

1-16 in. FloodSafe™ Inflow Preventer

Operation, Maintenance and Installation Manual

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VAL-MATIC® VALVE AND MANUFACTURING CORP.

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1-16 in. FloodSafe™ Inflow Preventer

OPERATION, MAINTENANCE AND INSTALLATION

INTRODUCTION

This manual will provide you with the information to properly install, maintain and ensure a long service life for the FloodSafe™. The FloodSafe™ is to be installed on the outlet of an air release or air/vacuum valve to prevent cross contamination of the potable water system due to flooding and malicious tampering. The FloodSafe™ is designed with two float checks that are open during normal pipeline operation to allow full airflow in both directions. The float check(s) will rise and seal when the surrounding atmosphere is filled with water.

RECEIVING AND STORAGE

Inspect the FloodSafe™ upon receipt for damage in shipment. Unload all devices carefully to the ground without dropping.

The devices should remain boxed, clean and dry until installed to prevent weather related damage. For long term storage greater than six months, the rubber seat should be coated with a thin film of FDA approved grease such as Lubriko #CW-606. Do not expose rubber seat to sunlight or ozone for any extended period.

DESCRIPTION OF OPERATION

The FloodSafe™ is designed with a lower chamber and upper, redundant chamber. Both chambers contain identical float checks that are open during normal pipeline operation and allow full airflow in both directions. If flooding occurs the lower float check will rise, preventing floodwater from reaching the outlet of the air valve and subsequently the pipeline. If the lower float check fails the upper, redundant float check will close preventing floodwater from reaching the air valve. The basket screen prevents debris from interfering with the operation of the FloodSafe™.

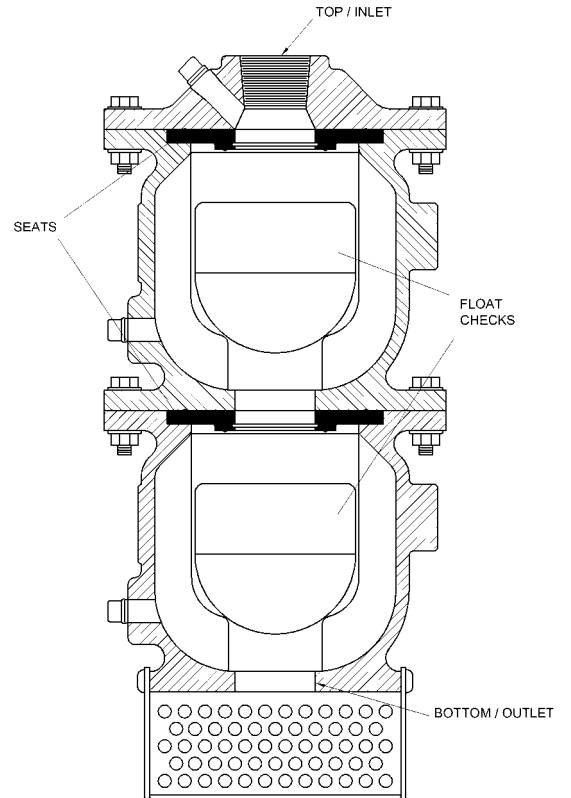


Figure 1. FloodSafe™ Inflow Preventer

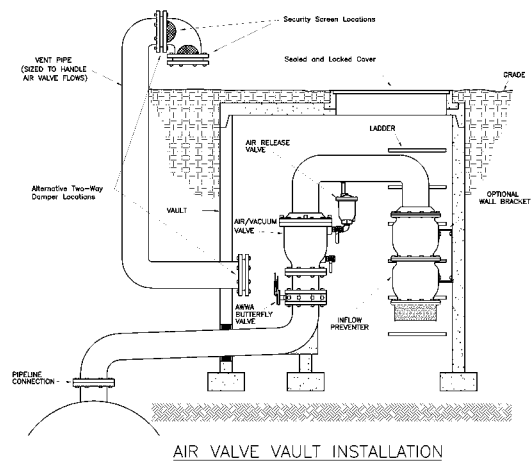


Figure 2. Typical Installation

INSTALLATION

Remove the packing from the top and bottom of the FloodSafe that is used to protect the floats during shipping. Install the basket per step 6 in the REASSEMBLY section on page 3. The installation of the FloodSafe™ is important for its proper operation. The FloodSafe should be installed plumb in the vertical position with the basket facing downward. Thread or bolt the FloodSafe to the outlet of an air valve using standard connection practices. The bolting for 6" and larger FloodSafes™ conforms to ANSI B16.1 for class 125# flanges. An optional mounting bracket may be used to mount the device to wall supports.

Flanged connections should only be mated with flat-faced pipe flanges equipped with full-face or ring type resilient gaskets. The bolts should be tightened in gradual steps using the crossover method. Recommended torque values are given in Table 1.

CAUTION: The use of excessive bolt torque may damage the device.

| Mounting Flange Bolts (ANSI B16.1 Class 125) | | | |
|--|-----------|-----------------------------|-------------------------|
| Device Size | Bolt Size | Recommended Torque (ft-lbs) | Maximum Torque (ft-lbs) |
| 6 | 3/4" | 30 | 150 |
| 8 | 3/4" | 40 | 150 |

TABLE 1. FLANGE BOLT TORQUES

FLOODSAFE™ CONSTRUCTION

The standard FloodSafe™ is constructed of ductile iron. Stainless steel type 316 float checks are the only moving elements and seal against a low hardness resilient seat. The general details of construction are illustrated in Figure 3 and identified in Table 2.

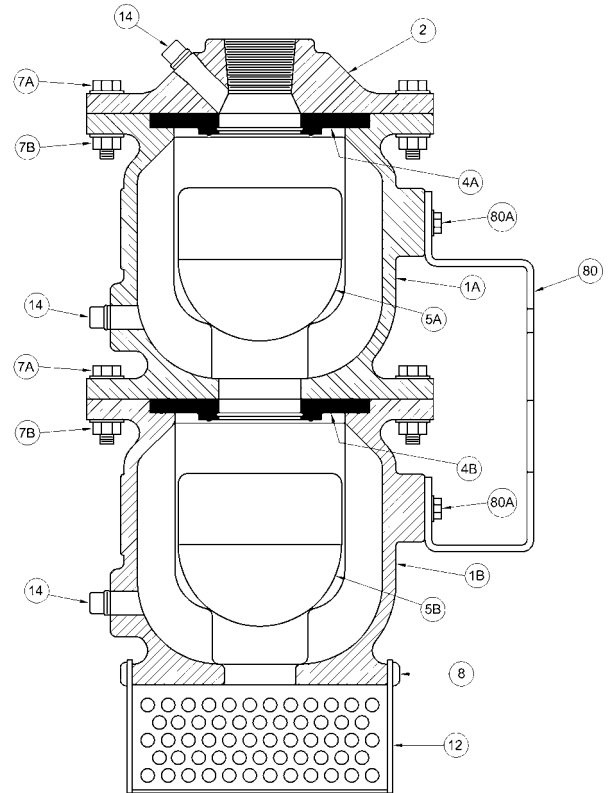


Figure 3: FloodSafe Components

| ITEM | DESCRIPTION | MATERIAL |
|--------|------------------|----------------------|
| 1A, 1B | Chamber | Ductile Iron |
| 2 | Cover | Ductile Iron |
| 4A, 4B | Seat | Resilient |
| 5A, 5B | Float Check | T316 Stainless Steel |
| 7A, 7B | Bolts, Nuts | T316 Stainless Steel |
| 8 | Basket Retainer | T316 Stainless Steel |
| 12 | Basket | T304 Stainless Steel |
| 14 | Pipe Plug | Carbon Steel |
| 80* | Mounting Bracket | Carbon Steel |
| 80A* | Mounting Bolt | T316 Stainless Steel |

*Optional

Table 2: FloodSafe Parts List

MAINTENANCE

The FloodSafe™ requires no scheduled lubrication or maintenance.

INSPECTION: The FloodSafe may be checked for debris by following the disassembly and reassembly instructions. The seat may be checked for cracks or tears. The float check may be inspected for indentations or deep scratches on the top sealing portion.

TROUBLESHOOTING

Several problems and solutions are presented below to assist you in troubleshooting the FloodSafe™ in an efficient manner.

- Air valve water discharge: It is normal for air valves to discharge some water before closing. Continuous leakage requires maintenance of the adjacent air valve.
- Leaks during field test: Clean and inspect the resilient seats and the float checks.

DISASSEMBLY

WARNING: Close the isolation valve underneath the adjacent air valve. Failure to close the isolation valve may allow discharge of air into the FloodSafe™ and cause bodily injury.

Note: If the FloodSafe is connected to the optional mounting bracket (80), the FloodSafe™ will need to be removed from the bracket.

1. Remove the basket (12).
 - a) On sizes with side taps, use an allen wrench to loosen the screws holding the basket to the lower chamber (1B). Rotate the basket counterclockwise and pull the basket down and away from the chamber.
 - b) On sizes without the side taps, use an open-end wrench to remove the bolts holding the basket to the lower chamber flange.
2. Remove the lower chamber (1B) by removing the bolts (7A) and nuts (7B) joining the two chamber halves.

CAUTION: The FloodSafe™ chambers may be heavy. Support the chambers when removing the bolts in order to prevent bodily injury.

3. Remove the seat (4) by pulling it upward and out of the chamber. Tilt the chamber to remove the float check (5).
4. The upper chamber is removed in the same manner as the lower chamber. Remove the bolts joining the chamber and cover using care to support the chamber. The seat and float check can be removed in the same manner as before.

REASSEMBLY

All parts must be clean. Worn or damaged parts should be replaced during reassembly.

1. Install the float check (5A) into the chamber (1A).
2. Insert the seat (4A) with the raised circular surface facing down into the chamber (1A).
3. Connect the upper chamber (1A) to the cover (2) with the bolts (7A) and nuts (7B) using the cross over method. One washer is installed under the head of the bolt and one underneath the nut.
4. Install the float check and seat into the lower chamber per steps 1 and 2.
5. Connect the lower chamber (1B) to the upper chamber (1A) by using the bolts (7A) and (7B). One washer is installed under the head of the bolt and one underneath the nut.
6. Install the basket (12) to the lower chamber (1B).
 - a) On sizes with the side taps, start the socket head cap screws into the lower chamber flange. Install the basket by pushing upward and turning clockwise. Tighten the socket head cap screws to secure the basket.
 - b) On sizes without the side bolts, install the bolts through the bottom flange and into the tapped holes on the basket screen. One washer is used underneath the head of the bolt.

FIELD TESTING THE FLOODSAFE (Optional)

The FloodSafe shall be tested by a Certified Backflow Prevention Assembly Tester after the assembly has been installed, and periodically thereafter as recommended by local plumbing codes but at least annually.

For field testing, the testing kit is required. Testing kits are SPK-1301 to SPK-1308. Masking tape is recommended for marking the riser tube.

1. Close the isolation valve underneath the adjacent air valve that the FloodSafe™ is connected to.
2. Remove the three pipe plugs on the side of the FloodSafe™ and install the test cocks provided. Set the test cocks to the closed position.
3. Remove the basket screen. Clean if needed.
4. Block the outlet (bottom) with the expandable plug provided in the kit.
5. Connect the test apparatus to the test port in the lower chamber (1B) as shown in figure 4.
6. With the supply valve closed, connect a clean water supply to the test apparatus.

7. Open the test cock in the cover to ensure the chamber area above the float is open to atmospheric pressure.

8. Fill the lower chamber and the riser tube with water by opening the water supply valve and the test cock. When the water in the riser tube reaches 12" above the body flange/seat surface, close the supply valve. Allow the water to stabilize in the riser tube for 1 minute.

9. Mark the water level on the riser tube with masking tape and observe the water level for 1 minutes. A drop greater than ¼" is cause for rejection.

10. When the test is complete, drain the water and remove the test apparatus from the lower chamber (1B). Close the lower test cock. Install the test apparatus in the upper chamber (1A) and repeat steps 6-9 to test the upper chamber.

11. When all testing is complete, remove the test apparatus and bottom plug. The test cocks may be left in the FloodSafe™, but need to be closed. Re-assemble the basket screen to the lower chamber.

12. Open the isolation valve underneath and adjacent to the air valve that was closed in step 1.

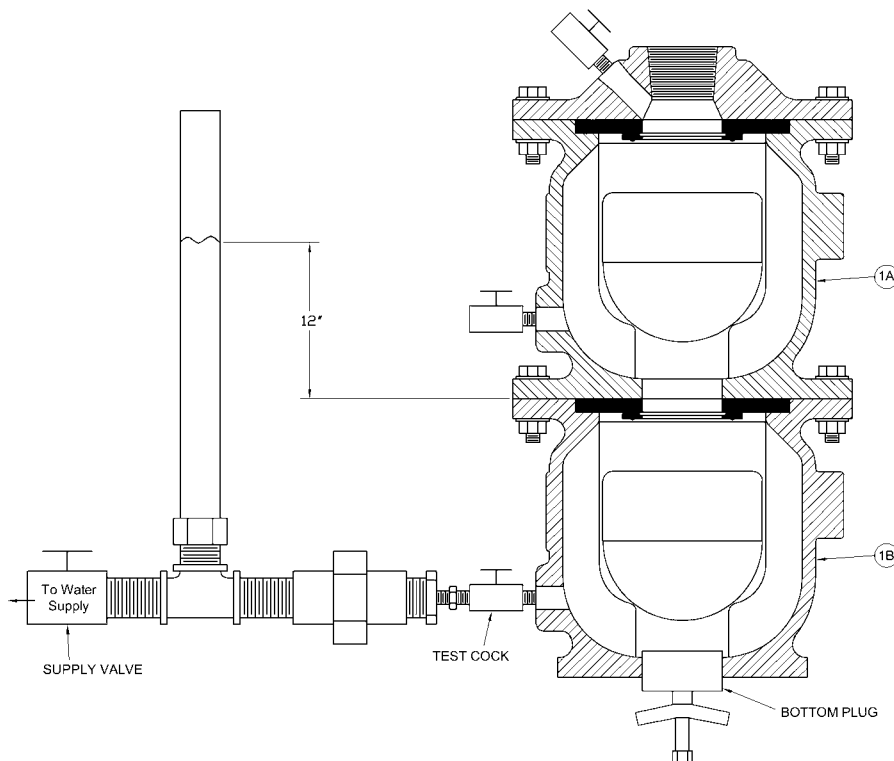


Figure 4: Testing of the Lower Chamber

PARTS AND SERVICE

Parts and service are available from your local representative or the factory. Make note of the Valve Size and Model Number located on the valve nameplate and contact:

Val-Matic Valve and Manufacturing Corp.
905 Riverside Drive
Elmhurst, IL 60126
Phone: (630) 941-7600
Fax: (630) 941-8042
www.valmatic.com

A sales representative will quote prices for parts or arrange for service as needed.

LIMITED WARRANTY

All products are warranted to be free of defects in material and workmanship for a period of one year from the date of shipment, subject to the limitations below.

If the purchaser believes a product is defective, the purchaser shall: (a) Notify the manufacturer, state the alleged defect and request permission to return the product; (b) if permission is given, return the product with transportation prepaid. If the product is accepted for return and found to be defective, the manufacturer will, at his discretion, either repair or replace the product, f.o.b. factory, within 60 days of receipt, or refund the purchase price. Other than to repair, replace or refund as described above, purchaser agrees that manufacturer shall not be liable for any loss, costs, expenses or damages of any kind arising out of the product, its use, installation or replacement, labeling, instructions, information or technical data of any kind, description of product use, sample or model, warnings or lack of any of the foregoing. NO OTHER WARRANTIES, WRITTEN OR ORAL, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY, ARE MADE OR AUTHORIZED. NO AFFIRMATION OF FACT, PROMISE, DESCRIPTION OF PRODUCT OF USE OR SAMPLE OR MODEL SHALL CREATE ANY WARRANTY FROM MANUFACTURER, UNLESS SIGNED BY THE PRESIDENT OF THE MANUFACTURER. These products are not manufactured, sold or intended for personal, family or household purposes.

The logo for Val-Matic, featuring the word "VAL-MATIC" in a bold, sans-serif font. The "V" is significantly larger and more stylized than the other letters. A registered trademark symbol (®) is located to the upper right of the "C".

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