

SERIES 37 INLINE CHECK VALVE

Installation, Operation, and Maintenance Manual



The revolutionary design of the Series 37 In-Line Check Valve provides absolute backflow protection. This unique “duck bill” design eliminates costly backflow from oceans, rivers or storm water and is the ideal valve for effluent diffuser systems.

The Series 37 Check Valve is available in a wide variety of elastomers and is designed to meet your exact flow specifications.

Series 37 valves are constructed with 125# ANSI flanges, which have the same drilling pattern as ANSI 150# for ease of installation.

- Simple design
- 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 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® Technologies 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® Technologies.

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® Technologies 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.

Flanges with an oversized I.D. can cut the sleeve flange, and are not recommended with the Series 37 Valve. 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® Technologies. 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:

The Series 37 In-line Check Valve is self gasketing, and does not need a separate gasket.

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.

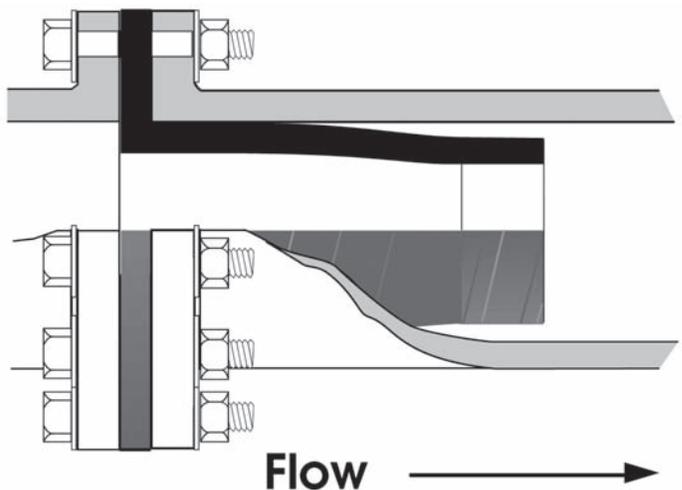
3. INSTALLING FLANGE BOLTS:

Tighten all bolts uniformly to distribute pressure evenly around the sleeve flange. (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. The bill area should be installed facing downstream, with the "slit" vertically oriented.

The inlet flange makes use of the rubber check valve flange as the gasket (additional rubber gaskets are not required on the inlet flange). The installation bolt torque on the end flange bolts are listed in the table on the back page of this IOM.



NEVER...

Use sharp tools on rubber sleeve.

NEVER...

Exceed design working pressure.

NEVER...

Install the valve backwards.

OPERATION

The Series 37 Check Valve is a self-contained check valve for use on low back pressure systems. All check valves are built for each specific application. Back pressures in excess of the maximum rated back pressure may invert the sleeve and cause valve failure.

Tideflex® Technologies check valves are custom made products intended for a 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 the bolting or valve parts or bolting with pressure in the line. It is easy to inspect the valve for obvious problems.

ELASTOMER SLEEVE REPLACEMENT:

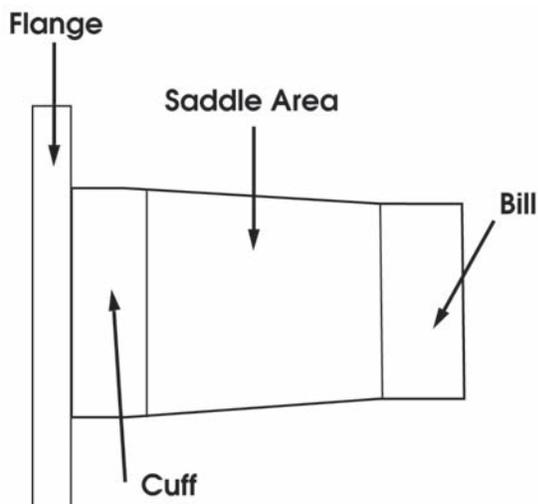
1. A spare replacement check sleeve should be placed on order when this valve is placed in service.
2. Remove the existing valve and install the replacement as specified under **INSTALLATION**.

STORAGE:

If your Series 37 Valve is to be stored for a period of time prior to installation, the following storage guidelines will help preserve your valve and assure a 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 check sleeve or flanges to prevent possible damage.
3. Store this manual with the valve, so that it is readily available at time of installation.

PART DESCRIPTION



TROUBLESHOOTING GUIDE

SYMPTOM:

LEAKAGE AT FLANGE

- Retighten all flange bolts uniformly, as explained on the back cover of this IOM.

SYMPTOM:

SLEEVE RUPTURE (At juncture of flanges)

- Excessive back pressure due to water hammer or pressure surge.
- High velocity of abrasive media with the valve cracked open.

SYMPTOM:

CUTS ON FLANGE SURFACE

- Sharp I.D. of mating flange.
- Oversized I.D. of mating flange.

SYMPTOM:

SLEEVE INVERTED

- Excessive back pressure.

Tideflex® Technologies Warranty

WARRANTIES - REMEDIES - DISCLAIMERS - LIMITATION OF LIABILITY
Unless otherwise agreed to in writing signed by Tideflex® Technologies, all Products supplied by Tideflex® Technologies will be described in the specifications set forth on the face hereof.

THE WARRANTIES SET FORTH IN THIS PROVISION ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES WHETHER STATUTORY, EXPRESS OR IMPLIED (INCLUDING ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND ALL WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OR TRADE).

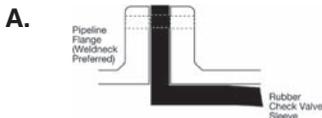
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Recommended Bolt Torque

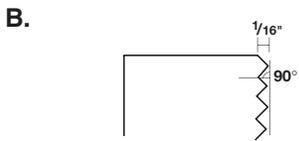
Valve Size	Bolt Size	Torque (ft*lb.)
2"	5/8" - 11NC	30
2-1/2"	5/8" - 11NC	40
3"	5/8" - 11NC	40
4"	5/8" - 11NC	30
5"	3/4" - 10NC	40
6"	3/4" - 10NC	30
8"	3/4" - 10NC	40
10"	7/8" - 9NC	40
12"	7/8" - 9NC	50
14"	1" - 8NC	50
16"	1" - 8NC	50
18"	1-1/8" - 7NC	30
20"	1-1/8" - 7NC	30
24"	1-1/4" - 7NC	40
30"	1-1/4"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

- 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.

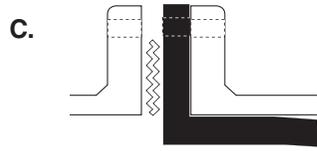
INSTALLATION NOTES FOR SERIES 37 CHECK VALVES



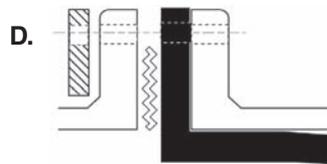
A. Standard check valves are built to schedule 40 pipe I.D. and to ANSI Class 125/150# flange and bolt circle specifications. It is recommended that the mating flanges are flat, full faced, and serrated.



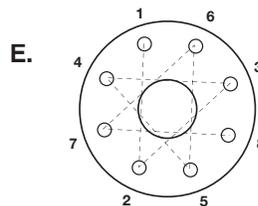
B. It is recommended that the mating flange be serrated to "grip" the rubber flange. The serrations should be cut 1/16" deep, with a 90° angle tool point. The pitch should be 8 (eight) cuts per inch.



C. When installing a check 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. 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 proper seal.



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

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Note: If long, unsupported lengths of steel, plastic, or synthetic pipe are being used, the pipe may yield or sag due to the valve weight. This may cause an inadequate seal between the valve and flanges. Be certain sufficient pipe hangers are used and properly located to support the total weight of the valve and the process fluid.