment for the installation process.

   Note: For Cone and Variable Orifice Sleeves, be sure that the sleeve is oriented correctly with the flange marked “Inlet” on the upstream side of the valve, to insure proper operation of the valve.

MISCELLANEOUS

Reduced Port or Pre-Pinched Valves

When replacing either a Reduced Port or Pre-Pinched sleeve in Series 5200 Valves, the pinching bars should be spaced at their original setting (Please consult factory for details if this is not clear).

Returns

All returns must have standard Red Valve Company return goods tags. Sleeves to be inspected by Red Valve Company must have the tag firmly attached to the sleeve via the bolt holes, and must list the company, order number, address, valve serial number, your telephone number, operating temperature, pressure, closing frequency, fluid media, and total days in service.

STORAGE

If your Series 5200H Pinch Valve is to be stored for a period of time prior to installation, the following storage guidelines will help preserve your valve and assure trouble-free installation.

1. Store valve and any spare sleeves in a cool, clean, dry location.

2. Avoid exposure to light, electric motors, dirt, or chemicals. Resilient sleeves are subject to rapid deterioration when ex posed to ozones and certain chemicals.

3. Grease stem liberally and store valve in the full open position. Do not stack other items on top of the valve.

4. Store Installation Operation Maintenance Manual with the valve so it will be readily available for installation.

DOUBLE WALL

Double Wall Sleeves have triple life expectancy on severe abrasion. The extra thickness requires the next larger flange size on the valve body.

It is recommended that the sleeve I.D. be the same as the pipe I.D. (Fig. 1) This will require that an oversize mating flange also be installed on the pipe. This is easily done by using blind flanges and boring the I.D. to suit the existing pipe.

If it is not possible to match the pipe and sleeve I.D. as described above, the flanges will mate and the sleeve I.D. will protrude into the pipeline (Fig. 2). To prevent bulging and premature breaking of the Double Wall Sleeve, a steel washer must be installed as shown (Fig. 3). The steel washer should be 1/8" thick and be serrated. The washer O.D. can be just short of the bolt holes, or it can equal the flange O.D. and bolt holes can be drilled through the washer.

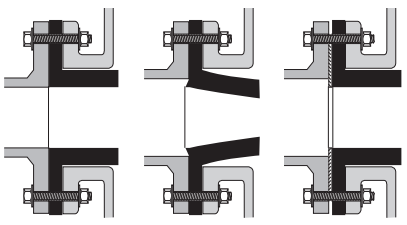
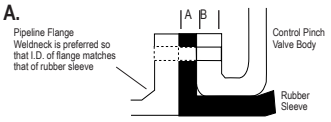


Fig. 1 Fig. 2 Fig. 3

SERIES 5200 FLANGE BOLTING SPECIFICATIONS

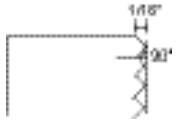
VALVE SIZE	NO. OF BOLTS	BOLT CIRCLE DIAMETER	THREAD SIZE	A	B	BOLT TORQUE (ft. lbs)
14"	12	18-3/4"	1" - 8 NC	5/8"	1-1/2"	100
16"	16	21-1/4"	1" - 8 NC	3/4"	1-1/2"	70
18"	16	22-3/4"	1-1/8" - 7 NC	3/4"	1-3/4"	55
20"	20	25"	1-1/8" - 7 NC	3/4"	1-3/4"	50
24"	20	29-1/2"	1-1/4" - 7 NC	1"	2"	70
30" - 48"	CONSULT FACTORY					

A.



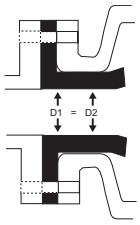
A. Standard pinch valves are built to schedule 40 pipe I.D. and to ANSI Class 125/150# flange and bolt circle specifications. It is recommended that the mating flanges are flat and full faced.

B.



B. It is recommended that the mating flange be serrated to "grip" the rubber flange. The serrations should be cut 1/16" deep, with a 90 angle tool point. the pitch should be 8 (eight) cuts per inch.

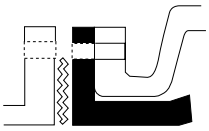
C.



C. Mating flange ID must match the pinch valve sleeve ID.

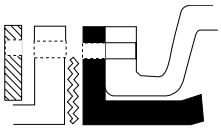
D. When installing a pinch valve to a rubber, PVC, or any "slick" mating flange, we recommend that you install a metal serrated gasket between the two flanges to assist in the seal.

D.



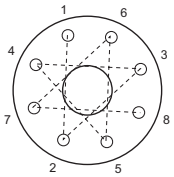
E. When bolting a pinch valve to a PVC or synthetic mating flange, use a split back-up retaining ring, since the mating flange will yield prior to generating enough force on the flange faces for a proper seal.

E.



F. Torque all the flange bolts in a star pattern, first to 50% of tabulated values, then retorque to 100% of tabulated values. If greater torque is required, continue retorquing in increments of 50% of tabulated values. Use of high quality anti-seize compound on all bolt threads is recommended.

F.



Variables such as the surface finish on bolt threads, type of anti-seize compound used, and surface finish of the mating flanges all have an effect on the minium torque required to obtain a leak-tight flange seal.

SERIES 5200E/5200H IOM SUPPLEMENT:

Sleeve Installation / Replacement

Install the replacement sleeve in accordance with the instructions on page three: “Maintenance and Sleeve Replacement.”

Adjustment of Lower Pinch Bar and Valve Pre-Pinch

BEFORE ADJUSTING THE LOWER PINCH BAR AND VALVE PRE-PINCH, BE SURE TO MEASURE AND RECORD THE HEIGHT OF THE GUIDE RAILS ABOVE THE TOP OF THE VALVE BODY. THE GUIDE RAILS CAN ALSO BE PERMANENTLY MARKED BY SCORING THEM OR MAKING A SMALL CUT FLUSH WITH THE TOP OF THE BOTTOM ADJUSTING NUTS. The pre-pinch is preset at the factory. When installing the valve or replacing a sleeve, the pre-pinch must be relieved. After recording and/or permanently marking the guide rail height, loosen or remove the top jam nuts on the guide rails if not already done. Relieve the pre-pinch by turning the lower adjusting nuts on the guide rails to lower the guide rails and bottom pinch bar. After reinstalling the valve, THE PRE-PINCH MUST BE RESTORED TO THE ORIGINAL SETTING. Retighten the upper jam nuts.

Testing

With a blind flange mounted to the inlet flange of the valve, and a weld-neck flange mounted to the outlet flange of the valve, stroke the valve to the closed position. Apply test pressure to the blind flange on the inlet side of the valve that is equal to the maximum shutoff pressure of the valve. Look for leaks at the weld neck flange end of the valve. If the leak is on one side or the other, turn the adjustment nut on the guide rail nearest the leak to raise the lower pinch bar. If the leak is in the center or on both sides, turn the stroke adjuster to lengthen the piston rod/valve stem. Continue adjusting until the leak stops. Tighten the jam nuts on the stroke adjuster and guide rails. Remove blind flange and weld-neck flange.

Installation

To align the flange holes of the sleeve with the mating flange, it will likely be necessary to lower the bottom pinch bar. See above section “Adjustment of Lower Pinch Bar and Valve Pre-Pinch.”

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 E-Mail: support@redvalve.com

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February 2023