Red Valve®

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Tideflex® Series 39F Inline Check Valve Installation, Operation and Maintenance Manual

The revolutionary design of the Tideflex® Series 39F Inline Check Valve provides superior backflow prevention. This unique “duck bill” design eliminates costly backflow from oceans, rivers and streams and is the ideal valve for pump stations.

The Series 39F uses proven Tideflex® Check Valve technology that provides low cracking pressures, low headloss and the ability to operate in the harshest of conditions. The flexible rubber check valve resists clogging and buildup of debris and it is available in several different elastomers. The Series 39F will not slam, thereby minimizing noise and vibration.

The Series 39F is more economical than other large-diameter check valve designs because there are no moving parts that require routing maintenance.

- Simple Design
- Cost Effective
- Low Maintenance
- No Seats
- No Hinges

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. Tideflex® 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 Tideflex®.

INSTALLATION

1. INSPECTION OF VALVE:

Inspect the body and mating flanges for signs of damage. Check all inspection and drain plugs to ensure that they are securely in place. The mating upstream and downstream pipes should be plumb and square to the 39F.

2. GASKETS:

The Series 39F contains a gasket between the body flanges. This gasket is formed from 1/8" thick rubber and seals the area between the ID of the body flange and the inside of the bolt circle. The body flanges are serrated. Should the valve need to be dismantled, new 1/8" thick gasket material must be obtained and installed between the body flange ID and inside of the bolt circle.

There is a large inspection port at the top of the valve that is either plugged or blind flanged at the factory, and two drain ports at the bottom of the valve, also plugged at the factory.

Pipe tape is used to ensure a tight seal. Gasket for the mating upstream and downstream flange is supplied by others.

1. INSTALLING FLANGE BOLTS:

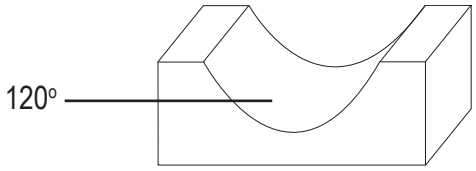
Insert the bolts and tighten in a star pattern. Tighten all bolts uniformly so as to distribute pressure evenly around the flange.

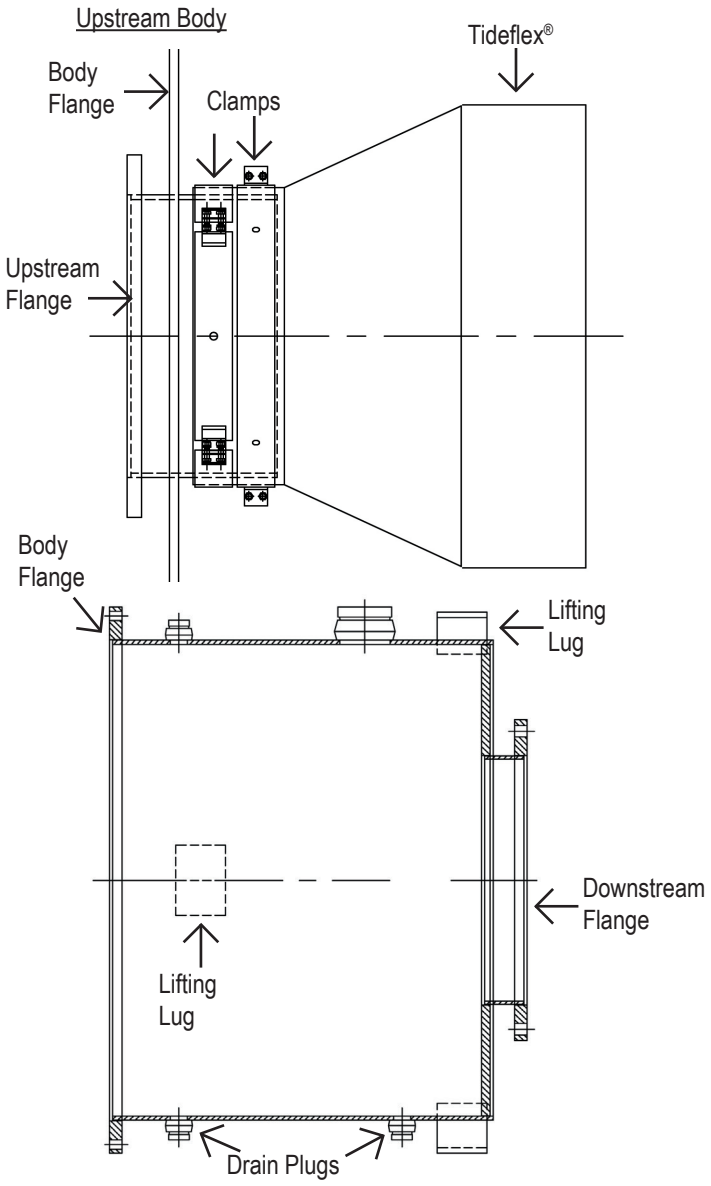
2. VALVE ORIENTATION:

When the Series 39F is installed in a horizontal pipeline, the bill of the internal Tideflex® valve should be vertical.

3. EXTERNAL VALVE SUPPORT:

Valve supports must be supplied at the locations and dimensions shown on the submittal drawing. The supports ensure the valve and mating pipe are not exposed to excessive stress due to the weight of the valve and water in it. Note, the support shown is cas concrete, but support weldments are suitable provided they are manufactured to the dimensions shown on the submittal drawing.





OPERATION

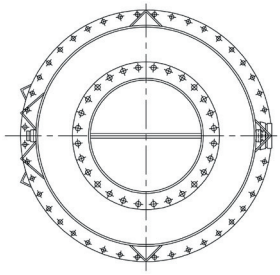
The Series 39F operates solely on differential pressure. Forward differential pressure will cause the Tideflex® Valve to open and discharge the flow media. Reverse differential pressure with cause the Tideflex® Valve to close preventing backflow. The Series 39F Check Valve is a self-contained check valve for use in gravity fed and pumped systems provided the pressure conditions are within what was supplied when the valve was ordered. The Tideflex® check valve sleeve is fabricated based on the maximum line and backpressure. Backpressure in excess of the supplied backpressure may damage or invert the sleeve and cause failure. Should the conditions for which the valve has been designed be altered or changed in any way, it could affect the normal operation of the valve. Consult the factory with the new system specifications to determine if the valve will operate properly.

MAINTENANCE

1. INSPECTION:

The valve should occasionally be inspected for damage and wear. The inspection period should be determined by the severity of the service and environment. If the valve is periodically inspected and preventative maintenance done, the valve will last longer and operate better.

CAUTION: DO NOT REMOVE ANY PARTS WITH PRESSURE IN THE PIPELINE.



There is a large inspection port located at the top of the valve and two drain plugs located at the bottom of the valve. The internal Tideflex® check valve should be periodically inspected for damage, wear, or entrapped solids in the bill. All pressure must be removed and the valve body should be drained prior to removing the inspection plug. Following inspection of the valve, reinstall the inspection plug (use pipe joint compound or tape) and tighten.

2.ELASTOMER SLEEVE REPLACEMENT

1. If the Tideflex® valve needs to be replaced in the valve, the following steps should be performed:

A. Remove internal pressure and drain water.

B. Remove bolts from mating flanges.

C. Remove valve from the line and place on a solid, flat surface capable of supporting its weight.

D. Secure the upstream body half by suspending it from above. A sling should be used around the pipe stub. DO NOT connect wire or chain to the flange bolt holes, as this may damage the flange.

E. Slide the upstream body half and body out of the downstream half. Place it on wood beams or another soft surface with the upstream flange resting on the wood beams and the Tideflex® valve pointing vertically upward. Take care not to damage the flange.

CAUTION: The internal Tideflex® check valve is clamped to the upstream body half. It must be pulled out horizontally until the internal Tideflex® check valve is clear of the plate. Do not attempt to lift the plate vertically. Damage to the Tideflex® valve could occur.

NOTE: Use the "Tideflex® All-Rubber Check Valve" IOM for proper handling, storage, and installation instruction for the Tideflex® Check Valve.

F. Remove the bolts that are used as pins in the Tideflex® clamps.

G. Loosen and remove the clamps.

H. Lift the Tideflex® valve off of the pipe stub. Install the new Tideflex® valve with the bill in the correct position (vertical after assembled) onto the pipe stub. Ensure that the valve slides on the stub far enough to hit the cuff stop. This will ensure the valve is properly located.

I. Once the Tideflex® valve is installed, locate the clamps on the cuff and tighten. Rotate the "ears" of the clamp (90° for two clamps, 60° for three) to ensure an adequate seal around the cuff.

J. Use the four predrilled holes in each of the clamps as a template and use a 1" drill bit to drill through the rubber cuff and through the metal stub. Install the four 7/8" bolts in each clamp and tighten the nuts to ensure valve is pinned to stub.

K. Wire brush the gasket material from both of the large body flanges. Attach 1/8" thick gasket material to the downstream body flange and fill the area between the ID of the flange and the inside of the bolt holes. Overlap any seams.

L. Slide the upstream body half, with Tideflex® valve installed, into the downstream body half. Line up the bolt holes. Install bolts and tighten in a star pattern.

M. The valve is now ready to be reinstalled into the pipeline.

STORAGE

If your Series 39F Check Valve is to be stored for a period of time prior to installation, the following storage guidelines will help preserve your valve and ensure a trouble free installation.

1. Store in a clean, cool, dry area. Avoid exposure to light, electric motors, dirt or chemicals.

2. Store valve in a manner to prevent other items from contacting the check sleeve or flanges to prevent possible damage.

3. Store this manual with the valve so that it is readily available at the time of installation.

TROUBLESHOOTING GUIDE

SYMPTOM: VALVE WILL NOT CLOSE FULLY, OR CHECK

• Possible obstruction in line. Inspect the valve for entrapped foreign objects which may have lodged between the lips of the valve.

• Ensure there is clearance below the Tideflex® check Vvlve and the bottom of the body.

• Backpressure may not be sufficient to completely seal the valve.

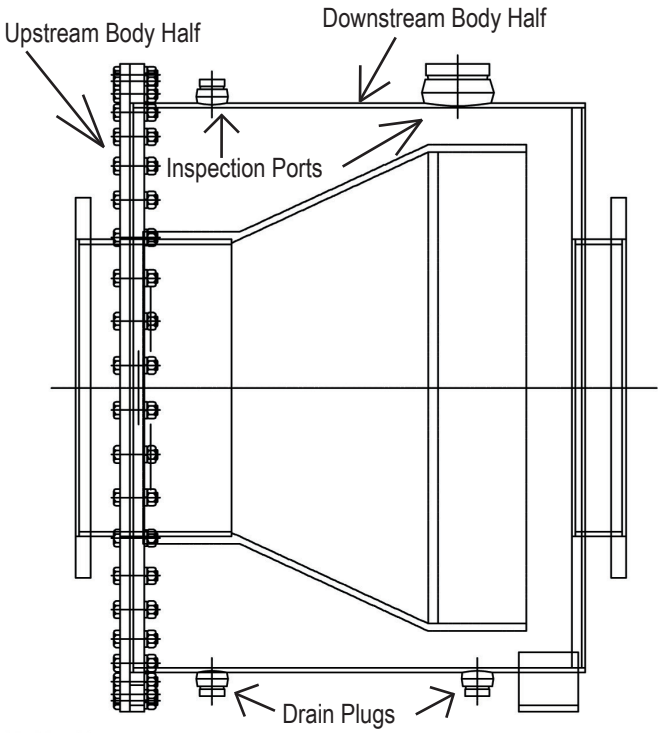
SYMPTOM: SLEEVE RUPTURE/INVERSION

• Excess backpressure. Verify static backpressure and identify possible surge pressure or vacuum pressure.

SYMPTOM: LEAKING FROM FLANGES

• Loosen and retighten bolts in a star pattern to ensure even pressure distribution around flange.

• If leakage persists, replace flange gasket and retighten bolts in star pattern.



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

Web site: RedValve.com E-Mail: support@redvalve.com

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Red Valve Company reserves the right to incorporate our latest design and material changes without notice or obligation. Design features, materials of construction and dimensional data, as described in this manual, are provided for your information only and should not be relied upon unless confirmed in writing by Red Valve Company. Certified drawings are available upon request.

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