

Series 758-EPA
FireLock™ Preaction Valve
with Series 79N
Electric/Pneumatic Actuator
Double-Interlock Electric/Pneumatic Release

Hang these instructions on the
installed valve for easy future reference.



! WARNING



Failure to follow instructions and warnings can result in serious personal injury, property damage, and/or product failure.

- Read and understand all installation instructions before attempting to install any Victaulic piping products.
- Wear safety glasses, hardhat, and foot protection.

If you need additional copies of any literature, or if you have any questions about the safe installation and operation of this product, contact Victaulic Company, P.O. Box 31, Easton, PA 18044-0031, USA, Telephone: 1-800-PICK VIC, e-mail: pickvic@victaulic.com.

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HAZARD IDENTIFICATION

Definitions for identifying the various hazard levels are provided below.



This safety alert symbol indicates important safety messages. When you see this symbol, be alert to the possibility of personal injury. Carefully read and fully understand the message that follows.

WARNING

The use of the word “WARNING” identifies the presence of hazards or unsafe practices that could result in death or serious personal injury if instructions, including recommended precautions, are not followed.


CAUTION

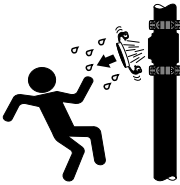
The use of the word “CAUTION” identifies possible hazards or unsafe practices that could result in personal injury and product or property damage if instructions, including recommended precautions, are not followed.

NOTICE

The use of the word “NOTICE” identifies special instructions that are important but not related to hazards.

INSTALLER SAFETY INSTRUCTIONS

⚠ WARNING	
	<ul style="list-style-type: none">• An experienced, trained installer must install this product in accordance with all instructions. These instructions contain important information. <p>Failure to follow these instructions could result in serious personal injury, property damage, and/or product failure.</p> <p>If you need additional copies of any literature, or if you have any questions about the safe installation and operation of this valve, contact Victaulic Company, P.O. Box 31, Easton, PA 18044-0031 USA, Telephone: 1-800-PICK Vic, e-mail: pickvic@victaulic.com.</p>

⚠ WARNING	
	<ul style="list-style-type: none">• Depressurize and drain piping systems before attempting to install or remove any Victaulic piping products. <p>Failure to follow this instruction could result in serious personal injury, property damage, and/or product damage.</p>

GENERAL

1. **Read and understand all instructions before proceeding with the installation, maintenance, and testing of this Victaulic fire protection device.**
2. **Use only recommended accessories.** Use of improper accessories or equipment could result in improper system operation.
3. **Avoid dangerous environments.** If using electrically powered tools for installation, make sure the area is moisture-free. Keep work areas well lit. Allow enough space for installing the device, trim, and accessories safely and efficiently.
4. **Prevent back injury.** Larger and pre-trimmed valves are heavier and may require more than one person or mechanical lifting equipment to position and install the assembly properly. Always practice proper lifting techniques.
5. **Inspect the shipment.** Make sure all components are included with the shipment and that all necessary tools are available for proper installation.
6. **Wear safety glasses, hardhat, foot protection, and hearing protection.** Protect your hearing if you are exposed to long periods of very noisy job-site operations.
7. **Watch for pinch points.** Do not put fingers under the valve body where they could be pinched by the weight of the valve. Use caution around spring-loaded components, such as the clapper, the clapper latch, and the piston assembly.
8. **Keep work areas clean.** Cluttered areas, benches, and slippery floors can create hazardous working conditions.
9. **Keep visitors away.** Keep all visitors a safe distance away from work areas.

MAINTENANCE AND TESTING

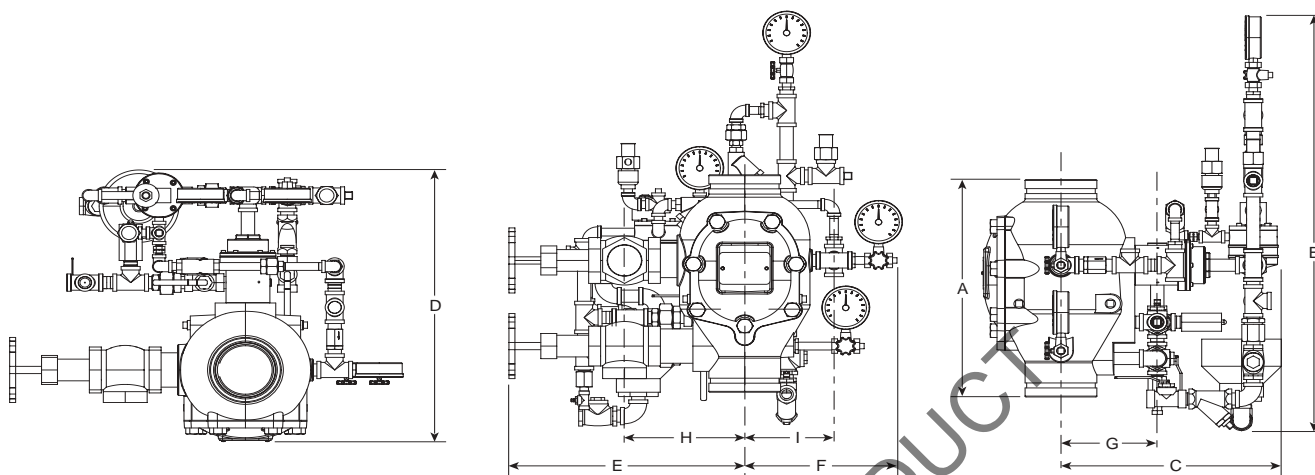
1. **Notify the authority having jurisdiction.** Always notify the authority having jurisdiction before taking a fire protection system out of service, or before performing any maintenance that eliminates the fire protection provided by the system.
2. **Depressurize and drain the system completely before performing any maintenance.** Water under pressure, trapped air, or system air pressure may be present and can create hazardous conditions.
3. **Follow NFPA requirements for testing and inspection schedules.** Contact the local authority having jurisdiction for any additional requirements.
4. **Keep the preaction system away from corrosive atmospheres and foreign matter.** Any condition that might degrade the system or affect system performance must be avoided.

INTRODUCTION

The following instructions are a guide for proper installation of Victaulic Series 758 Preaction Valves. These instructions involve pipe that is properly prepared and grooved in accordance with current Victaulic specifications.

TRIM DIMENSIONS

NOTE: The drawings below show a 4-inch (100-mm) configuration.



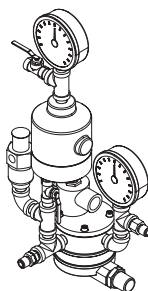
VALVE SIZE		Dimensions inches/mm									Aprx. Weight Each lbs./kg			
Nominal Outside Dia. in./ (mm)	Actual Outside Dia. in./ (mm)	A	B	C	D	E	F	G	H	I	Without Trim		With Trim	
											Flanged	Grooved	Flanged	Grooved

GROOVED X GROOVED

1½ 40	1.900 48,3	9.00 228,60	32.00 813	13.00 330	18.00 457	13.00 330	10.00 254	7.00 178	4.00 102	4.00 102	–	16.7 7,6	–	43.0 19,5
2 50	2.375 60,3	9.00 228,60	32.00 813	13.00 330	18.00 457	13.00 330	10.00 254	7.00 178	4.00 102	4.00 102	–	17.0 7,7	–	43.0 19,5
2½ 65	2.875 73,0	12.61 320,29	33.00 838	14.00 356	20.00 508	15.50 393	11.50 292	7.50 191	5.00 127	5.00 127	–	41.2 18,7	–	65.0 29,5
76,1 mm	3.000 76,1	12.61 320,29	33.00 838	14.00 356	20.00 508	15.50 394	11.50 292	7.50 191	5.00 127	5.00 127	–	41.2 18,7	–	65.0 29,5
3 80	3.500 88,9	12.61 320,29	33.00 838	14.00 356	20.00 508	15.50 394	11.50 292	7.50 191	5.00 127	5.00 127	–	42.1 19,1	–	65.0 29,5
4 100	4.500 114,3	15.03 381,76	31.00 787	15.00 381	21.00 533	15.00 381	12.00 305	8.00 203	9.00 229	6.00 152	–	55.0 24,9	–	95.0 43,1
6 150	6.625 168,3	16.00 406,40	30.00 762	16.00 406	22.00 559	14.00 356	12.00 305	8.50 216	7.00 178	7.00 178	–	73.0 33,1	–	115.0 52,2
165,1 mm	6.500 165,1	16.00 406,40	30.00 762	16.00 406	22.00 559	14.00 356	12.00 305	8.50 216	7.00 178	7.00 178	–	73.0 33,1	–	115.0 52,2
8 200	8.625 219,1	17.50 444,50	30.00 762	16.00 406	23.00 584	16.00 406	12.00 305	14.00 356	9.50 241	7.00 178	–	142.0 64,4	–	182.0 82,6

GROOVED X FLANGED

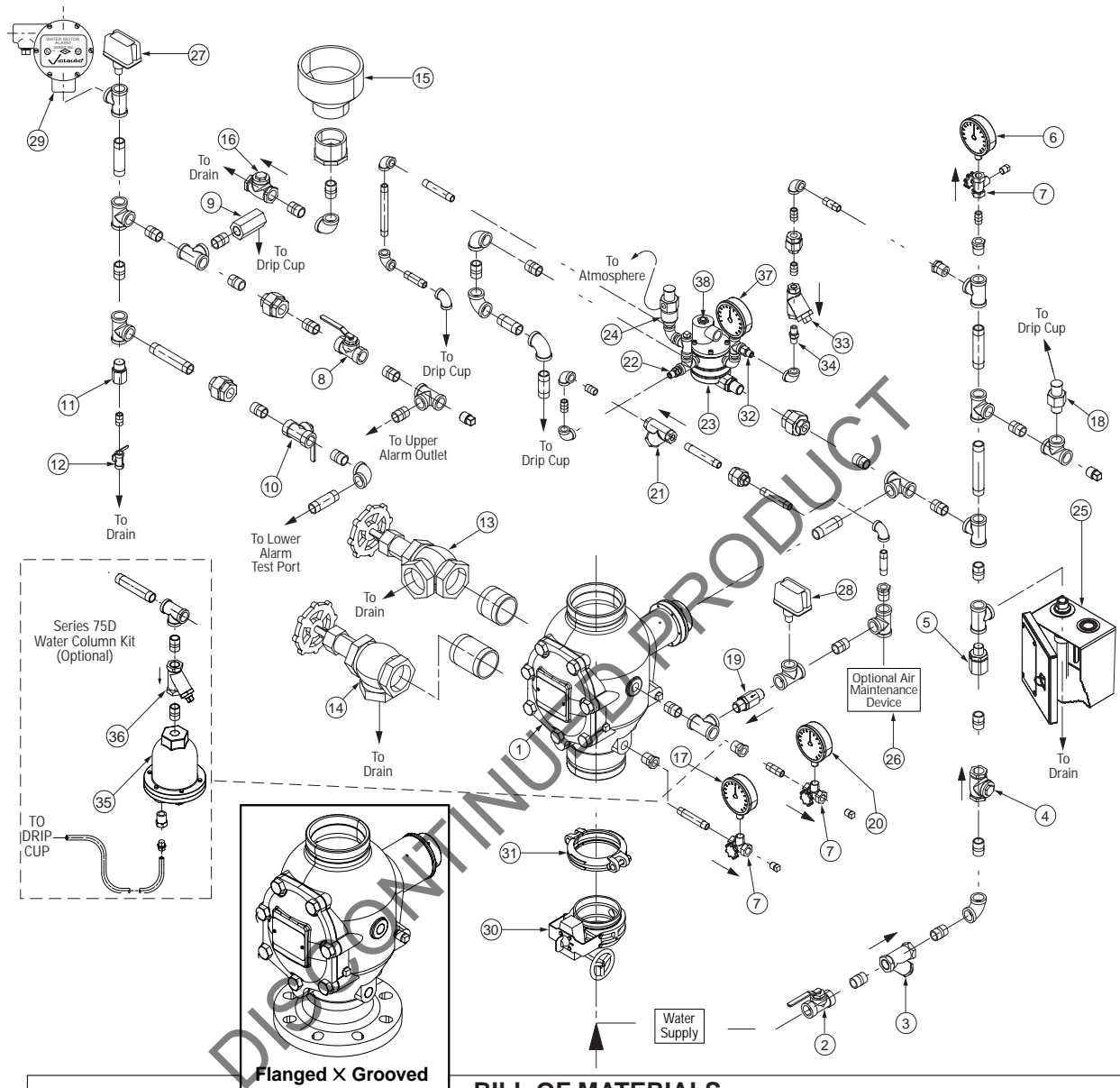
4 100	4.500 114,3	15.64 397,26	31.00 787	15.00 356	21.00 533	14.00 356	12.00 305	8.00 203	9.00 229	6.00 152	65.0 29,5	–	105.0 47,6	–
6 150	6.625 168,3	16.94 430,28	30.00 762	16.00 406	22.00 559	14.00 356	12.00 305	8.50 216	7.00 178	7.00 178	83.0 37,6	–	125.0 56,7	–
165,1 mm	6.500 165,1	16.94 430,28	30.00 762	16.00 406	22.00 559	14.00 356	12.00 305	8.50 216	7.00 178	7.00 178	83.0 37,6	–	125.0 56,7	–
8 200	8.625 219,1	19.27 489,46	30.00 762	16.00 406	23.00 584	16.00 406	12.00 305	14.00 356	9.50 241	7.00 178	155.0 70,3	–	195.0 88,5	–



NOTE: An optional Series 746 Dry Accelerator assembly adds approximately 13.5" (342.9 mm) onto the top of the Series 79N Electric/Pneumatic Actuator.

EXPLODED VIEW DRAWING – TRIM COMPONENTS

Series 758 Actuated Valve With Double-Interlock, Pneumatic/Electric Release - Preaction Trim
(Optional Accessories Also Shown)



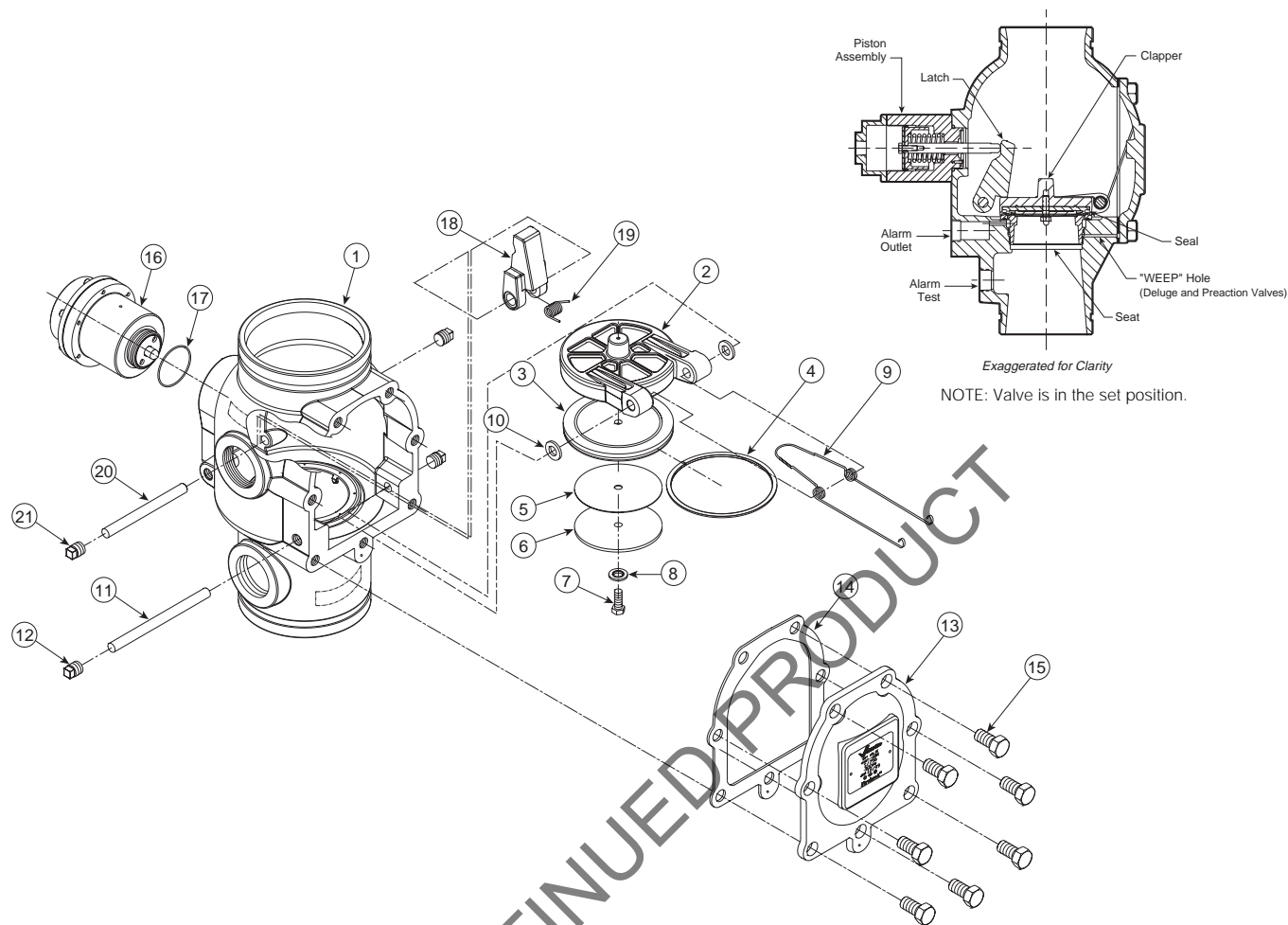
BILL OF MATERIALS

- | | |
|--|---|
| 1 Series 758 FireLock Actuated Check Valve | 20 System Pressure Gauge (0-80 psi/0-552 kPa with retard) |
| 2 Piston Charge Line Ball Valve (NO) | 21 Airline Strainer (100 Mesh) |
| 3 Piston Charge Line Strainer (100 Mesh) | 22 Airline Restrictor (1/16")* |
| 4 Piston Charge Line Swing Check Valve | 23 Series 79N Electric/Pneumatic Actuator |
| 5 Piston Charge Line Restrictor (.070) | 24 Auto Vent* |
| 6 Piston Charge Line Pressure Gauge (0-300 psi/0-2068 kPa) | 25 Series 755 Manual Pull Station |
| 7 Gauge Valve | 26 Series 757 Air Maintenance Device (Optional) |
| 8 Alarm Line Ball Valve (NO) | 27 EPS-10 Alarm Pressure Switch (Optional) |
| 9 Series 729 Drip Check Valve | 28 EPS-40 Supervisory Switch (Optional) |
| 10 Alarm Test Ball Valve (NC) | 29 Series 760 Water Motor Alarm (Optional) |
| 11 Alarm Line Drain Restrictor (1/16") | 30 Series 705W Butterfly Valve (Optional) |
| 12 Alarm Line Drain Ball Valve (NC) | 31 Style 005 FireLock Rigid Coupling (Optional) |
| 13 System Main Drain Valve | 32 Upper Chamber Inlet Restrictor (1/32")* |
| 14 Water Supply Main Drain Valve | 33 Upper Chamber Strainer (100 Mesh) |
| 15 Drip Cup | 34 Upper Chamber Check Valve (1/4") |
| 16 Drain Swing Check Valve | 35 Series 75D Water Column Kit |
| 17 Water Supply Pressure Gauge (0-300 psi/0-2068 kPa) | 36 Strainer (100 Mesh) |
| 18 Series 749 AutoDrain | 37 Series 79N Upper Chamber Pressure Gauge |
| 19 Series 748 Ball Check Valve | 38 Series 79N Solenoid Coil |

NO = Normally Open; NC = Normally Closed

* Part of the Series 79N Assembly

EXPLODED VIEW DRAWING – INTERNAL VALVE COMPONENTS



BILL OF MATERIALS

1 Valve Body	8 Bolt Seal	15 Cover Plate Bolts (Qty. 7)
2 Clapper	9 Clapper Spring	16 Piston
3 Clapper Seal	10 Spacers (Qty. 2)	17 Piston O-ring
4 Seal Ring	11 Clapper Shaft	18 Latch
5 Seal Washer	12 Clapper Shaft Retaining Plug (Qty. 2)	19 Latch Spring
6 Seal Retaining Ring	13 Cover Plate	20 Latch Shaft
7 Seal Assembly Bolt	14 Cover Plate Gasket	21 Latch Shaft Retaining Plug (Qty. 2)

SERIES 758 PREACTION VALVE WITH SERIES 79N ELECTRIC/ PNEUMATIC ACTUATOR – TRIM ASSEMBLY DRAWING NUMBERS

Valve Size nominal inches (mm)	Vertical Trim Drawing Number	Horizontal Trim Drawing Number	Valve Size nominal inches (actual mm)	Vertical Trim Drawing Number	Horizontal Trim Drawing Number
1½ 40	Z014758830	Z014758880	4 100	Z040758830	Z040758880
2 50	Z014758830	Z014758880	6 150	Z060758830	Z060758880
2½ 65	Z024758830	Z024758880	165,1 mm	Z060758830	Z060758880
76,1 mm	Z024758830	Z024758880	8 200	Z080758830	Z080758880
3 80	Z024758830	Z024758880			

SECTION VIEW DRAWING AND DESCRIPTION – SERIES 79N ELECTRIC/PNEUMATIC ACTUATOR

The Series 79N Electric/Pneumatic Actuator is a single-unit device used in the actuation of Series 758 Preaction Valves with double-interlock electric/pneumatic trim.

Diaphragms separate the Series 79N into four chambers. The upper and upper-middle chambers control the actuation, while the lower and lower-middle chambers act as the water control valve.

During system charging, air pressure enters the upper-middle chamber of the Series 79N. Pulling up on the auto vent, which is located on the Series 79N trim, sets the air pressure in this upper-middle chamber. Water supply pressure from the piston charge line enters the upper chamber, and the normally closed solenoid, which is built into the Series 79N, sets this water pressure. **There is no need to activate the solenoid in order to set the system.**

The system air pressure in the upper-middle chamber exerts a closing force on the middle chamber of the Series 79N. Additionally, the water supply pressure from the piston charge line exerts a closing force on the middle diaphragm through a piston that connects the upper and middle diaphragms. These pressures close the water path of the lower-middle chamber.

When the piston charge line is open, water enters the lower chamber of the Series 79N; this water flows to the lower-middle chamber through the inlet. The middle diaphragm traps water in the lower-middle chamber. Supply water pressure in the upper chamber and system air pressure in the upper-middle chamber hold the lower-middle diaphragm assembly closed.

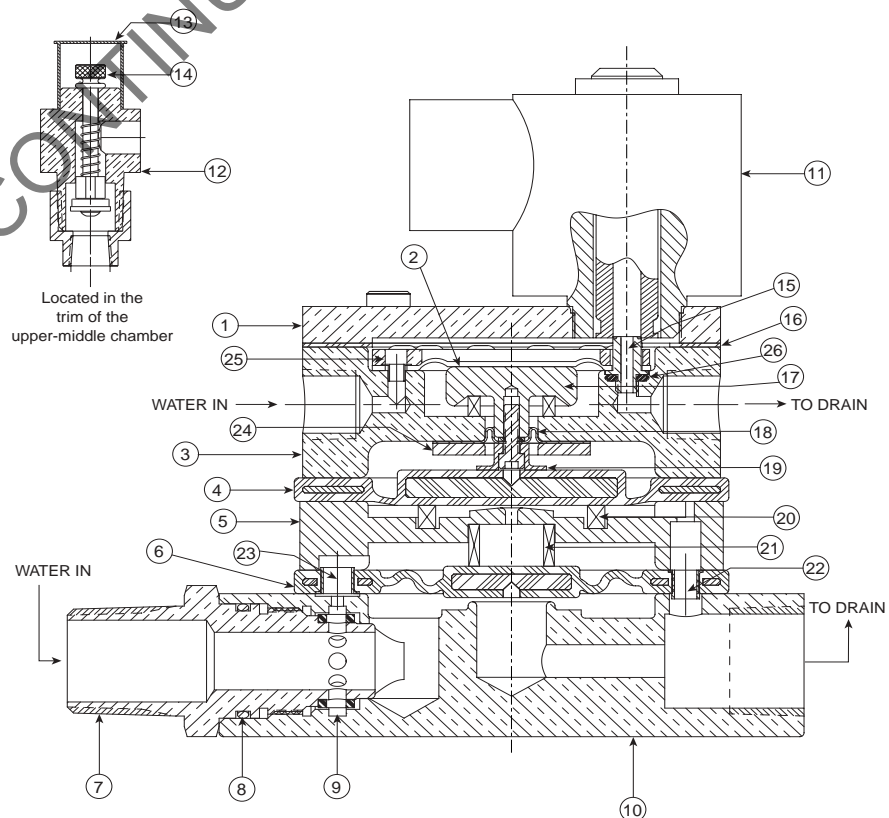
Since the area of the lower diaphragm is greater than the area of the lower chamber, the lower chamber seals; therefore, no water flows to the actuator's outlet, and the water pressure creates a seal.

When system air pressure decays to 6.5 psi (45 kPa), the auto vent's compression spring exerts a force greater than the air pressure in the upper-middle chamber. The auto vent opens, and all air pressure in the upper-middle chamber evacuates. During this condition, the Series 79N will not actuate, since the water pressure in the upper chamber maintains a closing force on the water seal of the lower-middle chamber.

Likewise, if there is an electrical detection event, the solenoid on the upper chamber will activate and cause the upper chamber's water pressure to release. The Series 79N will not actuate, since the upper-middle chamber's air pressure exerts a closing force on the lower-middle chamber's water seal.

The Series 79N will actuate only when an electrical detection and loss of system air pressure occur. During this condition the closing force on the lower-middle diaphragm's water seal is removed, and the lower-middle chamber's water pressure releases. This allows the lower diaphragm to lift and water to flow from the Series 79N's inlet to the outlet. This water flow releases water pressure from the preaction valve's piston and allows the piston to retract. The preaction valve's clapper opens, and water flows into the sprinkler system.

BILL OF MATERIALS	
Item	Description
1	Upper Chamber
2	Upper Diaphragm
3	Upper-Middle Chamber
4	Middle Diaphragm
5	Lower-Middle Chamber
6	Lower Diaphragm
7	Strainer Assembly
8	Strainer o-ring
9	Strainer Screen
10	Lower Chamber
11	Solenoid Valve
12	Auto Vent
13	Auto Vent Protective Cap
14	Auto Vent Knob
15	Outlet Orifice
16	Gasket
17	Upper Piston
18	Isolating Diaphragm
19	Lower Piston
20	Middle Spring
21	Lower Spring
22	Outlet Eyelet
23	Inlet Eyelet
24	Isolating Diaphragm Retainer
25	Upper Diaphragm Retainer
26	Outlet Orifice O-ring



Exaggerated for clarity

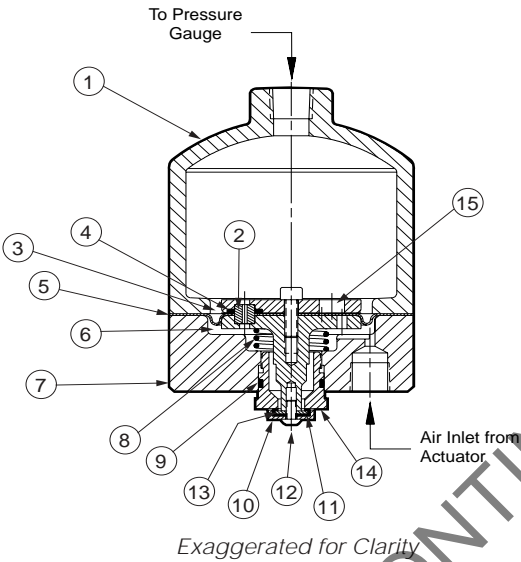
SECTION VIEW DRAWING AND DESCRIPTION – SERIES 746 DRY ACCELERATOR

The Series 746 Dry Accelerator exhausts air from the actuator to speed the operation of the valve.

A diaphragm separates the Series 746 Dry Accelerator into two chambers. The closing chamber contains a compression spring, which maintains this chamber in the closed position. This closed position is maintained as long as the pressure differential between the opening and closing chambers is less than 3 psi (21 kPa).

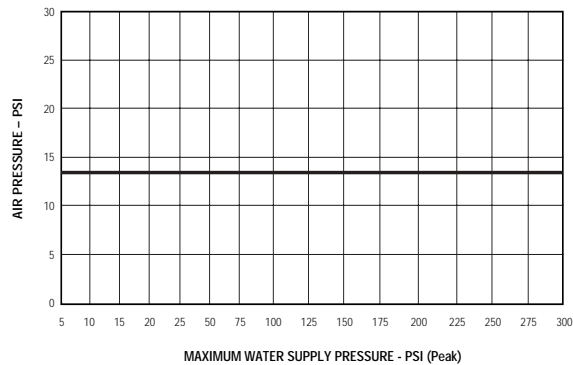
When the system introduces air pressure into the dry accelerator, the air goes into the closing chamber and passes through a built-in check valve to the opening chamber. The built-in check valve, which allows flow into the opening chamber, prevents pressure from escaping the opening chamber. Therefore, air can escape only through the restrictor.

When a rapid loss of system air pressure occurs, such as an open sprinkler, air escapes from the closing chamber faster than it does from the opening chamber. As the sprinkler system's pressure continues to decay, a differential pressure develops across the diaphragm. When this differential pressure reaches 3 – 5 psi (21 – 34 kPa), the opening chamber's pressure overcomes the compression spring's closing force, causing the closing chamber to open to the atmosphere. The closing chamber opens immediately and releases pressure from the actuator, resulting in valve operation.



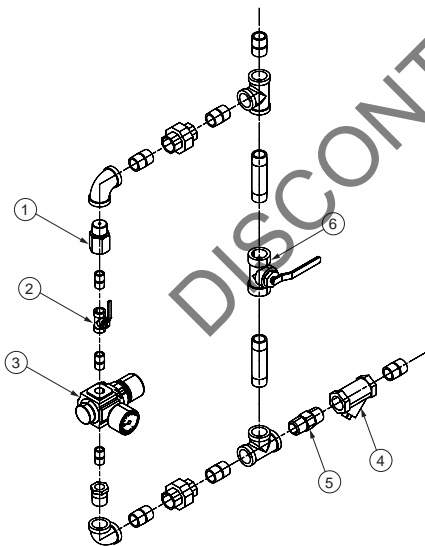
BILL OF MATERIALS			
Item	Description	Item	Description
1	Opening Chamber	9	o-ring
2	Restrictor	10	Seal Support
3	Piston	11	Closing Chamber Seal
4	o-ring	12	Button Head Cap Screw
5	Diaphragm	13	Washer
6	Actuator Shaft	14	Adjustable Seat
7	Closing Chamber	15	Built-In Check Valve
8	Compression Spring		

RECOMMENDED AIR PRESSURES FOR SERIES 758 PREACTION VALVES WITH SERIES 79N ELECTRIC/PNEUMATIC ACTUATORS



- NOTES:**
- 1) The recommended air pressures, shown in the chart above, apply to preaction valves that use a Series 79N Electric/Pneumatic Actuator at 13-psi (90-kPa) minimum and 18-psi (124-kPa) maximum.
 - NOTE:** If the air pressure is higher than 18 psi (124 kPa), a Series 746 Dry Accelerator should be installed.
 - 2) For base or riser-mounted compressors, the recommended air pressures are the "on" or "low" pressure settings for the compressor.
 - 3) For tank-mounted compressors, the recommended air pressures are the set point for the air regulator. The "on" pressure of the compressor should be at least 5 psi (34 kPa) above the set point of the regulator.
 - 4) The Victaulic air regulator is a relief-type design. Any pressure in the system that is above the set point of the regulator will be released. Therefore, charging the regulator above the set point could cause premature operation of a valve that contains a Series 746 Dry Accelerator.

Air Maintenance Trim Assembly (AMTA)



BILL OF MATERIALS

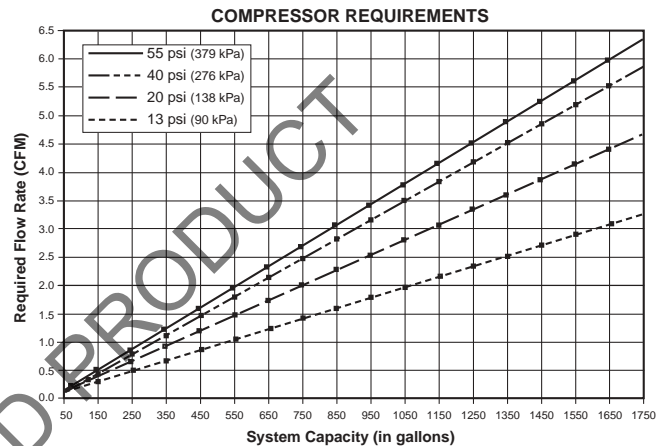
Item	Description
1	1/8-inch (3,2-mm) Restrictor
2	Slow-Fill Ball Valve (Normally Open)
3	Air Regulator
4	Strainer (100 Mesh)
5	Spring-Loaded, Soft-Seated Ball Check Valve
6	Fast-Fill Ball Valve (Normally Closed)

COMPRESSOR AND AIR MAINTENANCE TRIM REQUIREMENTS

NOTICE

- In the event that a compressor becomes inoperative, a properly sized tank-mounted air compressor provides the greatest protection for systems that use a Series 746 Dry Accelerator. In this situation, air can be supplied continuously to the sprinkler system for an extended time period.
- If multiple preaction valves are installed with a common air supply, isolate the systems by using a spring-loaded, soft seat-check valve to ensure air integrity for each system.
- Good practice is to include a control valve for isolation and service of each individual system.

COMPRESSOR REQUIREMENTS



Air Supply Design

WARNING



- Air supply systems must be properly sized. Failure to follow this instruction could cause improper valve operation, resulting in serious personal injury and/or property damage.

- 1. The engineer/system designer is responsible for sizing the compressor so that it brings the entire system to the required pressure within 30 minutes. **DO NOT** oversize the compressor to provide more airflow, since it will slow down or possibly prevent valve operation.
- 2. Continuous service (24 hours per day, 7 days per week) is required to prevent the valve from false tripping due to a loss of air pressure.
- 3. Regulate the air pressure to the proper system air pressure. Air pressure differing from the required system air pressure could adversely affect system operation.
- 4. Restrict the air supply to ensure that air being exhausted from an open sprinkler or manual release valve is not replaced by the air supply system as fast as it is being exhausted.

5. The inspector's test connection should contain a globe valve (normally closed), which can be opened to simulate the actuation of a sprinkler.

5a. Locate the inspector's test connection at the most hydraulically demanding location in the release system.

NOTE: Multiple restrictions on the inspector's test may slow the air decay rate, causing the system to respond slower than required.

5b. The inspector's test connection should terminate with an orifice equal to the smallest orifice in the releasing system.

5c. The inspector's test connection is used to ensure that water gets to the most remote part of the system within 60 seconds.

6. When shop air or a tank-mounted air compressor is installed, the air maintenance trim assembly **MUST** be used. The air maintenance trim assembly provides proper air regulation to the sprinkler system.

6a. Set the air regulator to 13 psi (90 kPa).

Proper Air Supplies for Series 758 Preaction Valves Used with Series 79N Electric/Pneumatic Actuators:

1. When a riser or base-mounted air compressor supplies air to a system using a Series 79N Electric/Pneumatic Actuator, it is not necessary to use the air maintenance trim assembly with the air regulator. In this case, the air line of the compressor connects to the trim at the fitting where the air maintenance trim is normally installed (refer to the trim drawing). **NOTE:** The use of an air regulator with a base or riser-mounted compressor could cause short cycling, resulting in premature wear of the compressor.

2. Due to the large on/off differential available for pressure switches that control base-mounted compressors, adjust the compressor's pressure switch so that the "ON" contact is set at 13 psi (90 kPa).

Proper Air Supplies for Series 758 Preaction Valves Used with Series 79N Electric/Pneumatic Actuators and Series 746 Dry Accelerators:

1. When a Series 746 Dry Accelerator is used with the Series 79N Electric/Pneumatic Actuator, the air maintenance trim assembly **MUST** be used with the air regulator.

2. In the event that a compressor becomes inoperative, a properly sized tank-mounted air compressor provides the greatest protection for systems that use a Series 746 Dry Accelerator. In this situation, air can be supplied continuously to the sprinkler system for an extended time period.

IMPORTANT INSTALLATION INFORMATION

1. For proper operation and approval, the Series 758 Preaction Valve must be installed in accordance with the specific trim diagrams. **NOTE:** Victaulic provides specific trim drawings for installations that involve a Series 746 Dry Accelerator.

2. Before installing the Series 758 Preaction Valve, flush the water supply piping thoroughly to ensure that no foreign material is present.

3. The Series 758 Preaction Valve **MUST NOT** be located in an area where the valve is subject to freezing temperatures or physical damage.

4. It is the owner's responsibility to confirm material compatibility of the Series 758 Preaction Valve, trim, and associated accessories when a corrosive environment or contaminated water is present.

5. Series 758 Preaction Valves can be installed in the vertical position with the arrow on the body pointing upward **or horizontally with the cover plate facing upward.** **NOTE:** A trim drawing for the horizontal configuration can be obtained by contacting Victaulic.

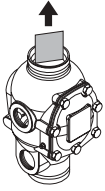
6. Air or nitrogen supply to the dry piping system must be clean, dry, and oil-free.

7. Air supplies must be regulated, restricted, and continuous. **NOTE:** Victaulic recommends the use of an air maintenance device on any system with an automatic air supply.

8. When the Series 758 Preaction Valve is used with a water motor alarm, it is recommended that the valve contain an uninterrupted, low-pressure alarm that is installed on the piston charge line downstream of the check valve.

VALVE/TRIM INSTALLATION

1. Make sure trim drawings match system requirements. Refer to page 5 for the listing.

! WARNING	
	<ul style="list-style-type: none">• Make sure the foam spacer is removed before attempting to install the valve. <p>Failure to follow this instruction could cause improper valve operation, resulting in serious personal injury and/or property damage.</p>

2. Remove all plastic caps and foam spacers from valve.

3. Apply a small amount of Teflon* tape to external threads of all threaded pipe connections. Be careful not to get any foreign material into the valve body, pipe nipples, or valve openings.

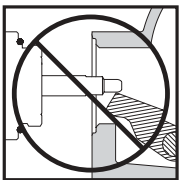
! CAUTION	
<ul style="list-style-type: none">• Make sure no foreign material gets into the valve body, pipe nipples, or valve openings.• If using any material other than Teflon tape, use extra caution so that no material gets into the trim. <p>Failure to follow these instructions could cause improper valve operation and property damage.</p>	

4. For valves 3" (80 mm) or smaller:

4a. Remove piston assembly before trimming valve.

4b. Unscrew piston from valve body, and note position of o-ring. This o-ring must be installed in the same position when the piston is reassembled.

4c. Install trim to back of valve, per applicable trim drawings.

! WARNING	
	<ul style="list-style-type: none">• Make sure piston is reassembled and reinstalled correctly. <p>Failure to do so could cause improper valve operation, resulting in serious personal injury and/or property damage.</p>

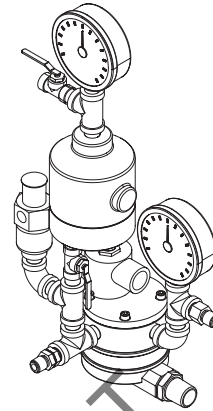
4d. Reassemble piston, making sure o-ring is positioned properly and that the piston rod and latch engage properly. **NOTE:** It may be necessary to rotate latch inward (toward center of valve body) to ensure proper alignment.

4e. Tighten piston until metal-to-metal contact occurs between piston and valve body.

5. Install valve, trim, and accessories per applicable trim drawings.

6. For valves installed with a Series 746 Dry Accelerator:

6a. Make sure the Series 746 Dry Accelerator is installed on the Series 79N Electric/Pneumatic Actuator, as shown in the drawing below. The end with the vent seal "button" must be installed toward the actuator.



7. Provide an uninterrupted source of water from upstream of the main control valve to supply pressure to the piston charge line.

IMPORTANT SETTINGS

System and pilot supervisory switches are required for the electric/pneumatic system. Both switches must be set to the notes below.


1. Wire the air supervisory switches to activate a low-pressure alarm signal. **NOTE:** The authority having jurisdiction may also require a high-pressure alarm.

2. Set the air supervisory switches to activate at 2 - 4 psi (14 - 28 kPa) below the minimum air pressure required.

3. Wire the alarm pressure switch to activate a water flow alarm.

4. Set the alarm pressure switch to activate on a pressure rise of 4 - 8 psi (28 - 55 kPa).

HYDROSTATIC TESTING

! WARNING	
	<ul style="list-style-type: none">• If air testing is required, DO NOT exceed 50 psi (345 kPa) air pressure. <p>Failure to follow this instruction could result in serious personal injury, property damage, and/or product damage.</p>

The Victaulic Series 758 Preaction Valve is manufactured and listed for a maximum working pressure of 300 psi (2065 kPa) and is factory tested to 600 psi (4135 kPa). The valve may be hydrostatically tested to 200 psi (1380 kPa) and/or 50 psi (345 kPa) above the normal water supply pressure (2-hour limited time period) for acceptance by the authority having jurisdiction.

*Teflon is a registered trademark of I. E. Dupont de Nemours

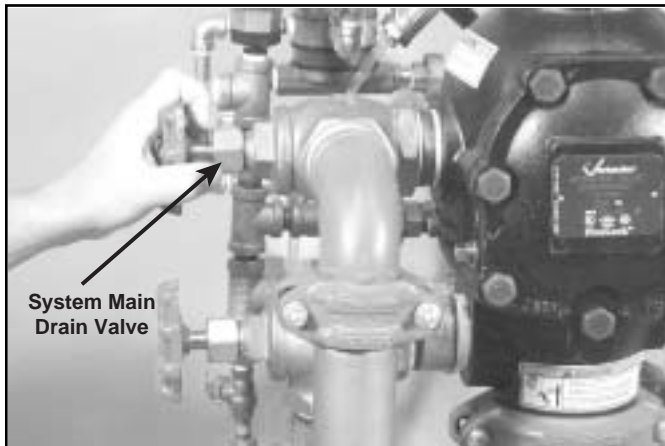
PLACING THE SYSTEM IN SERVICE

⚠ WARNING

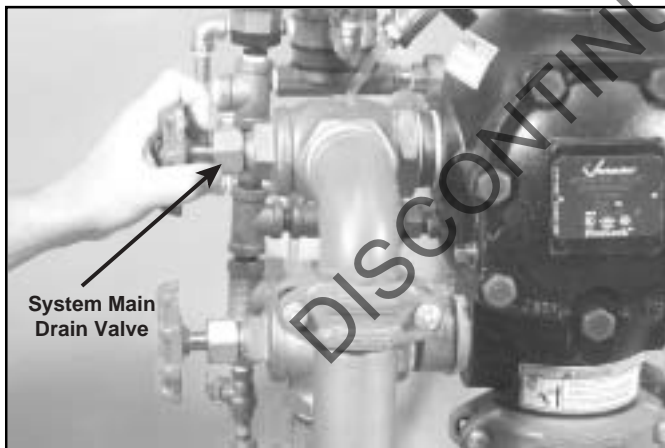
- Make sure the Series 758 Preaction Valve is properly heated and protected from freezing temperatures and physical damage.

Failure to follow this instruction could cause improper valve operation, resulting in serious personal injury and/or property damage.

THE FOLLOWING INSTRUCTIONS APPLY TO A SOLENOID THAT IS DE-ENERGIZED. IF THE SOLENOID IS ENERGIZED, RESET THE PANEL BEFORE ATTEMPTING TO PLACE THE SYSTEM IN SERVICE.

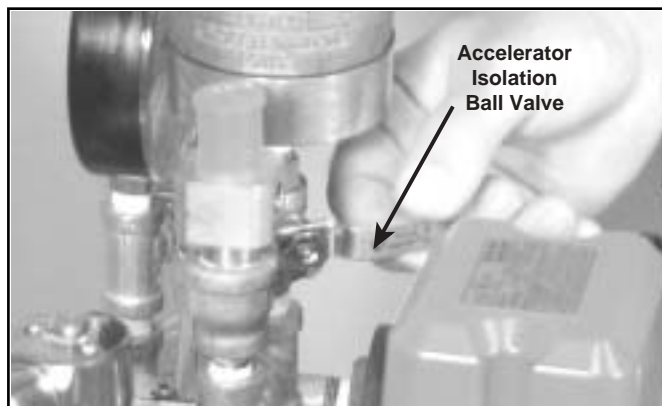


1. Open the system main drain valve. Confirm that the system is drained.

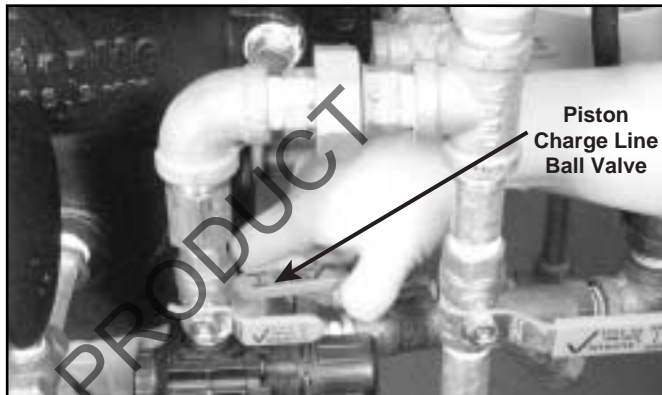


2. Close the system main drain valve.

3. Confirm that system drains are shut and the system is free of leaks.

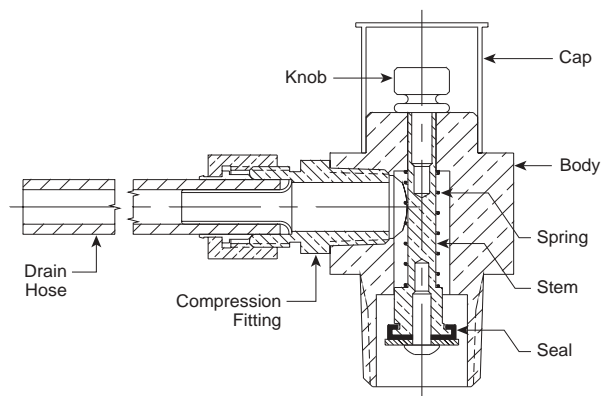


4. If a Series 746 Dry Accelerator is used, confirm that the isolation ball valve to the accelerator is closed.

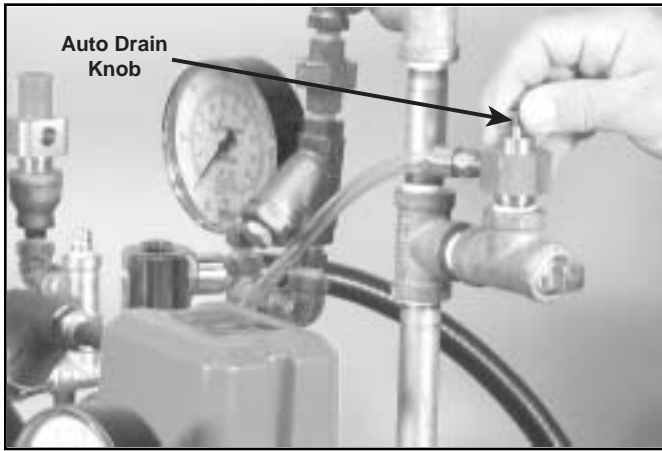


5. Open the piston charge line ball valve.

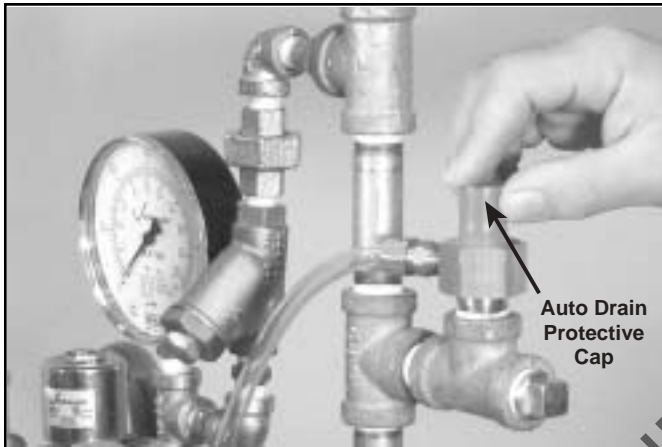
SERIES 749 AUTO DRAIN ASSEMBLY



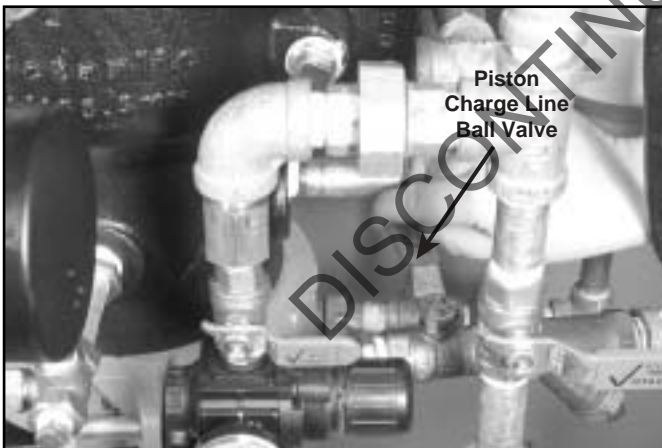
6. Remove the protective cap from the Series 749 Auto Drain.



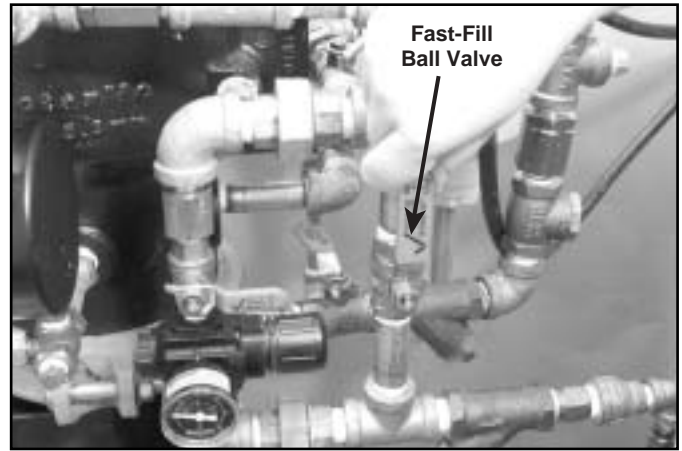
6a. Pull up on the auto drain knob, and confirm that water is flowing through the Series 79N.



6b. Replace the protective cap over the auto drain knob.

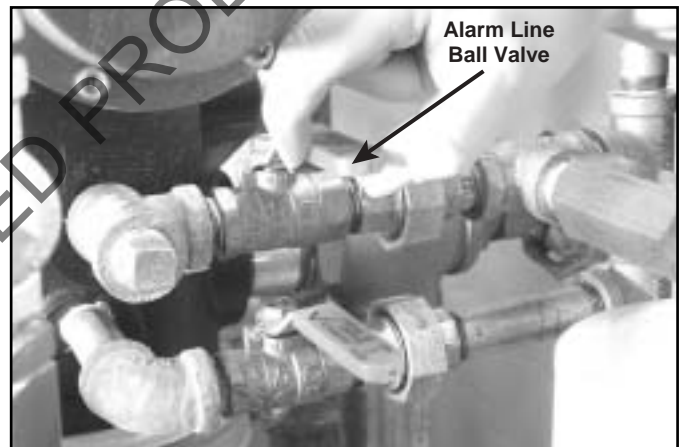


7. Close the piston charge line ball valve.

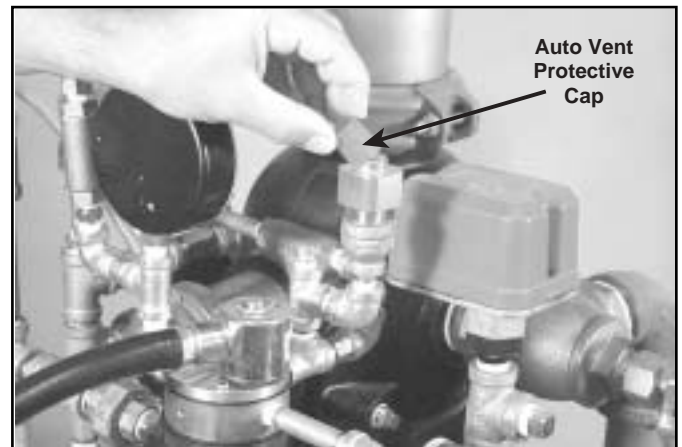


8. Charge the system with air by turning on the compressor or by opening the fast-fill ball valve on the air maintenance device (fast-fill ball valve is shown above). You will need to charge the system to between 13-psi (90-kPa) minimum and 18-psi (124-kPa) maximum.

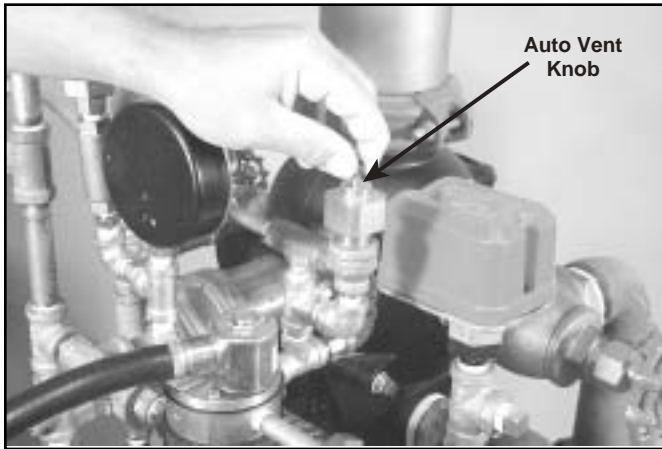
8a. Confirm that the system is charging by observing the air pressure gauge. If the gauge is not showing an increase in air pressure, there is a leak or an opening in the line.



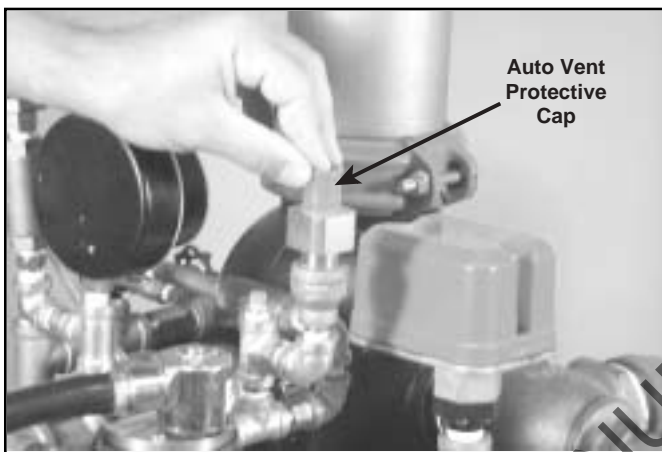
8b. If air is leaking out of the drip check on the alarm line, close the alarm line ball valve.



8c. While the system is charging, remove the protective cap from the Series 79N auto vent.



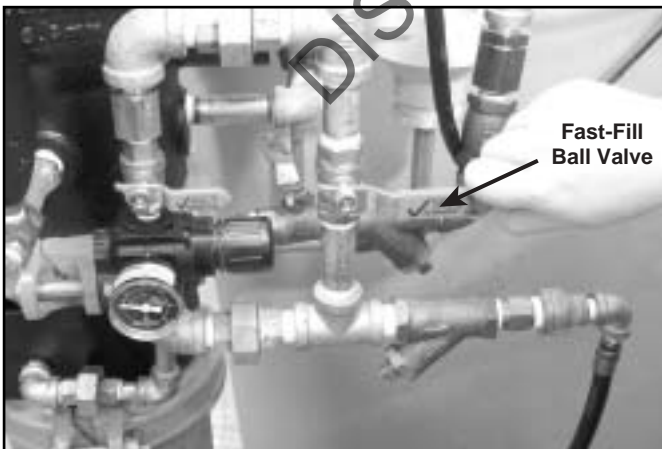
8d. When the system reaches approximately 8 psi (55 kPa), pull up on the Series 79N auto vent knob. **NOTE:** The auto vent should seal and remain in the "UP" position.



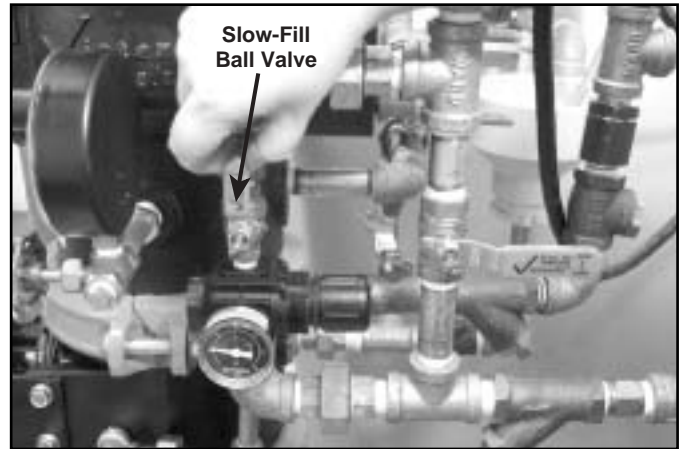
8e. Replace the protective cap over the auto vent knob.

⚠ CAUTION

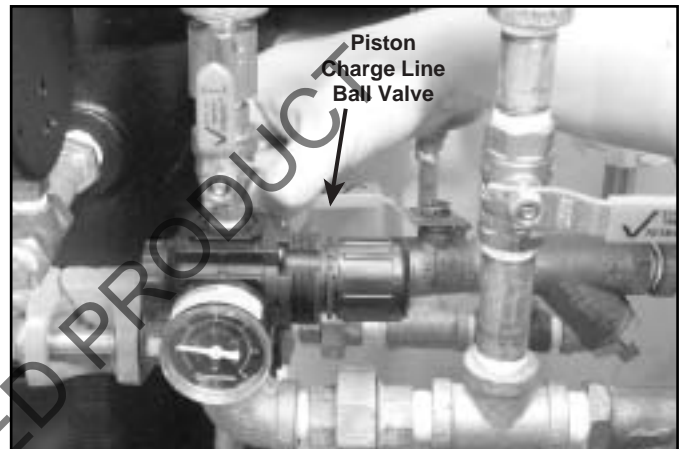
- Make sure the protective cap is replaced on the Series 79N auto vent knob to avoid accidental contact. Hitting the knob will cause the valve to trip, resulting in property damage.



8f. When the system reaches a minimum of 13 psi (90 kPa), close the fast-fill ball valve on the air maintenance device.



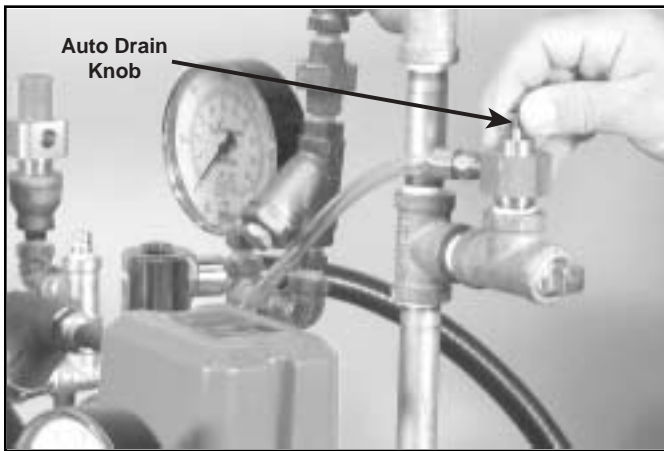
9. Open the slow-fill ball valve on the air maintenance device.



10. Open the piston charge line ball valve.



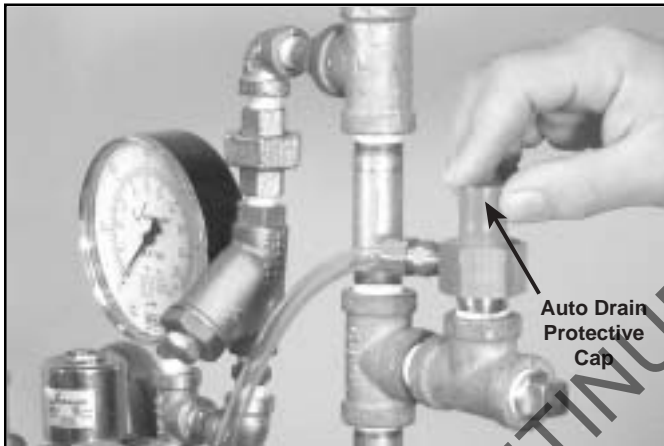
11. Remove the protective cap from the Series 749 Auto Drain.



12. Pull up on the auto drain knob until it is set in the “UP” position. Verify that there is pressure on the piston gauge.

12a. Open the manual pull station, and bleed off any air that is present.

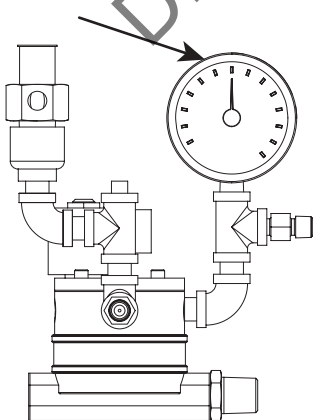
12b. Close the manual pull station.



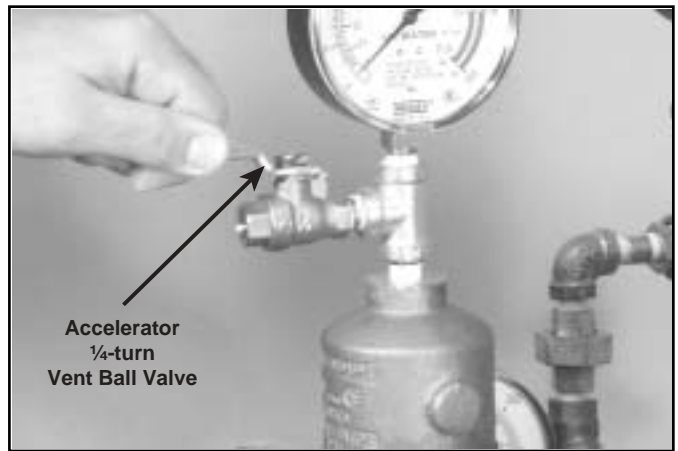
13. Replace the protective cap over the auto drain knob.

CAUTION

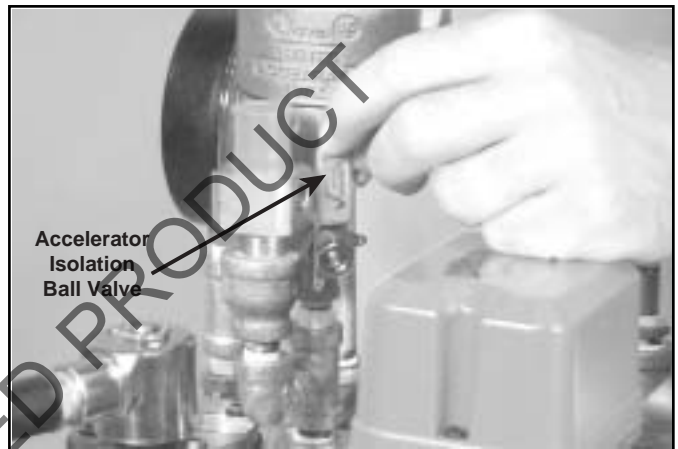
- Make sure the protective cap is replaced on the auto drain knob to avoid accidental contact. Hitting the knob will cause the valve to trip, resulting in property damage.



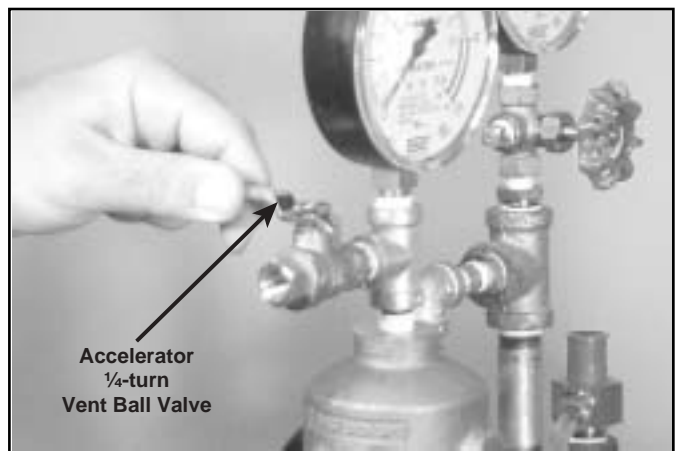
13a. Check the gauge on the Series 79N assembly to confirm that there is water supply pressure on the upper chamber.



14. If a Series 746 Dry Accelerator is used, open the 1/4-turn vent ball valve on the accelerator.

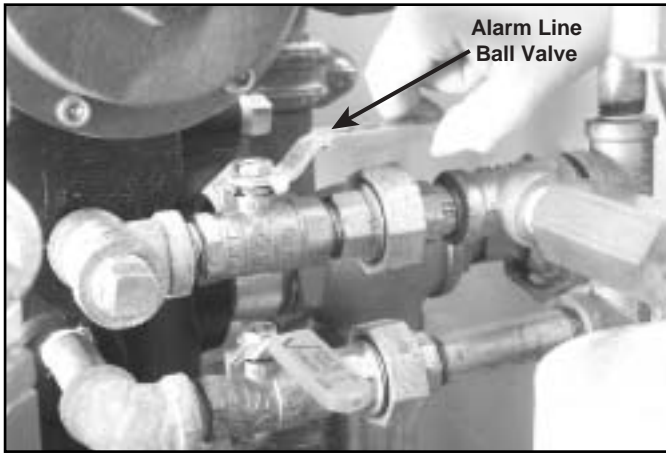


14a. Open the isolation ball valve on the Series 746 Dry Accelerator.

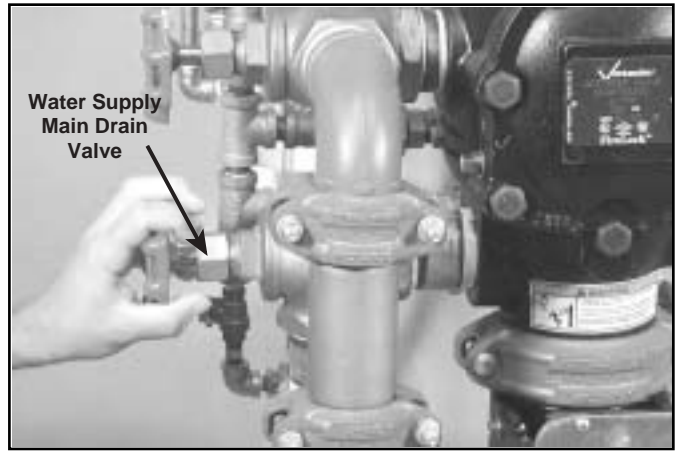


14b. Close the 1/4-turn vent ball valve on the Series 746 Dry Accelerator. This will set the accelerator.

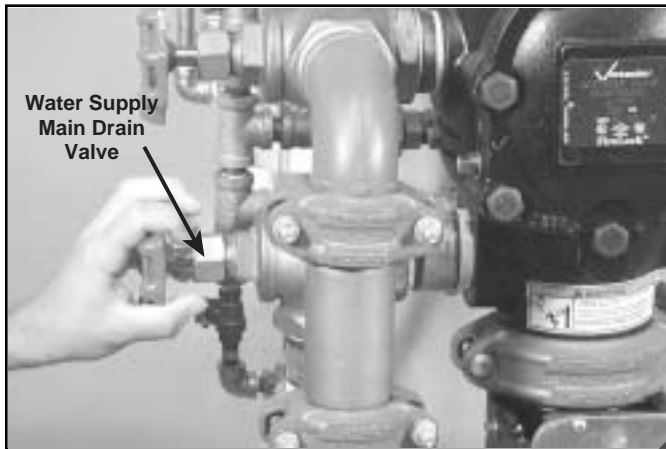
15. Observe the system air pressure over a 24-hour period to confirm system integrity. If there is degradation in system air pressure, find the leaks and correct. **NOTE:** NFPA requires less than 2-psi (14-kPa) leakage in 24 hours.



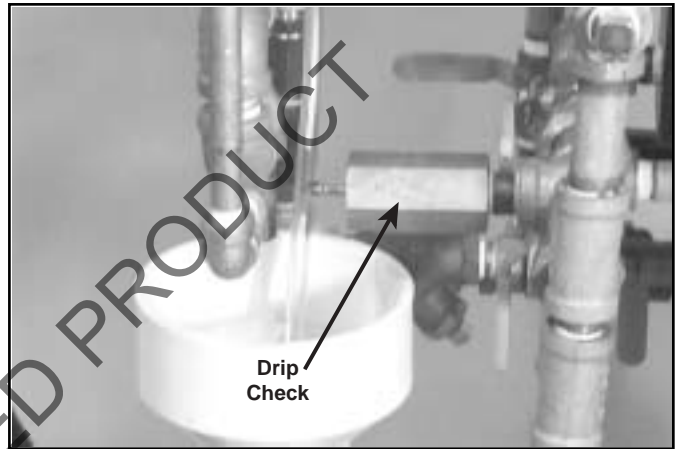
16. Confirm that the alarm line ball valve is open.



19. When a steady flow of water occurs, close the water supply main drain valve.



17. Open the water supply main drain valve.



20. Confirm that there is no leakage from the drip check located in the alarm line's piping.

⚠ CAUTION

- Take precautions when opening the water supply main control valve, since water will flow from all open system valves. Failure to do so could result in personal injury and property damage.



18. Open the water supply's main control valve slowly until a steady flow of water flows from the open water supply main drain valve.



20a. If water is flowing from the drip check, close the water supply's main control valve, and start over at step 1. Refer to the "Troubleshooting" section on page 34.



21. Open the water supply's main control valve fully.

22. Record the system air pressure and water supply pressure.

23. Ensure all valves are in their normal operating positions (refer to table below).

Valve	Normal Operating Position
Piston Charge Line Ball Valve	Open
Alarm Line Ball Valve	Open
Alarm Test Ball Valve	Closed
Alarm Drain Ball Valve	Closed

24. Notify the authority having jurisdiction, remote station alarm monitors, and those in the affected area that the system is in service.

DISCONTINUED PRODUCT

EXTERNAL INSPECTION

⚠ WARNING



- Any activities that require taking the valve out of service may eliminate the fire protection provided.
 - Before servicing or testing the system, notify the authority having jurisdiction.
 - Consideration of a fire patrol should be given in the affected areas.
- Failure to follow these instructions could result in serious personal injury and/or property damage.

NOTICE

- The owner is responsible for maintaining the fire protection system in proper operating condition.
- It is important that the system is inspected regularly, according to proper procedures.
- The Victaulic Series 758 Preaction Valve and trim must not be exposed to foreign material, corrosive environments, freezing conditions, contaminated water supplies, or any other condition that could impair proper system operation.
- Modify the frequency of inspections in the presence of any environmental conditions that could degrade system operation.
- The National Fire Protection Association pamphlet, which describes the care and maintenance of sprinkler systems, outlines the minimum requirements for inspections and tests.
- The authority having jurisdiction may have additional maintenance, inspection, and test requirements.

Weekly Inspection

1. Perform a visual inspection on the valve and trim on a weekly basis. **NOTE:** If the preaction system is equipped with a low-pressure alarm, monthly inspections may be sufficient. Consult with the local authority having jurisdiction for specific requirements.

Monthly Inspection

1. Record the system air pressure and water supply pressure. Confirm that the water supply pressure is in the range of normal pressures observed in the area. Significant loss in water supply pressure could indicate an adverse condition in the water supply. Confirm the proper water-to-air ratio is being maintained.
2. Confirm that there is no leakage from the intermediate valve chamber. No water or air should flow from the drip check.
3. Check for mechanical damage or corrosion. If found, replace any affected parts.
4. Confirm that the preaction valve and trim are not subject to freezing temperatures.
5. Verify that all valves are in their normal operating positions (refer to table below).

Valve	Normal Operating Position
Piston Charge Line Ball Valve	Open
Alarm Line Ball Valve	Open
Alarm Test Ball Valve	Closed
Alarm Drain Ball Valve	Closed

6. If the system includes a Series 746 Dry Accelerator, record the pressure in the accelerator's air chamber. This pressure should equal the system air pressure within the allowable tolerances of the gauges. If the air chamber's pressure is below the system air pressure, follow the "Troubleshooting" section on page 34.

REQUIRED TESTS

⚠ WARNING



- Any activities that require taking the valve out of service may eliminate the fire protection provided.
 - Before servicing or testing the system, notify the authority having jurisdiction.
 - Consideration of a fire patrol should be given in the affected areas.
- Failure to follow these instructions could result in serious personal injury and/or property damage.

Main Drain Test

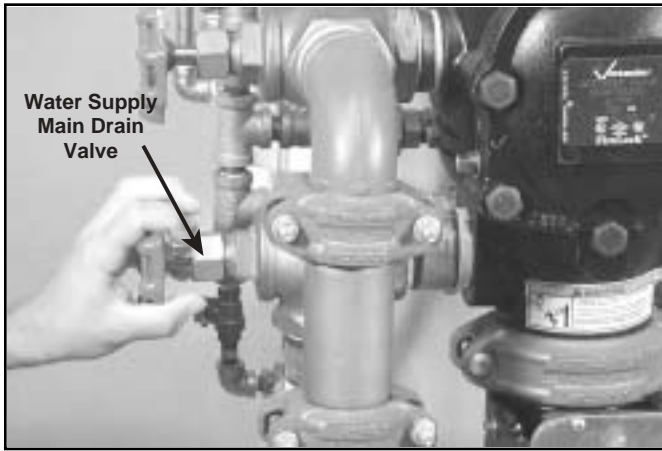
Perform the main drain test on a frequency required by the current NFPA-25 code. The authority having jurisdiction in your area may require that you perform these tests on a more frequent basis. Verify these requirements by contacting the authority having jurisdiction in the affected area.

1. Notify the authority having jurisdiction, remote station alarm monitors, and those in the affected area that the main drain test will be performed.
2. Confirm that sufficient drainage is in place for a full-flow drain test.
3. Record the water supply pressure and system air pressure.
4. Verify that the valve's intermediate chamber is dry. No water should flow from the drip check.
5. Verify that the system is pressurized at the proper air pressure for the local water supply pressure.

⚠ CAUTION

- Be careful not to open the system main drain valve accidentally. Opening the system main drain valve will cause the valve to operate, resulting in property damage.

Instructions continued on next page.



6. Open the water supply main drain valve fully to flush the water supply of any contaminants.

7. With the water supply main drain valve fully open, record the water supply pressure (from the water supply gauge) as the residual pressure.



8. Close the water supply main drain valve slowly.

9. Record the water pressures established after closing the water supply main drain valve.

10. Compare the residual pressure reading, taken above, to the residual pressure readings taken in previous main drain tests. If there is degradation in the residual water supply readings, restore the proper water supply pressure.

11. Verify that all valves are in their normal operating positions (refer to table below).

Valve	Normal Operating Position
Piston Charge Line Ball Valve	Open
Alarm Line Ball Valve	Open
Alarm Test Ball Valve	Closed
Alarm Drain Ball Valve	Closed

12. Confirm that there is no leakage from the valve's intermediate chamber. No water or air should flow from the drip check.

13. Notify the authority having jurisdiction, remote station alarm monitors, and those in the affected area that the valve is back in service.

14. Provide test results to the authority having jurisdiction, if required.

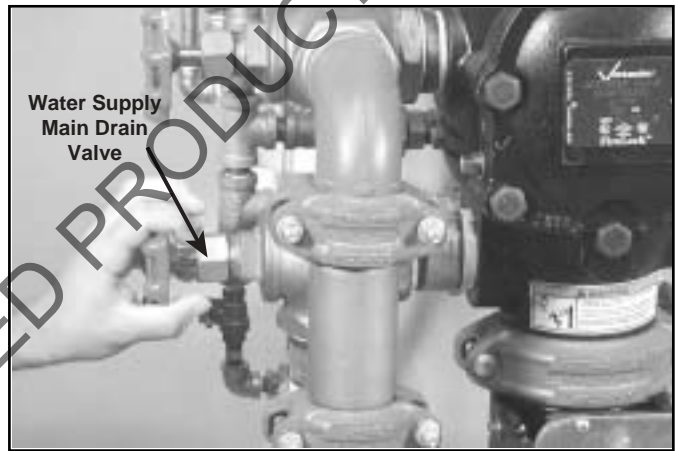
Water Flow Alarm Test

Perform the water flow alarm test on a frequency required by the current NFPA-25 code. The authority having jurisdiction in your area may require that you perform these tests on a more frequent basis. Verify these requirements by contacting the authority having jurisdiction in the affected area.

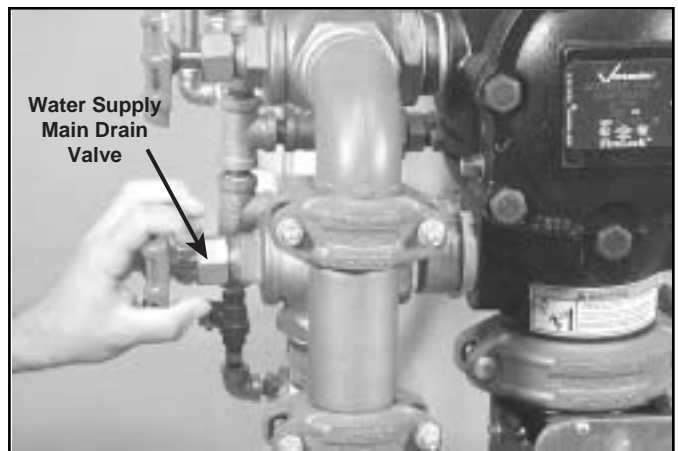
1. Notify the authority having jurisdiction, remote station alarm monitors, and those in the affected area that the water flow alarm test will be performed.

CAUTION

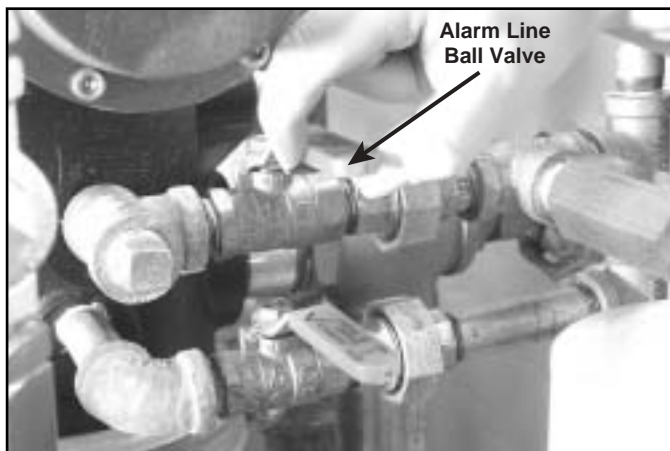
- Be careful not to open the system main drain valve accidentally. Opening the system main drain valve will cause the valve to operate, resulting in property damage.



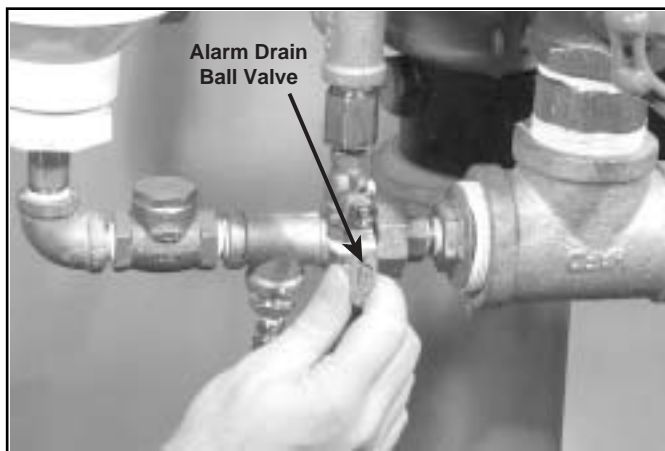
2. Open the water supply main drain valve fully to flush the water supply of any contaminants.



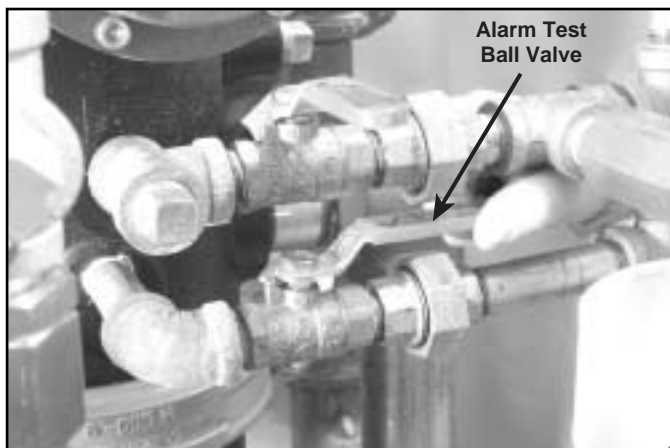
3. Close the water supply main drain valve.



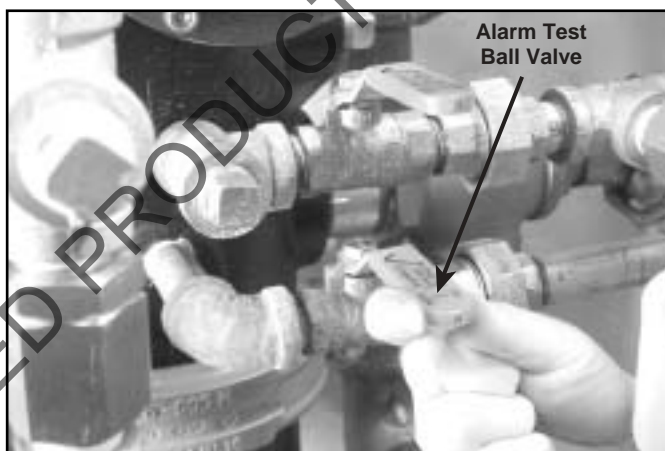
4. Close the alarm line ball valve.



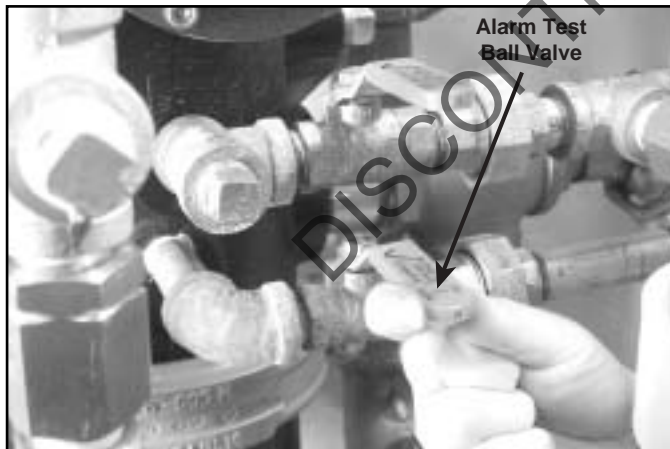
7. Open the alarm drain ball valve, as shown above.



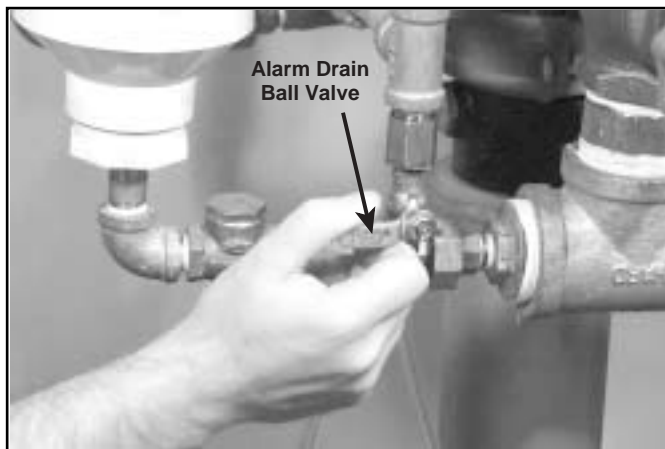
5. Open the alarm test ball valve. Confirm that mechanical and electrical alarms provided are activated and that remote monitoring stations, if provided, receive an alarm signal.



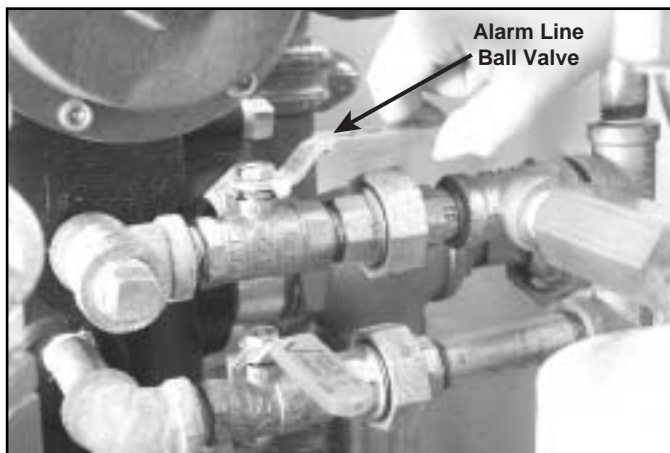
9. Confirm that the alarm test ball valve is closed.



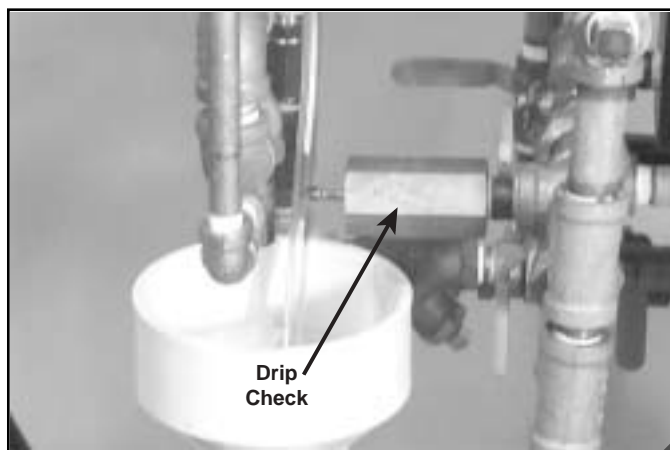
6. Close the alarm test ball valve after proper operation of all alarms is verified.



10. Close the alarm drain ball valve.



11. Open the alarm line ball valve.



12. Verify that the valve's intermediate chamber is dry. No water should flow from the drip check.

13. Notify the authority having jurisdiction, remote station alarm monitors, and those in the affected area that the valve is back in service.

14. Provide test results to the authority having jurisdiction, if required.

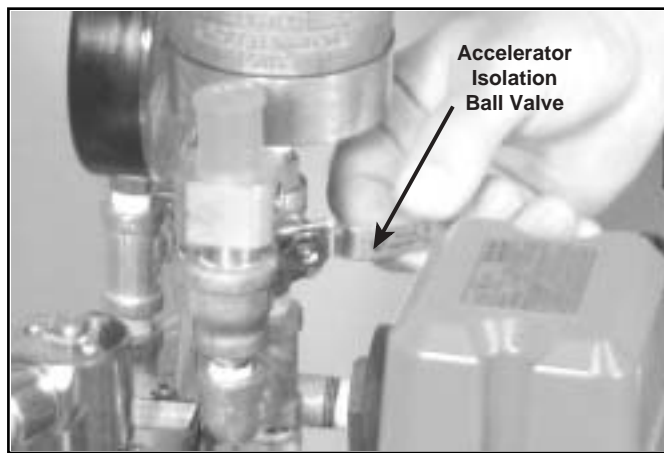
Water Level and Low-Air Alarm Tests

Perform the water level and low-air alarm tests on a frequency required by the current NFPA-25 code. The authority having jurisdiction in your area may require that you perform these tests on a more frequent basis. Verify these requirements by contacting the authority having jurisdiction in the affected area.

NOTICE

- Be sure to notify the authority having jurisdiction that these tests are in progress. Failure to close the isolation ball valve of the Series 746 Dry Accelerator may cause the valve to trip, resulting in a false alarm.

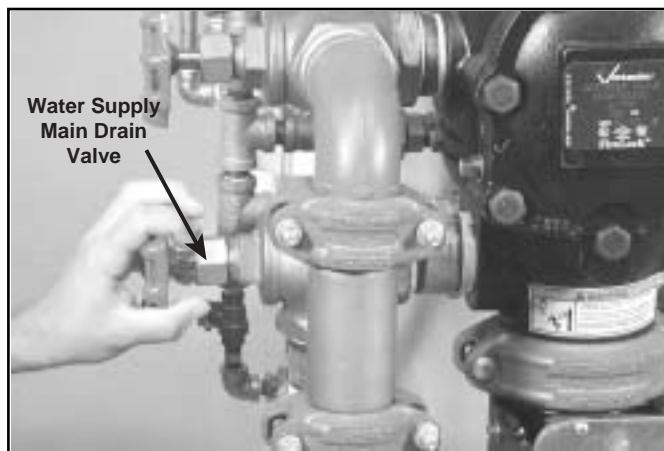
1. Notify the authority having jurisdiction, remote station alarm monitors, and those in the affected area that the water level and low-air alarm tests will be performed.



2. If the valve is equipped with a Series 746 Dry Accelerator, close the isolation ball valve.



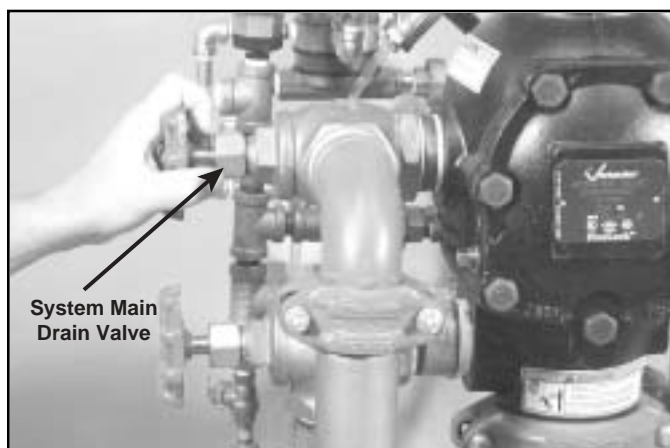
3. Open the water supply main drain valve fully to flush the water supply of any contaminants.



4. Close the water supply main drain valve.

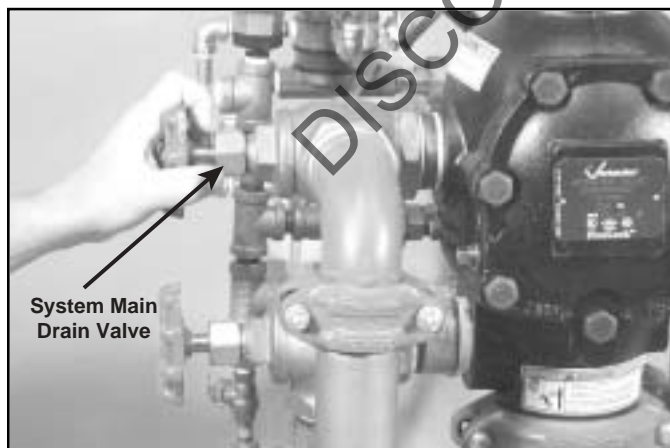


5. Close the water supply's main control valve.

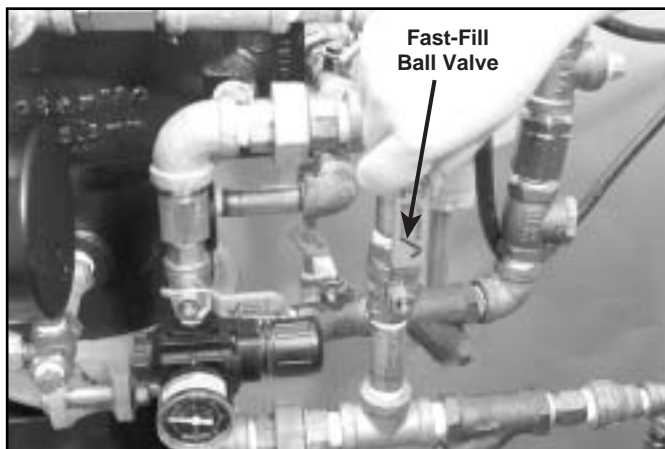


6. Partially open the system main drain valve slowly. Confirm that no water is flowing from the drain. **NOTE:** If water is flowing, the system may not have drained properly. If this is the case, follow all steps under the "Placing the System in Service" section, starting on page 11.

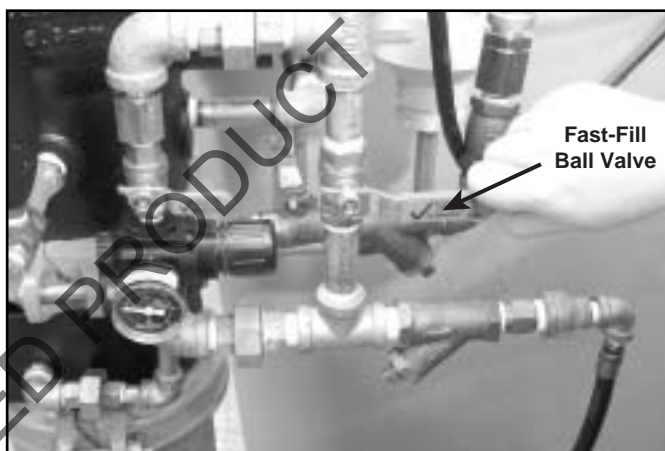
7. Record the system air pressure at which the low-air alarm activates.



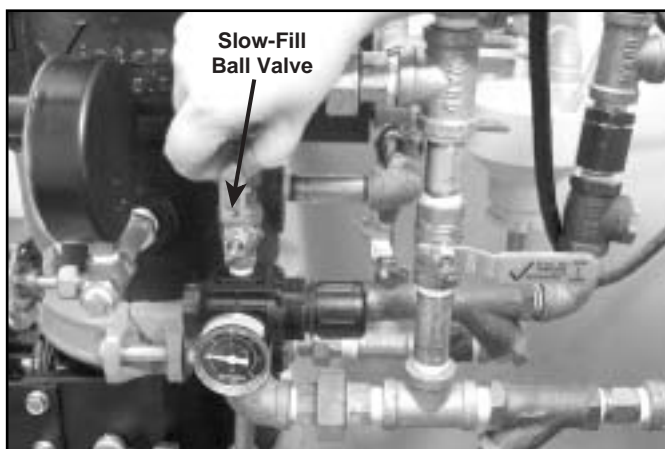
8. Close the system main drain valve.



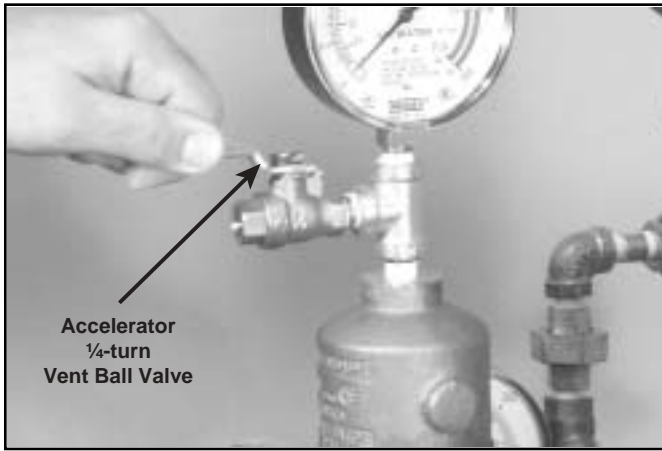
9. Open the fast-fill ball valve on the air maintenance device. Bring the pressure back up to normal system pressure.



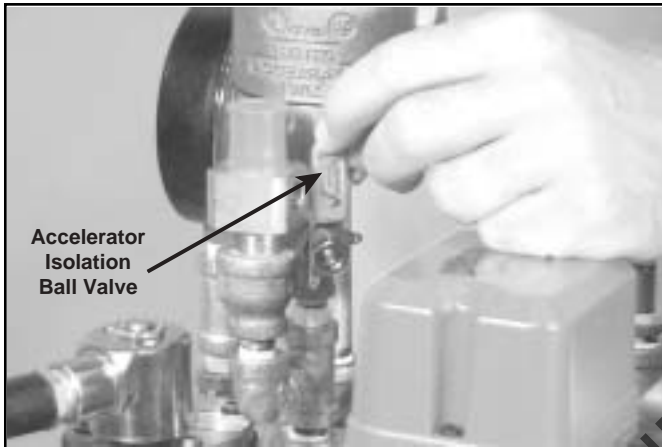
9a. When the system reaches a minimum of 13 psi (90 kPa), close the fast-fill ball valve on the air maintenance device.



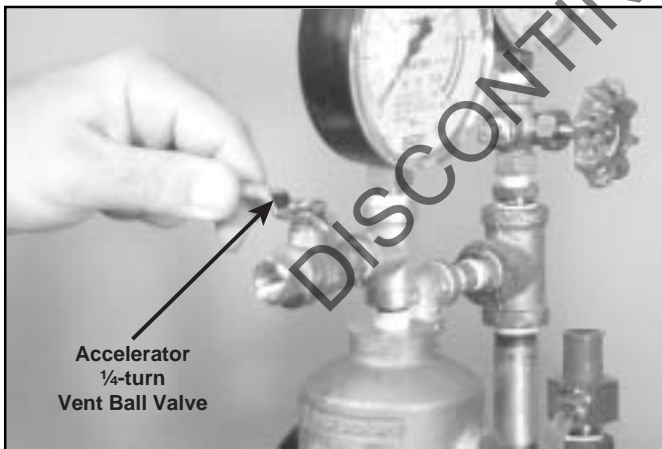
9b. Open the slow-fill ball valve on the air maintenance device.



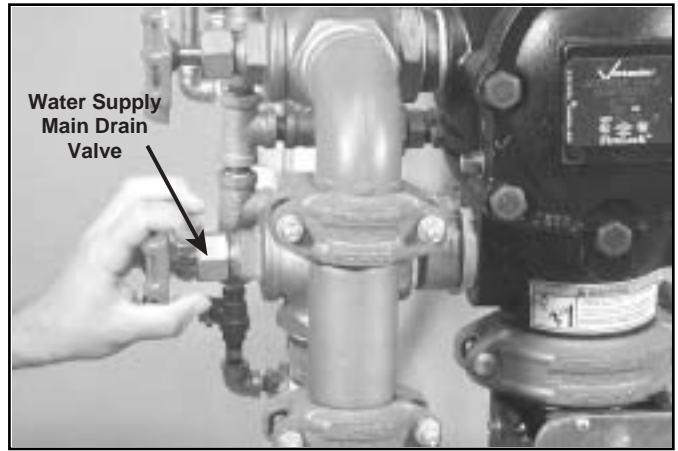
10. If a Series 746 Dry Accelerator is used, open the 1/4-turn vent ball valve on the accelerator.



10a. Open the isolation ball valve on the Series 746 Dry Accelerator.



10b. Close the 1/4-turn vent ball valve on the Series 746 Dry Accelerator. This will set the accelerator.



11. Open the water supply main drain valve.

CAUTION

- Take precautions when opening the water supply main control valve, since water will flow from all open system valves. Failure to do so could result in personal injury and property damage.



12. Open the water supply's main control valve slowly until a steady flow of water flows from the open water supply main drain valve.



13. When a steady flow of water occurs, close the water supply main drain valve.



14. Open the water supply's main control valve fully.

15. Confirm that all valves are in their normal operating positions (refer to table below).

Valve	Normal Operating Position
Piston Charge Line Ball Valve	Open
Alarm Line Ball Valve	Open
Alarm Test Ball Valve	Closed
Alarm Drain Ball Valve	Closed

16. Notify the authority having jurisdiction, remote station alarm monitors, and those in the affected area that the valve is back in service.

17. Provide test results to the authority having jurisdiction, if required.

TRIP TESTS

Partial Trip Test

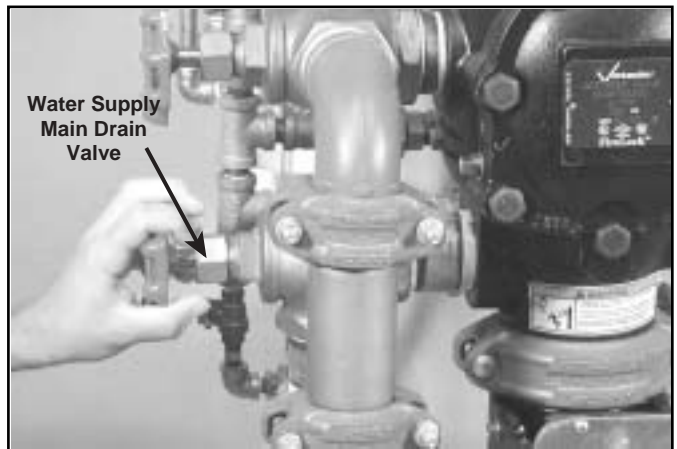
Partial trip tests are required to confirm proper valve operation; however, this test does not confirm full system operation. Victaulic recommends that the partial trip test be performed annually. **NOTE:** The authority having jurisdiction in your area may require that you perform this partial trip test on a more frequent basis. Verify these requirements by contacting the authority having jurisdiction in the affected area.

1. Notify the authority having jurisdiction, remote station alarm monitors, and those in the affected area that the partial trip test will be performed.

2. Record the water supply pressure and the system air pressure.



3. Open the water supply main drain valve fully to flush the water supply of any contaminants.

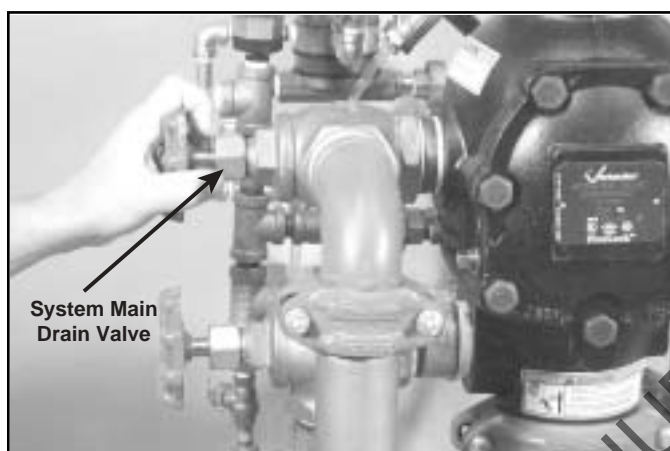


4. Close the water supply main drain valve.



5. Close the water supply's main control valve.

6. ACTIVATE THE ELECTRICAL PORTION OF THE SYSTEM TO ENERGIZE THE SOLENOID.



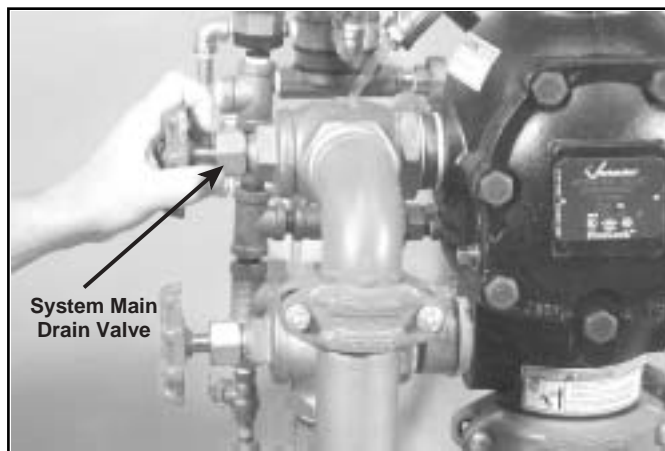
7. Open the inspector's test connection to simulate an open sprinkler. This can also be done by opening the system main drain valve, as shown above.

8. Record the system air pressure when the valve actuates.

9. Confirm that the piston charge line pressure drops to zero and that water is flowing through the auto drain to the drip cup.

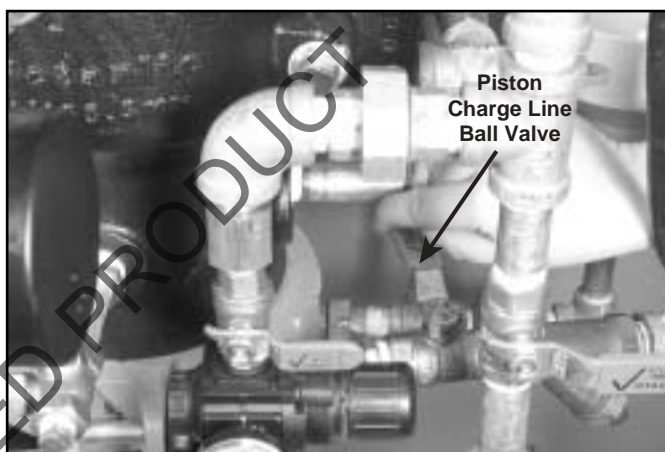


10. Confirm that the water supply's main control valve is closed.



11. Close the system main drain valve.

12. SHUT OFF THE AIR SUPPLY.



13. Close the piston charge line ball valve.

14. Perform all steps in the "Placing the System in Service" section, starting on page 11.

Full Trip Test

Victaulic recommends full trip testing every three years. This test allows a full flow of water into the sprinkler system; therefore, this test must be performed in warm weather when there is no chance of freezing conditions.

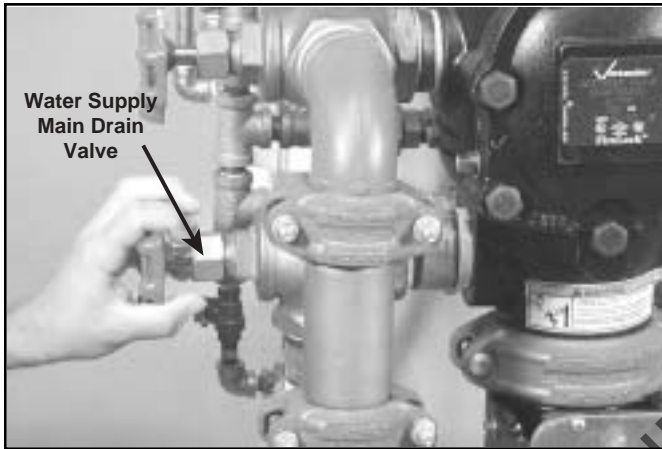
NOTE: The authority having jurisdiction in your area may require that you perform this full trip test on a more frequent basis. Verify these requirements by contacting the authority having jurisdiction in the affected area.

1. Notify the authority having jurisdiction, remote station alarm monitors, and those in the affected area that the full trip test will be performed.

2. Record the water supply pressure and system air pressure.



3. Open the water supply main drain valve fully to flush the water supply of any contaminants.



4. Close the water supply main drain valve.

5. ACTIVATE THE ELECTRICAL PORTION OF THE SYSTEM TO ENERGIZE THE SOLENOID.

5a. Open the remote system test valve (inspector's test connection) to simulate the operation of a sprinkler.

6. Record the following:

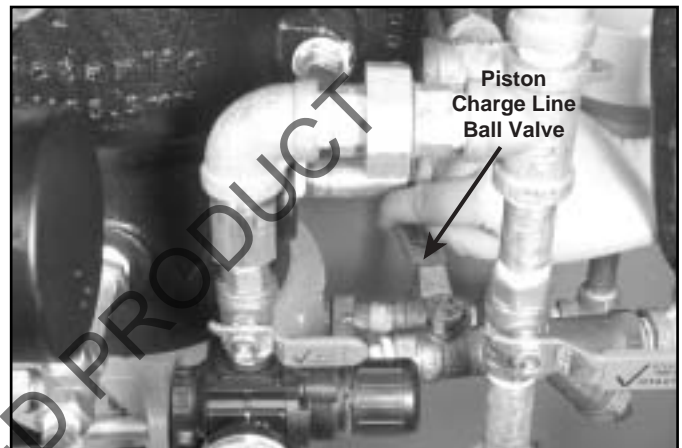
- a.** Time between opening the remote system test valve (inspector's test connection) to the operation of the preaction valve
- b.** System air pressure when the valve operated
- c.** Time from opening the remote system test valve (inspector's test connection) to when water flows from the test connection's outlet
- d.** All information required by the authority having jurisdiction

7. Confirm that all alarms operate properly.

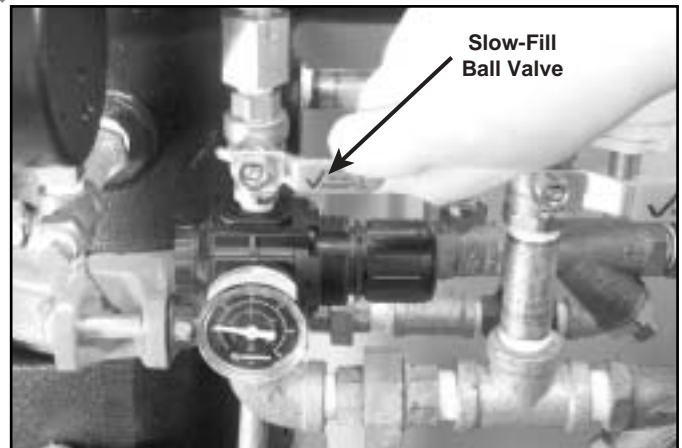
8. Continue to run water until it is clear.



9. Close the water supply's main control valve.



10. Close the piston charge line ball valve.



11. Close the slow-fill ball valve.

12. Close the remote system test valve (inspector's test connection).

13. Perform all steps in the "Placing the System in Service" section, starting on page 11.

REQUIRED INTERNAL INSPECTION

Inspect internal components on a frequency required by the current NFPA-25 code. The authority having jurisdiction in your area may require that you perform these inspections on a more frequent basis. Verify these requirements by contacting the authority having jurisdiction in the affected area.

WARNING



- Depressurize and drain piping systems before attempting to disassemble any Victaulic piping products.

Failure to follow this instruction could result in serious personal injury, property damage, and/or product damage.

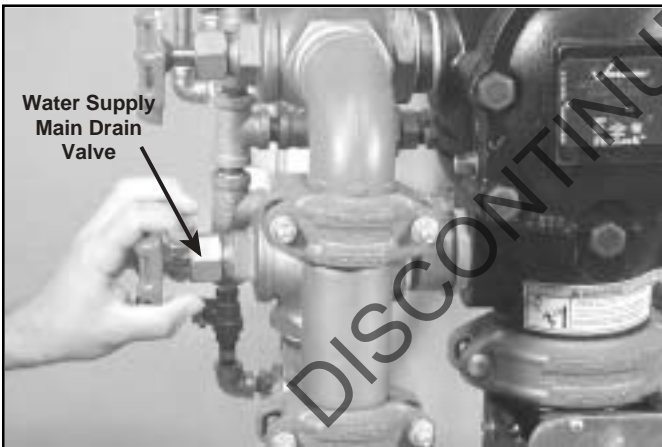
WARNING



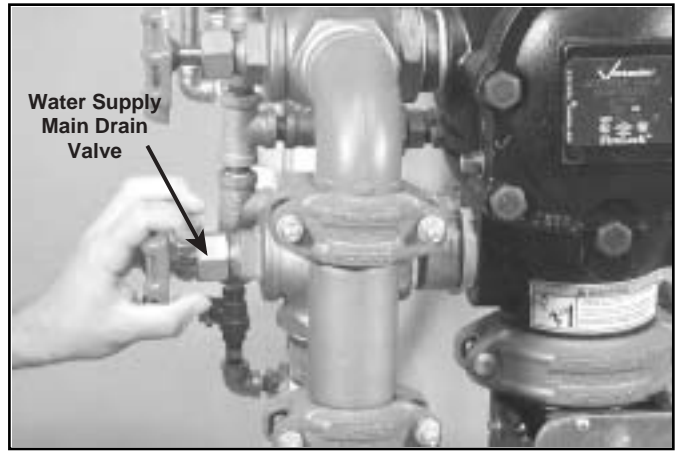
- Any activities that require taking the valve out of service may eliminate the fire protection provided.
- Before servicing or testing the system, notify the authority having jurisdiction.
- Consideration of a fire patrol should be given in the affected areas.

Failure to follow these instructions could result in serious personal injury and/or property damage.

1. Notify the authority having jurisdiction, remote station alarm monitors, and those in the affected area that the system is being taken out of service.



2. Open the water supply main drain valve fully to flush the water supply of any contaminants.



3. Close the water supply main drain valve.

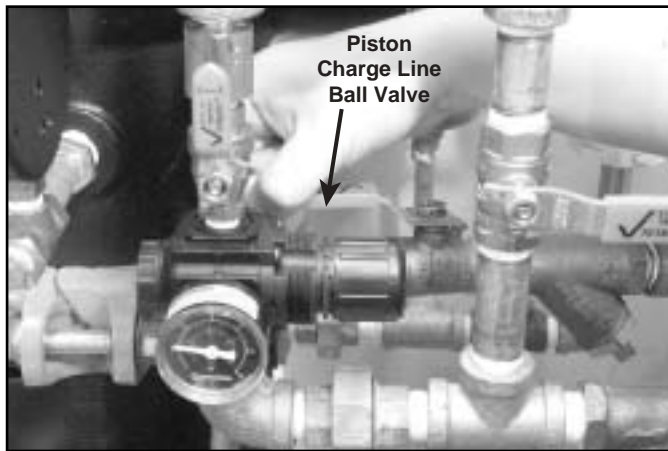


4. Close the water supply's main control valve to take the system out of service.

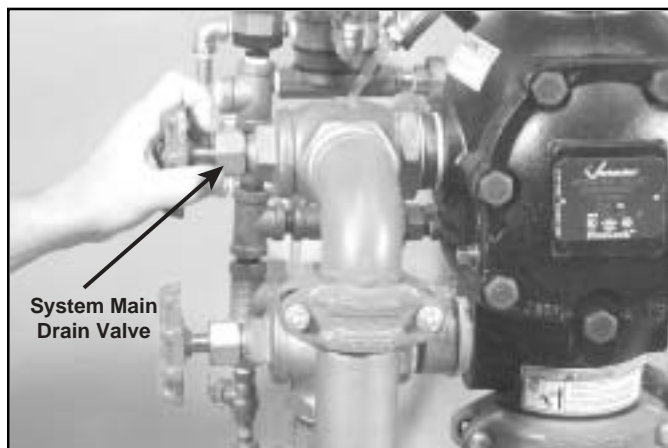


5. Open the water supply main drain valve, as shown above.

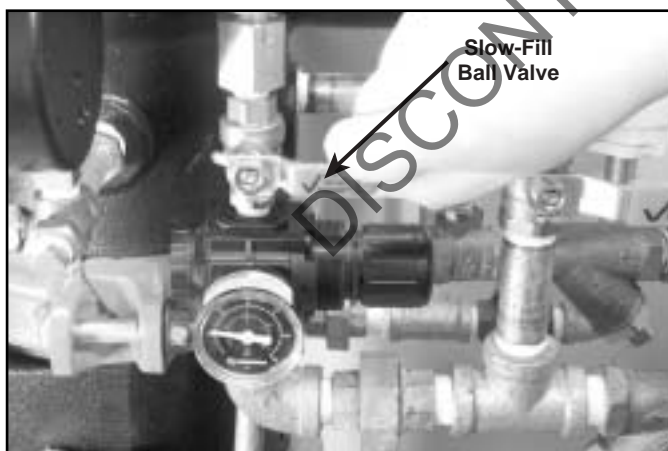
6. Confirm that no water is flowing from the water supply main drain.



7. Close the piston charge line ball valve.



8. Open the system main drain valve to drain any water that has accumulated and to release system air pressure.
NOTE: If the system has operated, open the remote system test valve (inspector's test connection) and any auxiliary drain valves.



9. Close the slow-fill ball valve.

10. Activate the electrical portion of the system to energize the solenoid, or push down on the auto drain knob to remove pressure in the piston charge line.

⚠ WARNING



- Make sure valve is depressurized and drained before removing cover plate bolts. The cover plate will blow off if these bolts are removed while the valve is pressurized, resulting in serious personal injury and/or property damage.



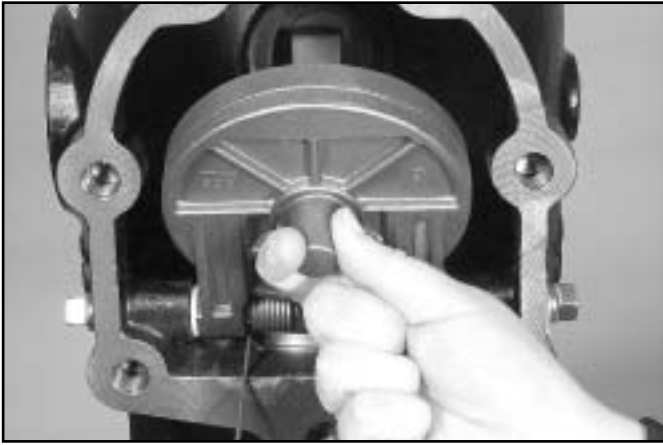
11. After all pressure is released from the system, loosen cover plate bolts, and remove cover plate.

⚠ CAUTION

- Do not use solvents or abrasives on or near the valve body seat ring. Failure to follow this instruction could prevent the clapper from sealing properly, resulting in improper operation, valve leakage, and/or property damage.



12. Rotate clapper out of valve body. Inspect clapper seal and seal retaining ring. Wipe away any contaminants, dirt, and mineral deposits. Clean any holes in the valve body seat ring that are plugged. **DO NOT USE SOLVENTS OR ABRASIVES.**



13. Inspect clapper for freedom of movement and physical damage. Replace any damaged or worn parts by following the applicable instructions in the "Maintenance" section, starting on this page.

14. Re-install cover plate by following the "Installing Cover Plate Gasket and Cover Plate" section, starting on page 31.

15. Place the system back in service by following the "Placing the System in Service" section, starting on page 11.

MAINTENANCE

The following steps instruct on how to remove and replace internal valve components. It is important that care be taken to avoid damage to parts.

WARNING



- Depressurize and drain piping systems before attempting to disassemble any Victaulic piping products.

Failure to follow this instruction could result in serious personal injury, property damage, and/or product damage.

WARNING



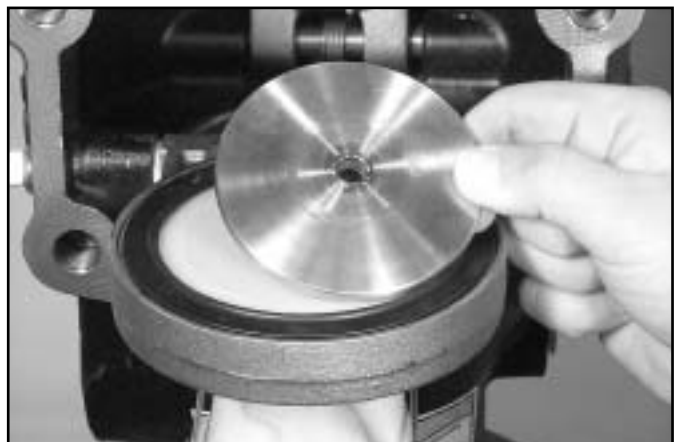
- Any activities that require taking the valve out of service may eliminate the fire protection provided.
 - Before servicing or testing the system, notify the authority having jurisdiction.
 - Consideration of a fire patrol should be given in the affected areas.
- Failure to follow these instructions could result in serious personal injury and/or property damage.

Removing and Replacing Clapper Seal

1. Perform steps 1-11 of the "Required Internal Inspection" section, starting on page 26.



2. Remove seal assembly bolt/bolt seal from clapper seal, as shown above.



3. Remove seal retaining ring.

CAUTION

- DO NOT pry the seal washer out of the clapper seal from the inner hole. Failure to follow this instruction could damage the seal washer, resulting in improper clapper sealing and property damage.



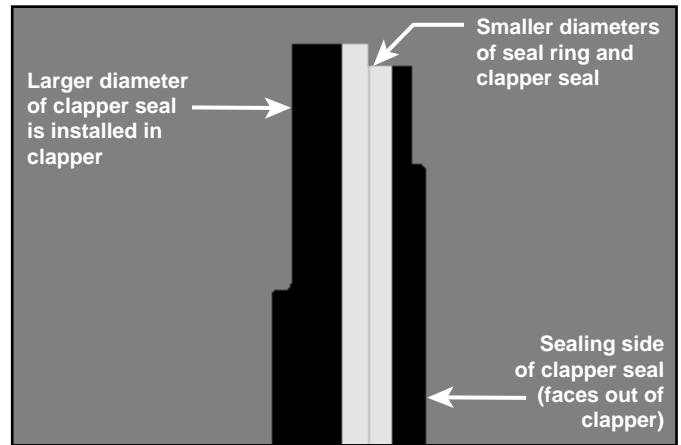
4. Pry edge of seal washer from inside of clapper seal, as shown above. **DO NOT** pry the seal washer out from the inner hole. Dry up any water that is under the seal washer.



5. Remove seal washer from clapper seal.



6. Pry clapper seal, along with seal ring, out of clapper, as shown above. Inspect seal. If seal is torn or worn, replace.



6a. If seal ring was removed from clapper seal in previous step: Re-insert ring carefully underneath outer lip of clapper seal. Make sure smaller diameter of seal ring is toward sealing surface of clapper seal, as shown above.

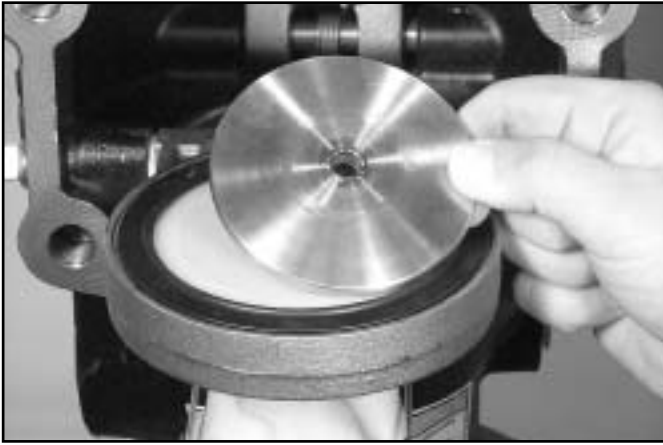


7. Insert seal washer carefully underneath sealing lip of gasket.

8. Make sure clapper is free of contaminants, dirt, and mineral deposits.



9. Install clapper seal into clapper carefully. Make sure seal ring snaps into clapper completely.



10. Place seal retaining ring onto seal washer of clapper seal.



CAUTION

- Use only Victaulic-supplied replacement seal assembly bolt/bolt seal when reassembling clapper.

Failure to follow this instruction could result in property damage and/or valve leakage.



11. Install seal assembly bolt/bolt seal through seal retaining ring and clapper. Tighten seal assembly bolt/bolt seal sufficiently, and apply an additional $\frac{1}{4}$ turn to ensure a proper seal.

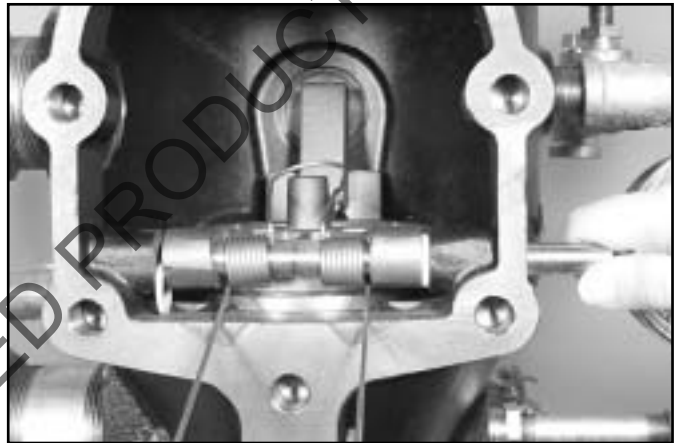
12. Replace the cover plate by following the "Installing Cover Plate Gasket and Cover Plate" section, starting on page 31.

Removing and Replacing Clapper Assembly

1. Perform steps 1 - 11 of the "Required Internal Inspection" section, starting on page 26.

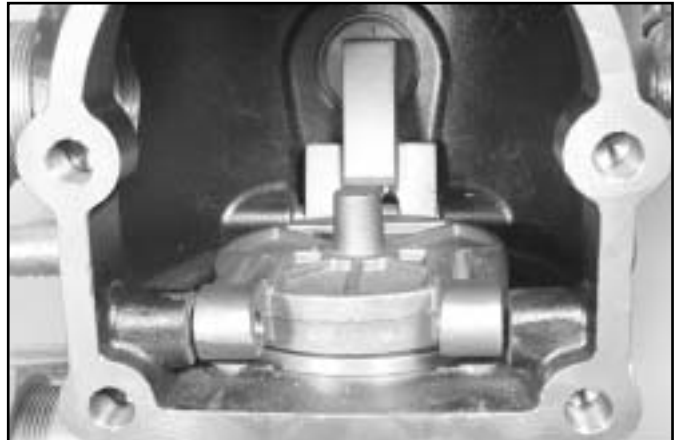


2. Remove clapper shaft-retaining plugs from valve body.

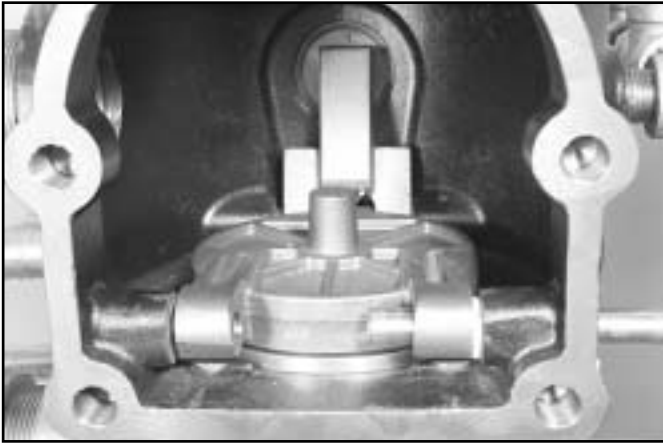


3. Remove clapper shaft, as shown above. **NOTE:** As the shaft is being removed, the two spacers and clapper spring, shown above, will drop out of position. Keep the spacers and clapper spring for re-installation.

4. Remove clapper from valve body.



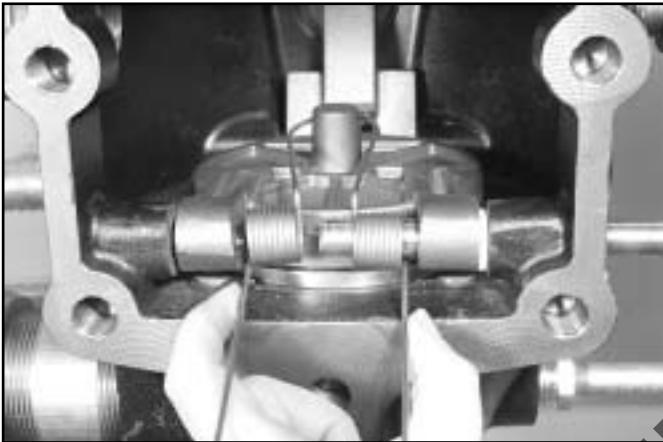
5. Place new clapper assembly onto the valve body seat ring so that the holes in the clapper arms align with the holes in the valve body, as shown above.



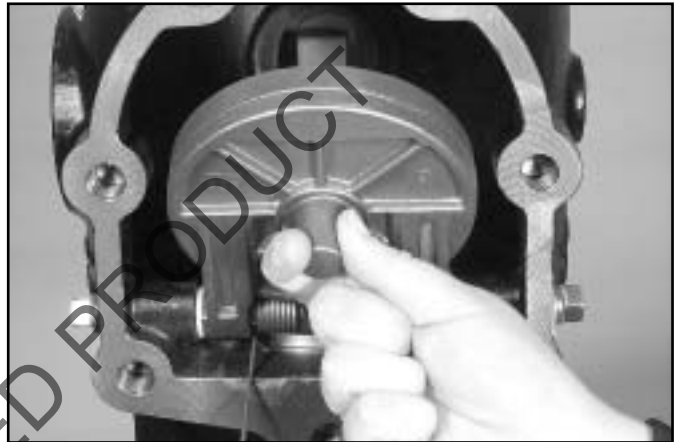
6. Start clapper shaft into valve body, and place one spacer between clapper and valve body, as shown above.



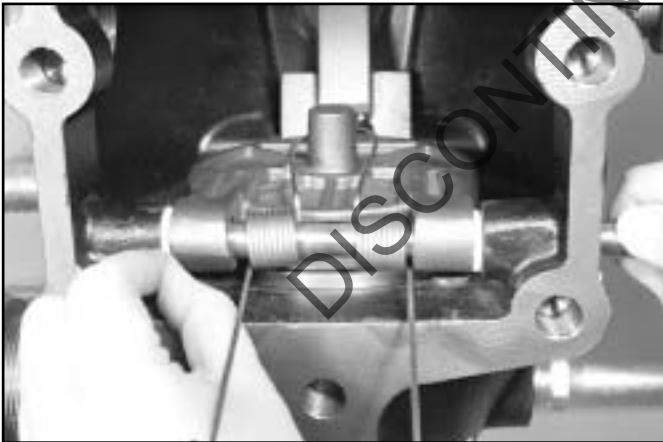
9. Apply thread sealant to clapper shaft-retaining plugs and install into valve body.



7. Install spring onto clapper shaft, making sure loop is toward clapper, as shown above.



10. Check clapper for freedom of movement.



8. Place other spacer between clapper and valve body, and finish inserting clapper shaft through clapper arm and valve body, as shown above.

11. Replace the cover plate by following the “Installing Cover Plate Gasket and Cover Plate” section, starting on this page.

Installing Cover Plate Gasket and Cover Plate

1. Verify cover plate gasket is in good condition. If gasket is torn or worn, replace with a new, Victaulic-supplied gasket.



2. Align cover plate gasket holes with holes in cover plate.



3. Insert one cover bolt through cover plate and cover gasket to ease alignment.



4. Align cover plate/cover plate gasket to valve. Make sure spring arms are rotated to their installed position. Insert all cover bolts and hand-tighten.

⚠ CAUTION

- DO NOT over-tighten cover bolts.

Failure to follow this instruction could cause damage to cover plate gasket, resulting in valve leakage.



5. Torque all cover bolts in an even, crossing pattern. Refer to the "Required Cover Bolt Torque" chart on the next page for the required torque values. **DO NOT** over-tighten these cover bolts.

Required Cover Bolt Torque

Size (inches)	Torque (ft-lbs)	Size (inches)	Torque (ft-lbs)	Size (inches)	Torque (ft-lbs)
1½ (40)	30 (41)	76,1 mm	60 (81)	6 (150)	115 (156)
2 (50)	30 (41)	3 (80)	60 (81)	165,1 mm	115 (156)
2½ (65)	60 (81)	4 (100)	100 (136)	8 (200)	100 (136)

6. Place system back in service by following the "Placing the System in Service" section, starting on page 11.

Removing and Replacing Piston Assembly

⚠ WARNING



- Depressurize and drain piping systems before attempting to disassemble any Victaulic piping products.

Failure to follow this instruction could result in serious personal injury, property damage, and/or product damage.

⚠ WARNING



- Any activities that require taking the valve out of service may eliminate the fire protection provided.
- Before servicing or testing the system, notify the authority having jurisdiction.
- Consideration of a fire patrol should be given in the affected areas.

Failure to follow these instructions could result in serious personal injury and/or property damage.

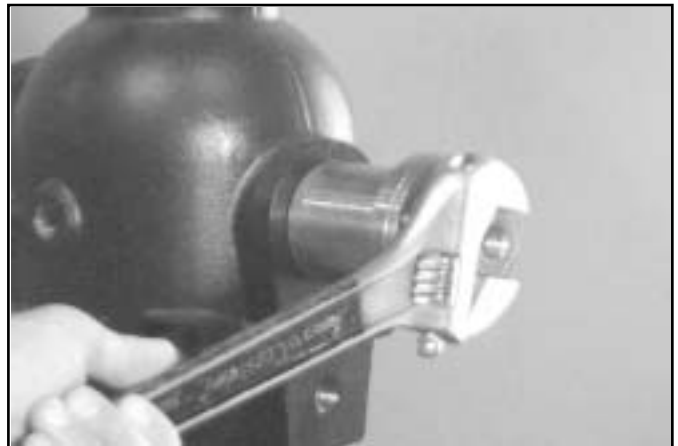
⚠ CAUTION

- DO NOT extend piston manually. Manually extending the piston could damage the internal diaphragm.

Failure to follow this instruction could result in improper valve operation and/or valve leakage.

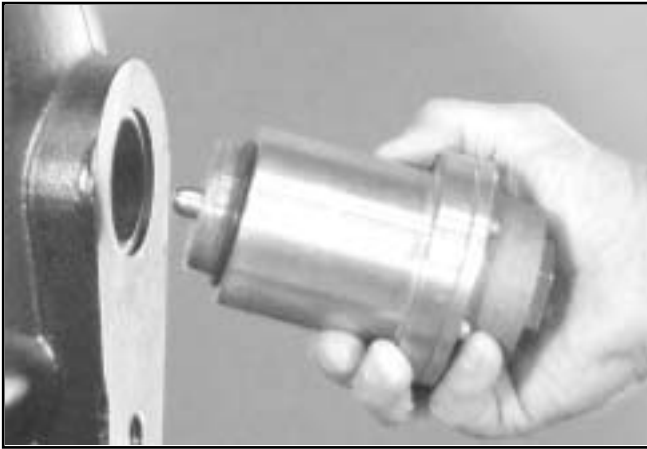
1. Remove the system from service by following steps 1 - 10 of the "Required Internal Inspection" section, starting on page 26.

2. Disconnect trim from piston.



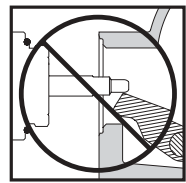
3. Remove piston from valve body.

4. Clean piston seating area of valve body and threaded hole to make sure any debris is removed.



5. Replace piston with a new, Victaulic-supplied assembly. Make sure o-ring is installed flush to piston body.

WARNING



- Make sure piston is reassembled and reinstalled correctly.

Failure to do so could cause improper valve operation, resulting in serious personal injury and/or property damage.

6. Tighten piston into valve body until metal-to-metal contact occurs.
7. Re-attach trim, per the applicable trim drawing.
8. Place the system back in service by following the “Placing the System in Service” section, starting on page 11.

Replacing the Strainer Screen for Series 79N Electric/Pneumatic Actuators

WARNING



- Depressurize and drain the piping system before attempting to disassemble any Victaulic piping products.

Failure to follow this instruction could result in serious personal injury, property damage, and/or product damage.

1. Remove the system from service by following steps 1-10 of the “Required Internal Inspection” section, starting on page 26.

2. Remove the Series 79N Electric/Pneumatic Actuator from the trim.



3. Remove the strainer assembly from the Series 79N, as shown above. Discard the strainer screen only.

CAUTION

- DO NOT reuse strainer screens. When removed, the old strainer screen must be replaced with a new, Victaulic-supplied screen.

Failure to follow this instruction could cause improper system operation, resulting in property damage.

4. Use a new, Victaulic-supplied strainer screen. Insert the strainer screen into the strainer assembly.
5. Install the strainer assembly into the Series 79N carefully. Avoid damage to the o-ring seals.
6. Re-install the Series 79N into the trim (refer to the applicable trim drawing).
7. Place the system back in service by following the “Placing the System in Service” section, starting on page 11.

TROUBLESHOOTING SERIES 79N ELECTRIC/PNEUMATIC ACTUATOR

Problem	Possible Cause	Solution
When you pull up on the auto vent knob, the knob does not stay in the "UP" position.	Not enough air is getting to the Series 79N. There is a broken seal in the auto vent or Series 79N.	Increase the air pressure going into the Series 79N. If the above procedure does not work, contact Victaulic.
Water is leaking through the Series 79N Electric/Pneumatic Actuator.	The air chamber is not set. The strainer on the Series 79N is clogged. There is a ripped diaphragm in the Series 79N.	Make sure the air chamber of the Series 79N is set. Replace the strainer on the Series 79N, per the instructions on page 33. If water still leaks through the Series 79N, contact Victaulic.
No water is passing through the Series 79N Electric/Pneumatic Actuator.	The solenoid is not energized. The strainer on the piston charge line is clogged.	Activate the electrical portion of the system to energize the solenoid. Disassemble and clean the piston charge line strainer.
The Series 79N opens when air is lost.	The .032 restrictor, which feeds the upper chamber (to solenoid), is clogged.	Remove the restrictor (item #32 on page 4) from the trim, and clean out any foreign material that is trapped.
The Series 79N does not open.	No power is going to the solenoid.	Check all electrical connections to make sure power is being supplied to the solenoid.
No pressure is on the Series 79N upper chamber pressure gauge.	The .032 restrictor, which feeds the upper chamber (to solenoid), is clogged.	Remove the restrictor (item #32 on page 4) from the trim, and clean out any foreign material that is trapped.

TROUBLESHOOTING SERIES 746 DRY ACCELERATOR

Problem	Possible Cause	Solution
The system valve operates without sprinkler activation.	Loss of air pressure in the lower inlet chamber.	Check for air loss at lower chamber seal. If a leak is present, turn adjustment nut counterclockwise to seal. Check for any leaks in system and trim. Confirm proper operation of air maintenance device.
Dry accelerator does not operate within a 5-psi (34 kPa) pressure drop in system air pressure.	Loss of air pressure in upper air chamber of dry accelerator. Air decay rate of system is too slow.	Apply soapy water to all dry accelerator joints, and check for leaks. Repair any leaks and re-test. Make sure there are no restrictions in the inspector's test connection. If the above procedures do not work, contact Victaulic.
Dry accelerator does not set up properly (cannot get pressure on upper gauge, and button pops up immediately when pressure is introduced).	Dry accelerator is installed upside down.	Remove dry accelerator from trim, and turn unit around so that the button is facing down (toward Series 79N).

TROUBLESHOOTING SYSTEM

Problem	Possible Cause	Solution
Valve operates without sprinkler activation.	Loss of air pressure in system or trim. Pressure switch on air compressor is set low, or compressor is not operating.	Check for system leaks. Confirm proper operation of air maintenance device. Consider installing a low-air supervisory switch. Increase "ON" setting on pressure switch, and check compressor for proper operation.
Water leaking from drip check valve.	Water is getting past clapper seal and into intermediate chamber. Water is under clapper seal.	Check clapper seal and valve body seat ring for physical damage or foreign material. Inspect clapper seal to make sure no water is under seal. If water is present, remove and replace seal, per instructions on page 28.
Air leaking from drip check valve.	Air is getting past clapper seal and into intermediate chamber. Water is under clapper seal.	Check clapper seal and valve body seat ring for physical damage or foreign material. Inspect clapper seal to make sure no water is under seal. If water is present, remove and replace seal, per instructions on page 28.
Clapper will not latch closed.	No water pressure on piston. Auto drain is not set.	Check water pressure in piston charge line. Set auto drain.
Water leaking from piston assembly.	Diaphragm is damaged.	Contact Victaulic.
Air leaking from piston assembly.	Piston rod seal is damaged.	Contact Victaulic.



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WARRANTY

We warrant all products to be free from defects in materials and workmanship under normal conditions of use and service. Our obligation under this warranty is limited to repairing or replacing at our option at our factory any product which shall within one year after delivery to original buyer be returned with transportation charges prepaid, and which our examination shall show to our satisfaction to have been defective.

THIS WARRANTY IS MADE EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THE BUYER'S SOLE AND EXCLUSIVE REMEDY SHALL BE FOR THE REPAIR OR REPLACEMENT OF DEFECTIVE PRODUCTS AS PROVIDED HEREIN. THE BUYER AGREES THAT NO OTHER REMEDY (INCLUDING, BUT NOT LIMITED TO, INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR LOST PROFITS, LOST SALES, INJURY TO PERSON OR PROPERTY OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL LOSS) SHALL BE AVAILABLE TO HIM.

Victaulic neither assumes nor authorizes any person to assume for it any other liability in connection with the sale of such products.

This warranty shall not apply to any product which has been subject to misuse, negligence or accident, which has been repaired or altered in any manner outside of Victaulic's factory or which has been used in a manner contrary to Victaulic's instructions or recommendations. Victaulic shall not be responsible for design errors due to inaccurate or incomplete information supplied by Buyer or its representatives.

EFFECTIVE OCTOBER 15, 1997

This product shall be manufactured by Victaulic Company. All products to be installed in accordance with current Victaulic installation/assembly instructions. Victaulic reserves the right to change product specifications, designs and standard equipment without notice and without incurring obligations.