

Tideflex® Series 35 / Series 35-1 Check Valves With Saddle Support Installation, Operation and Maintenance Manual



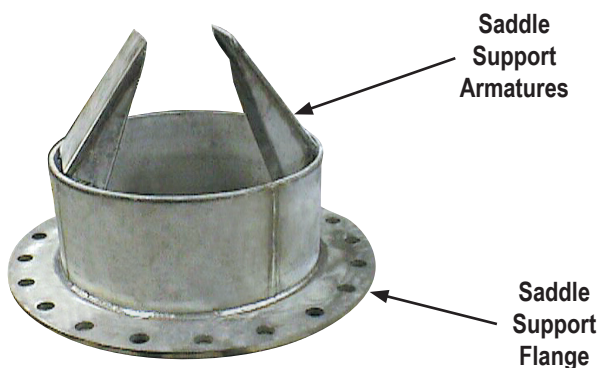
Series 35/35-1 Check Valve

The revolutionary design of the Series 35/35-1 Check Valve with Saddle Support provides reliable backflow protection. This unique duckbill design of the Check Valve eliminates costly backflow from oceans, rivers or storm water and is the ideal valve for effluent diffuser systems.

Series 35/35-1 Check Valves with Saddle Support seals on entrapped solids and debris without jamming. Unlike traditional flap gates, there are no hinged gates to hang open and no warping or freezing. They're maintenance-free.

The Saddle Support technology increases the backpressure rating of the Series 35/35-1. The Saddle Support can be constructed of steel or stainless steel, the Saddle Support is designed to nest inside of the Series 35/35-1 and is engineered to support the saddle area of the valve. The Saddle Support has a streamlined design, does not hinder valve operation and has no areas for solids to collect or hang-up. Each Saddle Support is individually designed to your backpressure and headloss requirements.

The Series 35/35-1 Check Valve with Saddle Support is available in a wide variety of elastomers and is designed to meet your exact flow specifications.



Saddle Support for Series 35/35-1 Check Valve



Certified to
NSF/ANSI/CAN 61

Only certain valves have NSF/ANSI/CAN 61 Certification.

Contact Red Valve with the valve's part number and serial number that are embedded in the rubber to confirm.

IMPORTANT

Please take a moment to review this manual. Before performing any maintenance on the valve be sure 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 department at (412) 279-0044. We appreciate your comments. Thank you for choosing Tideflex®.

INSTALLATION

1. INSPECTION OF VALVE:

Check flange faces of pipe for rough/damaged areas. Pipeline flanges must be flat, properly spaced, and parallel to achieve proper seal. Tideflex® recommends that pipeline flanges are serrated approximately 1/16" deep at 90°, in order to prevent the "creep" of the rubber flange of the valve sleeve. Grind or file any sharp edges of pipeline flange to prevent damage to the sleeve. PVC flanges may not seal properly, and are not recommended by Tideflex®. If PVC flanges are used, metal back up rings should be placed behind the PVC flanges in order to prevent yielding. Typically, PVC flanges will yield before the valve will seal.

2. GASKETS:

A gasket is required between the mounting flange and the saddle support flange.

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

3. INSTALLING FLANGE BOLTS:

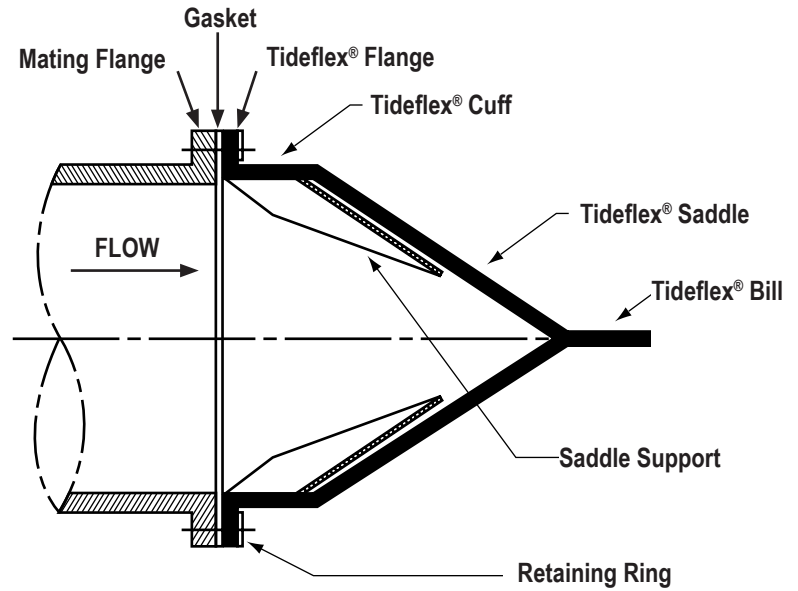
Tighten all bolts uniformly to distribute pressure evenly around the sleeve flange and the retaining ring. For complete information on bolting dimensions refer to the back cover of this IOM.

4. VALVE ORIENTATION:

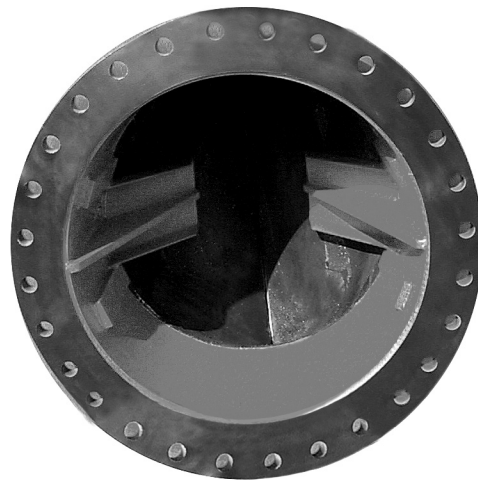
The valve end with the rubber flange face should be installed on the pressure side of the system using the saddle support provided. The sleeve should be installed facing downstream, in the vertical position. The installation bolt torque on the end flange bolts are listed in the table on the back page of this IOM.

5. SADDLE SUPPORT ORIENTATION:

Saddles should be oriented horizontally as shown on flange view.



Top View



Tideflex® Flange View

NEVER...

Use sharp tools on rubber sleeve.

NEVER...

Exceed design working pressure.

NEVER...

Install the valve backwards.

OPERATION

The Series 35/35-1 Check Valve with Saddle Support is a self-contained check valve for use on higher backpressure systems. Backpressure in excess of maximum rated pressure may invert the sleeve and cause valve failure.

All Tideflex® check valves are custom made products intended for each specific application and have been designed to respond to criteria unique to that purpose, such as line pressure, minimum and maximum

backflow pressure, and chemical compatibility. Should the conditions for which the valve has been designed be altered or change in any way, it could affect the normal operation of the valve, and/or prevent the valve from draining completely. Valves made to withstand high back pressure may not self-drain completely.

MAINTENANCE

1. INSPECTION

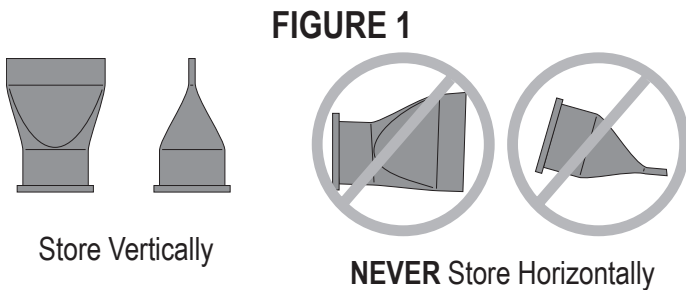
Valves should occasionally be inspected for damage and wear. The inspection period should be determined by the severity of the service and environment. If valves are periodically inspected and preventive maintenance done, the valve will last longer and operate better.

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

STORAGE

Rubber Check Valves should be stored in a cool, dry location on original shipping pallet with the bill facing upward (not on side) (Figure #1). Do not drop, bend or twist the Check Valve or damage may occur.

1. Store the valve in a cool, clean, dry location.
2. Avoid exposure to light, electric motors, dirt or chemicals. Resilient Check Valves are subject to deterioration when exposed to ozones and non-compatible chemicals.
3. Store Installation Operation Manual with product so it will be readily available for installation.



Recommended Minimum Bolt Torque

Valve Size	Bolt Size	Torque (ft*lb.)
1"	1/2" - 13NC	20
1-1/2"	1/2" - 13NC	20
2"	5/8" - 11NC	30
2-1/2"	5/8" - 11NC	40
3"	5/8" - 11NC	40
4"	5/8" - 11NC	30
5"	3/4" - 10NC	40
6"	3/4" - 10NC	30
8"	3/4" - 10NC	40
10"	7/8" - 9NC	40
12"	7/8" - 9NC	50
14"	1" - 8NC	50
16"	1" - 8NC	50
18"	1-1/8" - 7NC	30
20"	1-1/8" - 7NC	30
24"	1-1/4" - 7NC	40
30"	1-1/4" - 7NC	30
36"	1-1/2" - 6NC	40
42"	1-1/2" - 6NC	50
48"	1-1/2" - 6NC	55
54"	1-3/4" - 5NC	60
60"	1-3/4" - 5NC	80
72"	1-3/4" - 5NC	100

- Torque values are suggested minimum values.
- Torque all flange bolts in a star pattern. First to 50% of tabulated values, then re-torque to 100% of tabulated values. If greater torque is required, continue re-torquing in increments of 50% of tabulated values.
- Variables such as surface finish on bolt threads, type of anti-sieze compound used, and surface finish of the mating flanges all have an effect on the minimum torque required to obtain a leak tight flange seal.
- Use of a high quality anti-sieze compound on all bolt threads is recommended.

TROUBLESHOOTING

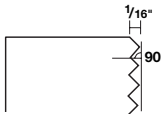
During installation, you may need to retorque the flange bolts several times for a proper seal. This will overcome any leaks due to the cold flow of the of the rubber sleeve flange.

A.



A. Standard check 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.

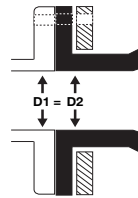


B. It is recommended that the mating flange be serrated to "grip" the rubber flange. The serrations should be cut 1/16" deep, with a 90° angle tool point. The pitch should be 8 (eight) cuts per inch.

C. Mating Flange ID must match the check valve sleeve ID.

D. When installing a check valve to a

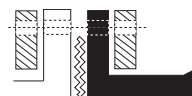
C.



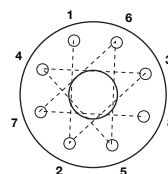
D.



E.



F.



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

E. When bolting a check 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 p[roper seal.

F. Always use a "star" pattern when bolting a check valve.



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.

THE FOREGOING REPAIR AND REPLACEMENT LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, OBLIGATIONS AND LIABILITIES, INCLUDING, BUT NOT LIMITED TO, ALL WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR OF MERCHANTABILITY OR OTHERWISE, EXPRESSED OR IMPLIED IN FACT OR BY LAW, AND STATE SELLER'S ENTIRE AND EXCLUSIVE LIABILITY AND YOUR EXCLUSIVE REMEDY FOR ANY CLAIM IN CONNECTION WITH THE SALE AND FURNISHING OF SERVICES, GOODS OR PARTS, THEIR DESIGN, SUITABILITY FOR USE, INSTALLATION OR OPERATIONS. NEITHER ANY PERFORMANCE OR OTHER CONDUCT, NOR ANY ORAL OR WRITTEN INFORMATION, STATEMENT, OR ADVICE PREPARED BY SELLER OR ANY OF OUR EMPLOYEES OR AGENTS WILL CREATE A WARRANTY, OR IN ANY WAY INCREASE THE SCOPE OR DURATION OF THIS LIMITED WARRANTY.

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IN NO EVENT SHALL SELLER BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, PUNITIVE, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, DAMAGE TO OR LOSS OF OTHER PROPERTY OR EQUIPMENT, BUSINESS INTERRUPTION, COST OF SUBSTITUTE PRODUCTS, LOSS OF TIME, LOSS PROFITS OR REVENUE, COST OF CAPITAL, LOSS OF USE, OR DIMINUTION IN VALUE) WHATSOEVER, AND SELLER'S LIABILITY, UNDER NO CIRCUMSTANCES, WILL EXCEED THE CONTRACT PRICE FOR THE GOODS AND/OR SERVICES FOR WHICH LIABILITY IS CLAIMED. ANY ACTION FOR BREACH OF CONTRACT BY YOU, OTHER THAN RIGHTS RESPECTING OUR LIMITED WARRANTY DESCRIBED ABOVE, MUST BE COMMENCED WITHIN 12 MONTHS AFTER THE DATE OF SALE.

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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