

# 4-12 in. FrostSafe™ Two-Way Damper

## Operation, Maintenance and Installation Manual

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VAL-MATIC® VALVE AND MANUFACTURING CORP.

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# 4-12 in. FrostSafe™ Two-Way Damper 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 FrostSafe™. The FrostSafe™ is installed in vent pipes used to vent vaults, reservoirs and air valves to help protect vault components and air valves from freezing due to convection by minimizing the flow of cold air into the vault while allowing air flow in both directions when necessary. The FrostSafe™ is designed with three flexible membranes that fully open when venting and snap closed when finished to prevent cold air from entering.

## RECEIVING AND STORAGE

Inspect the FrostSafe™ 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 membrane should be coated with a thin film of FDA approved grease such as Lubriko #CW-606. Do not expose rubber membrane to sunlight or ozone for any extended period.

## DESCRIPTION OF OPERATION

The FrostSafe™ is a wafer-style hingeless 2-way damper that prevents cold air from entering the vault, reservoir or air valve while still allowing the vent to perform its function of admitting and expelling air under normal operating conditions.

## INSTALLATION

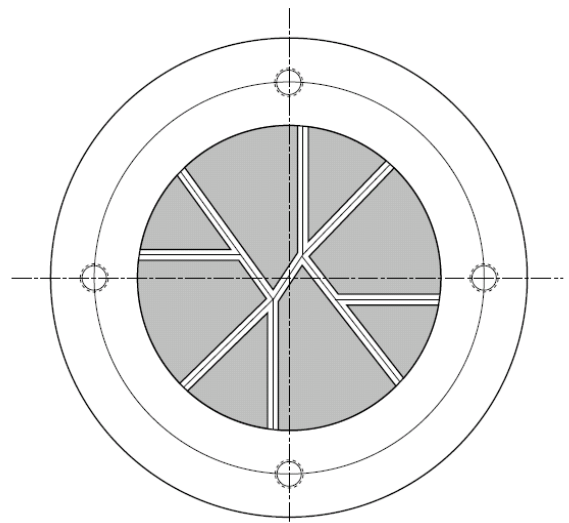
The installation of the FrostSafe™ is important for its proper operation. The FrostSafe™ can be installed in the vertical or horizontal position between typical ANSI Class 125 flanges using standard connection practices. The FrostSafe™ Device can be located in the vault or above ground as shown in Figure 2. The device can also be placed in series at both locations for added protection. Since the FrostSafe™ is a two-way flow device, it has no designated flow direction.

Flanged connections should only be mated with flat-faced pipe flanges. The bolts should be tightened in gradual steps using the crossover method. Recommended torque values are given in Table 1. The FrostSafe™ can be used with rubber or compressed fiber ring-type gaskets.

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

Mounting Flange Bolts			
Device Size	Bolt Size	Recommended Torque (ft-lbs)	Maximum Torque (ft-lbs)
4	5/8"	20	30
8	3/4"	30	40
12	7/8"	60	70

**TABLE 1. FLANGE BOLT TORQUES**



**Figure 1. FrostSafe™ Two-Way Damper**

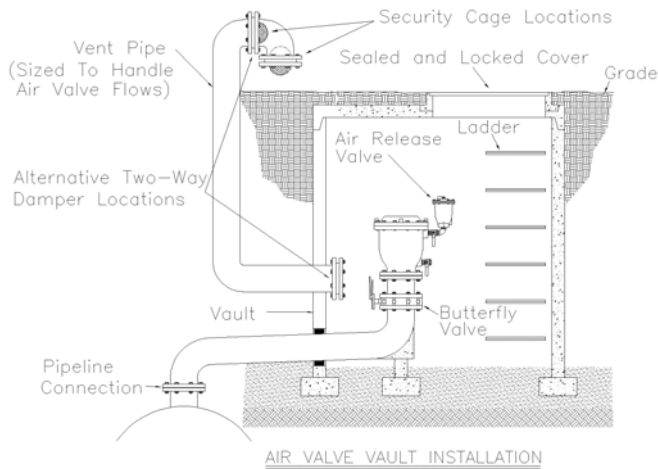


Figure 2. Typical Installation

### FROSTSAFE™ CONSTRUCTION

The standard FrostSafe™ is constructed of quality corrosion resistant materials including high density polyethylene (HDPE) and Stainless steel type 316 bolts. The general details of construction are illustrated in Figure 3 and identified in Table 2.

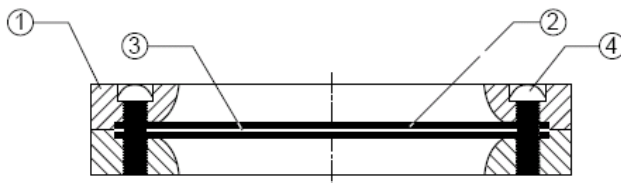


Figure 3: FrostSafe™ Cross Section of Components

Table 2: FrostSafe™ Parts List

ITEM	DESCRIPTION	MATERIAL
1	Body	HDPE
2	Rubber Membrane	High Grade Neoprene
3	Damper Seal	PETG
4	Body Bolt	T316 Stainless Steel

### MAINTENANCE

The FrostSafe™ requires no scheduled lubrication or maintenance.

**INSPECTION:** The FrostSafe™ may be checked for debris by following the disassembly and reassembly instructions. The body may be checked for cracks and gouges and the damper seal for tears. The rubber membranes may be inspected for aging, tears or deep scratches.

### TROUBLESHOOTING

Troubleshooting is presented below to assist you with the FrostSafe™ in an efficient manner.

- **FrostSafe™ Stuck Open:** Clean and inspect the damper seal and rubber membranes for debris.

**WARNING:** If the FrostSafe™ is installed downstream of an air valve, the air valve's isolation valve must be closed prior to performing inspection or maintenance of the FrostSafe™. Failure to close the isolation valve could lead to bodily injury if the air valve discharges air during inspection.

### DISASSEMBLY

1. Loosen the pipe flange bolts, separate the flanges and remove the FrostSafe™.
2. Use an Allen wrench to remove the button head cap screws (4).
3. Pull the body halves apart to inspect the damper seal (3) and the rubber membranes (2).

### REASSEMBLY

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

1. Insert screws into counterbores of one of the damper bodies (1).
2. Place one of the rubber membranes (2) into the register making sure to put the screw through one of the bolt holes cut into the membrane.
3. Lay the plastic damper seal (3) on top of the rubber membrane (2) making sure to align the cut patterns for proper mating.
4. Place the other rubber membrane (2) on top of the damper seal completing the three-layer structure. Again, make sure to align the cut patterns for proper mating.

5. Align the threaded holes of the other damper body with the protruding screws. Use an Allen wrench to install the screws taking care not to strip the threads in the body (DO NOT USE AN IMPACT GUN). A gap between the two body halves is acceptable.

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

## **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.

### **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.

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