

Hang these instructions
in a visible location on the
installed valve for easy
future reference.



Series 758 FireLock™ Actuated System Valve With Deluge Trim Installation, Maintenance, and Testing Manual



⚠ WARNING



Failure to follow instructions and warnings can result in serious injury.

- Always read and understand all installation instructions before attempting assembly of Victaulic piping products.
- Always wear safety glasses and foot protection.
- Failure to do so could result in serious personal injury, property damage, and/or valve leakage.

If you need additional copies of this manual, or if you have any questions about the safe operation of this valve, contact Victaulic Company, P.O. Box 31, Easton, PA 18044-0031, USA, Telephone: 001-610-559-3300.

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! WARNING	
	<ul style="list-style-type: none"> This product must be installed by an experienced, trained installer, in accordance with the instructions provided with each valve. These instructions contain important information. <p>Failure to follow these instructions may result in serious personal injury, property damage, or valve leakage.</p> <p>If you need additional copies of this literature, or if you have any questions about the safe installation and use of this device, contact Victaulic Company, P.O. Box 31, Easton, PA 18044-0031 USA, Telephone: 001-610-559-3300.</p>

Important Information

Definitions for identifying the various hazard levels shown on warning labels, or to indicate proper safety procedures in this instruction manual, are provided below.



This safety alert symbol indicates important safety messages on warning labels in this instruction manual. 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" signifies the presence of hazards or unsafe practices, which could result in severe personal injury if instructions, including recommended precautions, are not followed.

! CAUTION
The use of the word "CAUTION" signifies possible hazards or unsafe practices, which could result in minor personal injury, product, or property damage if instructions, including precautions, are not followed.

NOTICE
The use of the word "NOTICE" signifies special instructions, which are important, but not related to hazards.

INSTALLER SAFETY INSTRUCTIONS

⚠ WARNING	
	<ul style="list-style-type: none">• This product must be installed by an experienced, trained installer, in accordance with the instructions provided with each valve. These instructions contain important information. <p>Failure to follow these instructions may result in serious personal injury, property damage, or valve leakage.</p> <p>If you need additional copies of this valve installation instructions, or if you have any questions about the safe installation and use of this device, contact Victaulic Company, P.O. Box 31, Easton, PA 18044-0031 USA, Telephone: 001-610-559-3300.</p>

GENERAL

1. Read and understand this manual before proceeding with installation, maintenance, and testing of the Victaulic Fire Protection Device. This product must be installed by an experienced, trained installer, in accordance with instructions provided with each valve. These instructions contain important information. Additional copies of these valve installation instructions are available at no charge. If you need additional copies, or if you have any questions about the safe installation and use of this device, contact Victaulic Company, P.O. Box 31, Easton, PA 18044-0031 USA, Telephone: 001-610-559-3300.

2. Use only recommended accessories. Use of improper accessories or equipment in conjunction with these fire protection devices may result in improper operation of the system.

3. Avoid dangerous environments. If utilizing electrically-powered tools for installation, be sure that the area is free of moisture or wetness, which could create an unsafe condition. Keep work area well illuminated. Allow sufficient space for the device, trim, and accessories, plus allow sufficient space to accommodate proper installation.

4. Prevent back injury. Larger and pre-trimmed valves may be sufficiently heavy. Installation may require more than one person, or mechanical lifting equipment, to position the unit properly. Utilize proper lifting techniques and be aware of the possible need for assistance.

5. Inspect the equipment. Be sure all parts are included, and that you have all necessary tools available to install the device properly.

6. Wear safety glasses, hardhat, and safety footwear. Always practice safety first.


7. Watch for pinch points. Do not put fingers under the valve base where they could be pinched by the weight of the valve. Exercise caution around spring-loaded components, such as the swing clapper, clapper locking latch, and piston spring assembly.

8. Keep work area clean. Cluttered areas, benches, and slippery floors invite accidents.

9. Wear ear protection. Your hearing should be protected if exposed to long periods of very noisy job-site or shop operations.

10. Keep visitors away. All visitors should be kept a safe distance away from the work area.

MAINTENANCE AND TESTING

⚠ WARNING	
	<ul style="list-style-type: none">• Piping systems must always be depressurized and drained before attempting disassembly and/or removal of any Victaulic piping products. <p>Failure to do so could result in serious personal injury, property damage, or valve leakage.</p>

1. Always notify the authority having jurisdiction. Any system service that requires taking a control valve or alarm valve out of service may eliminate the fire protection provided by the system. Prior to servicing or testing the system, notify the authority having jurisdiction of the operation being performed.


2. Always depressurize the system before attempting any maintenance work. Water under pressure, trapped air, or system air pressure may be present and must be fully deactivated and depressurized prior to proceeding with any service work, disassembly, or removal of any parts.


3. Follow NFPA requirements for system testing and inspection schedules. The authority having jurisdiction may mandate more frequent or additional tests or inspections.

4. Keep system free from freezing (wet systems), foreign matter, or corrosive atmospheres. Any condition, which might degrade the system or adversely affect system performance, must be avoided.

5. Depressurize valve before removing cover plate bolts. The cover may blow off if these bolts are removed while the valve is pressurized.

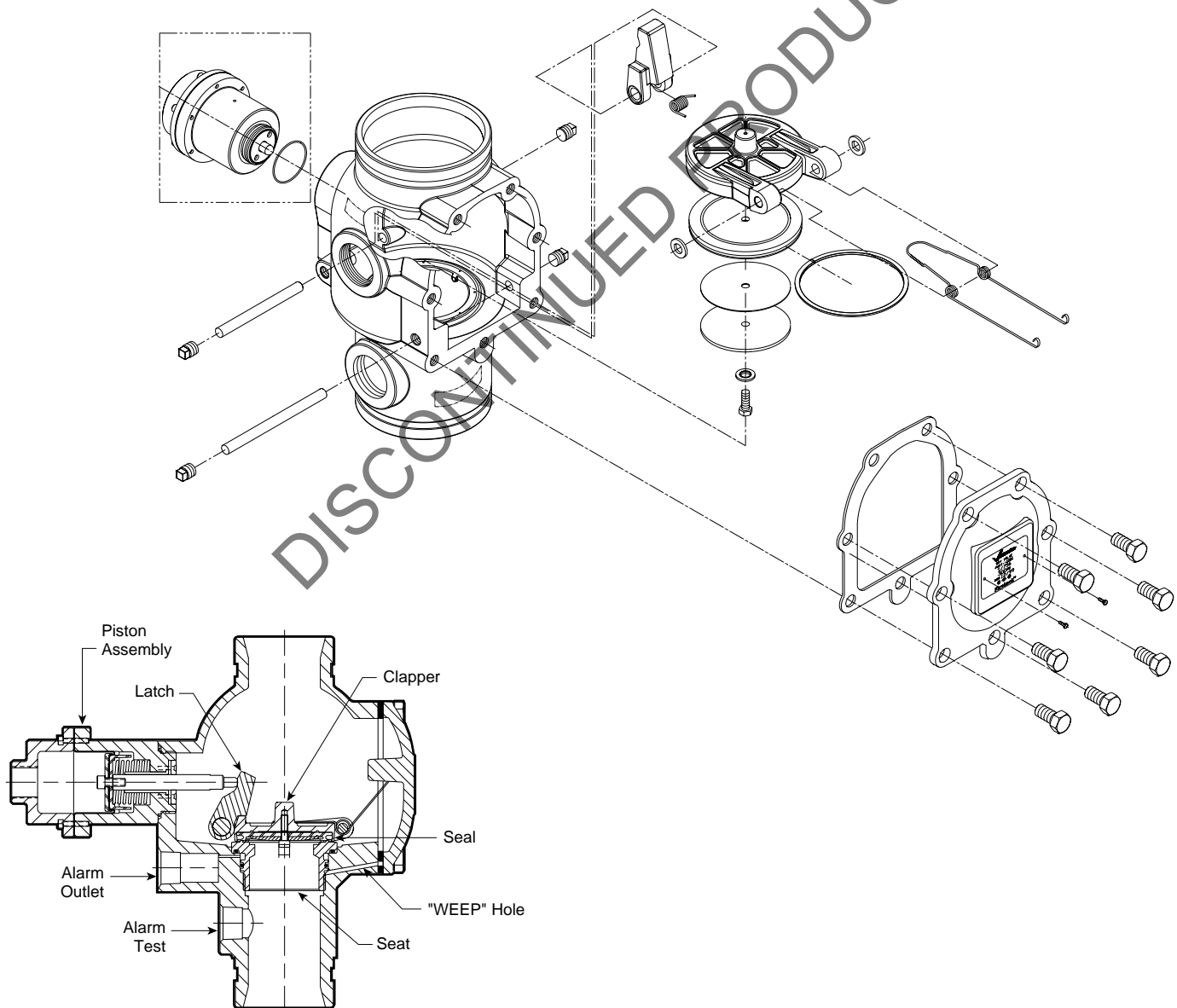
INTRODUCTION

! WARNING	
	<ul style="list-style-type: none"> Always read and understand all installation instructions before attempting assembly of Victaulic piping products. <p>Failure to do so could result in serious personal injury, property damage, or valve leakage.</p>

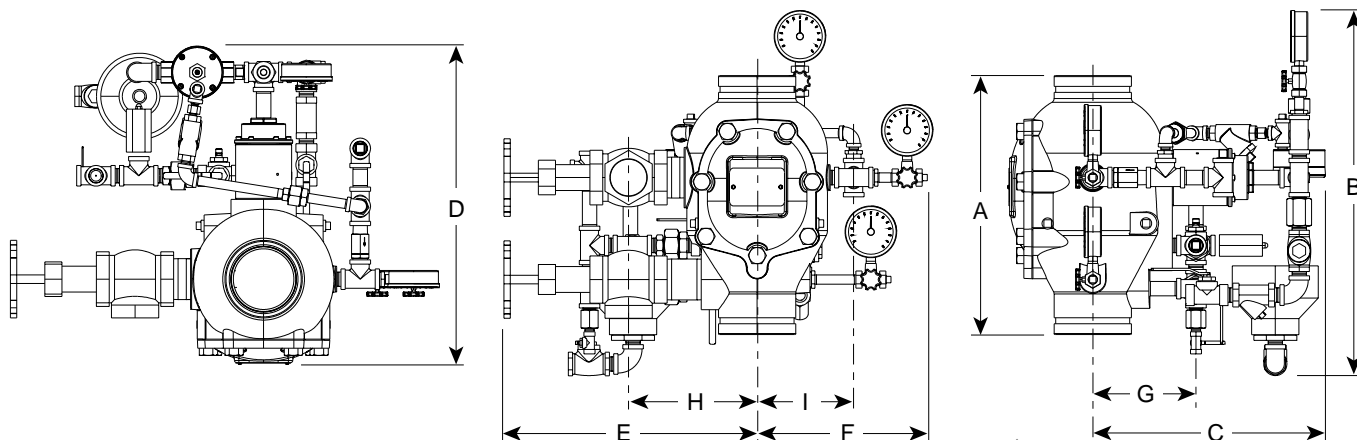
! WARNING	
	<ul style="list-style-type: none"> Piping systems must always be depressurized and drained before attempting disassembly and removal of any Victaulic piping products. <p>Failure to do so could result in serious personal injury, property damage, or valve leakage.</p>

The following procedures are a guide for the proper assembly of Victaulic Series 758 Actuated System Valves with Deluge Trim.

These instructions are based on pipe that is prepared and grooved properly in accordance with the latest published Victaulic grooving specifications.

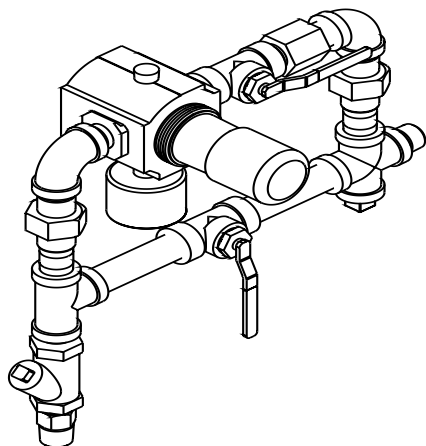


DIMENSIONS



Valve Size Inches mm	Dimensions Inches/mm									Aprx. Weight Each Lbs./kg			
										Without Trim		With Trim	
	E to E A	Height B	C	Depth D	E	F	G	H	I	Flanged	Grooved	Flanged	Grooved
GROOVED X GROOVED													
1½ 48,3	9.00 228,6	21.00 533,4	13.00 330,2	18.00 457,2	13.00 330,2	10.00 254,0	7.00 177,8	4.00 101,6	4.00 101,6	— —	16.7 7,6	— —	43.0 19,5
2 60,3	9.00 228,6	21.00 533,4	13.00 330,2	18.00 457,2	13.00 330,2	10.00 254,0	7.00 177,8	4.00 101,6	4.00 101,6	— —	17.0 7,7	— —	43.0 19,5
2½ 73,0	12.50 317,5	21.00 533,4	14.00 355,6	20.00 508,0	15.50 393,7	11.50 292,1	7.50 190,5	5.00 127,0	5.00 127,0	— —	41.2 18,7	— —	65.0 29,5
76,1 mm	12.50 317,5	21.00 533,4	14.00 355,6	20.00 508,0	15.50 393,7	11.50 292,1	7.50 190,5	5.00 127,0	5.00 127,0	— —	41.2 18,7	— —	65.0 29,5
3 88,9	12.50 317,5	21.00 533,4	14.00 355,6	20.00 508,0	15.50 393,7	11.50 292,1	7.50 190,5	5.00 127,0	5.00 127,0	— —	42.1 19,1	— —	65.0 29,5
4 114,3	15.00 381,0	20.00 508,0	15.00 381,0	21.00 533,4	14.00 355,6	12.00 304,8	8.00 203,2	9.00 228,6	6.00 152,4	— —	55.0 24,9	— —	95.0 43,1
6 168,3	16.00 406,4	21.10 535,9	16.00 406,4	22.00 558,8	14.00 355,6	12.00 304,8	8.50 215,9	7.00 177,8	7.00 177,8	— —	73.0 33,1	— —	115.0 52,2
165,1 mm	16.00 406,4	21.10 535,9	16.00 406,4	22.00 558,8	14.00 355,6	12.00 304,8	8.50 215,9	7.00 177,8	7.00 177,8	— —	73.0 33,1	— —	115.0 52,2
8 219,1	18.00 457,0	18.00 457,0	16.00 406,4	23.00 584,0	16.00 406,4	12.00 304,8	14.00 355,6	9.50 241,3	7.00 177,8	— —	142.0 64,4	— —	182.0 82,6
GROOVED X FLANGED													
4 114,3	16.00 406,4	20.00 508,0	15.00 355,6	21.00 533,4	14.00 355,6	12.00 304,8	8.00 203,2	9.00 228,6	6.00 152,4	65.0 29,5	— —	105.0 47,6	— —
6 168,3	17.00 431,8	21.10 535,9	16.00 406,4	22.00 558,8	14.00 355,6	12.00 304,8	8.50 215,9	7.00 177,8	7.00 177,8	83.0 37,6	— —	125.0 56,7	— —
165,1 mm	17.00 431,8	21.10 535,9	16.00 406,4	22.00 558,8	14.00 355,6	12.00 304,8	8.50 215,9	7.00 177,8	7.00 177,8	83.0 37,6	— —	125.0 56,7	— —
8 219,1	18.00 457,0	18.00 457,0	16.00 406,4	23.00 584,0	16.00 406,4	12.00 304,8	14.00 355,6	9.50 241,3	7.00 177,8	155.0 70,3	— —	195.0 88,5	— —

AIR MAINTENANCE TRIM



NOTES:

- 1) You must use an air regulator with Series 758 Deluge Valves that utilize an accelerator.
- 2) The recommended air pressures shown on the chart apply to valves utilizing a Series 753-A Dry Actuator. These pressures involve an 8 to 1 water-to-air ratio, plus a ten-pound safety factor.
- 3) If you install systems with multiple, pneumatic-actuated valves, isolate the systems by using a spring-loaded, soft seat check valve to ensure air integrity to each system.

Proper Air Supplies for Series 758 Deluge Valves:

1. When a riser or base-mounted air compressor supplies air to a system utilizing a Series 753-A Dry Actuator, it is not necessary to use the air maintenance trim assembly with the air regulator. In this circumstance, the airline of the compressor connects to the valve's trim at the fitting where the air maintenance trim is normally installed.

When the valve is used with this setup, it is the engineer's/system designer's

responsibility to size the compressor so that it brings the entire system to the required pressure within 30 minutes. The engineer/system designer must not oversize the compressor to provide more airflow because it will slow down, or possibly prevent, the operation of the valve. Furthermore, a base-mounted compressor does not provide any backup air to the system. Therefore, the system requires continuous service (24 hours per day, 7 days per week) in order to prevent the valve from false tripping due to a loss of air pressure.

Due to the large on/off differential available on pressure switches that control base-mounted compressors, you must adjust the compressor pressure switch so that the "ON" contact of the pressure switch is at the recommended air supply for the valve.

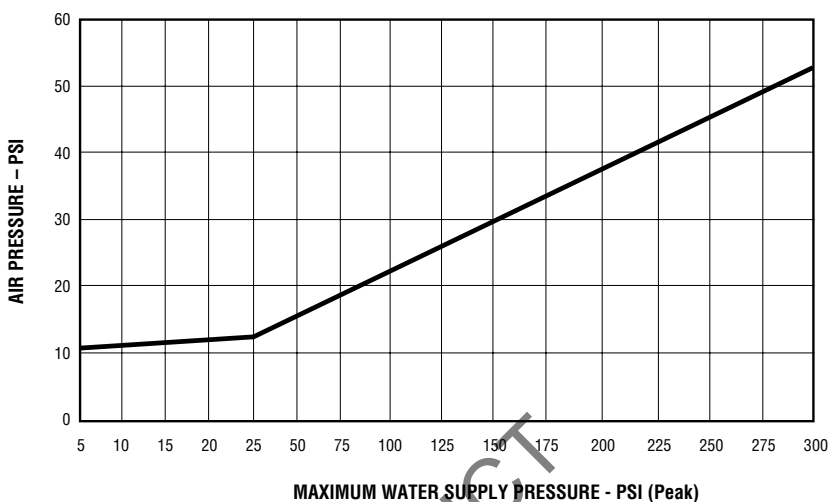
2. When shop air or a tank-mounted air compressor is used, you must use Victaulic's Air Maintenance Trim Assembly (AMTA). The AMTA provides the proper air regulation to the sprinkler system, which will ensure the

proper operation of the fire safety valve.

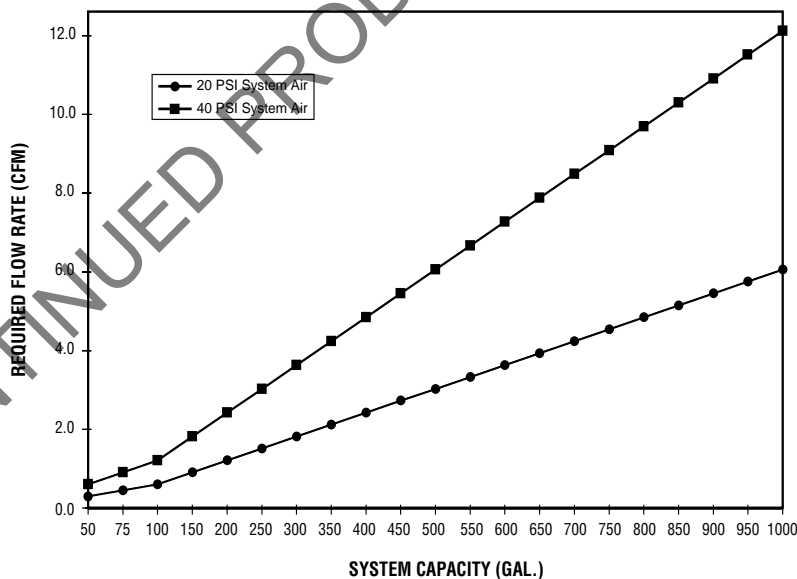
3. When a Series 746 Dry Accelerator is used in conjunction with the Series 753-A Dry Actuator, you must use the AMTA with the air regulator.

In the event that a compressor becomes inoperative, the tank-mounted air compressor provides the greatest protection. With a properly sized tank, air can be supplied continuously to the sprinkler system for an extended time, even without an operating compressor.

RECOMMENDED AIR PRESSURE FOR DRY AND PNEUMATIC ACTUATED SYSTEMS

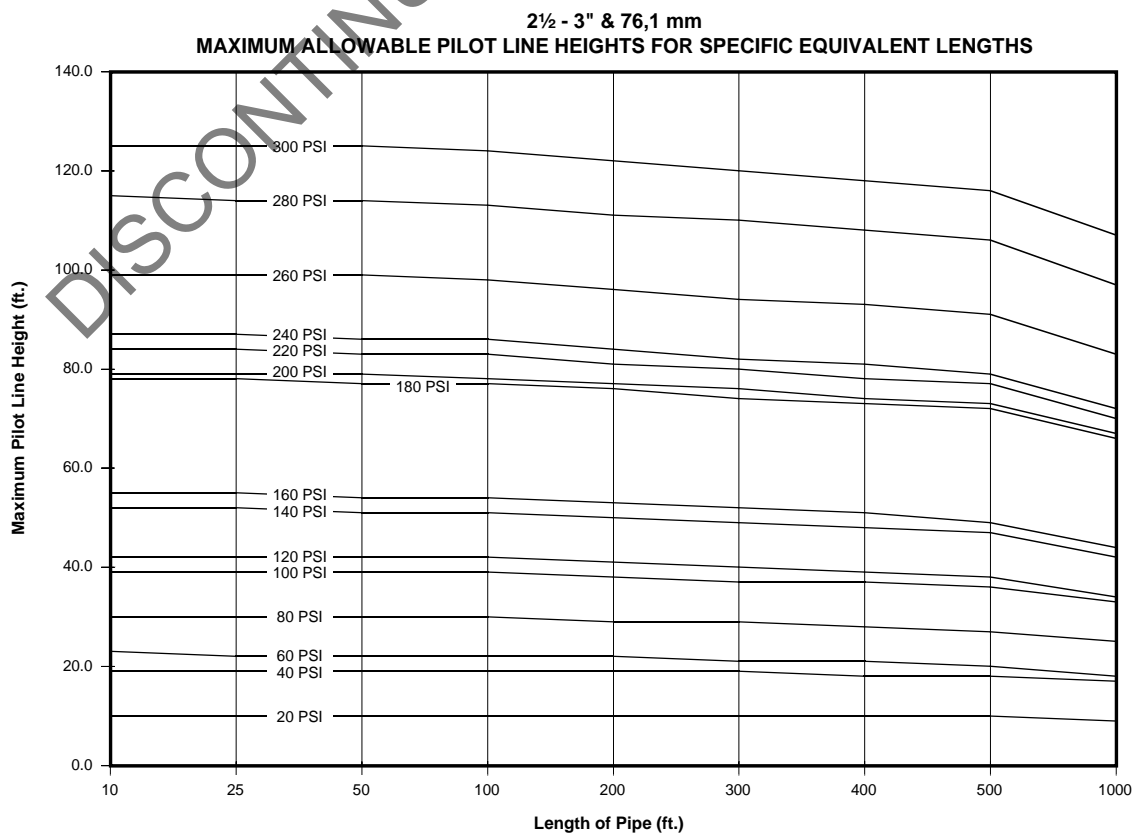
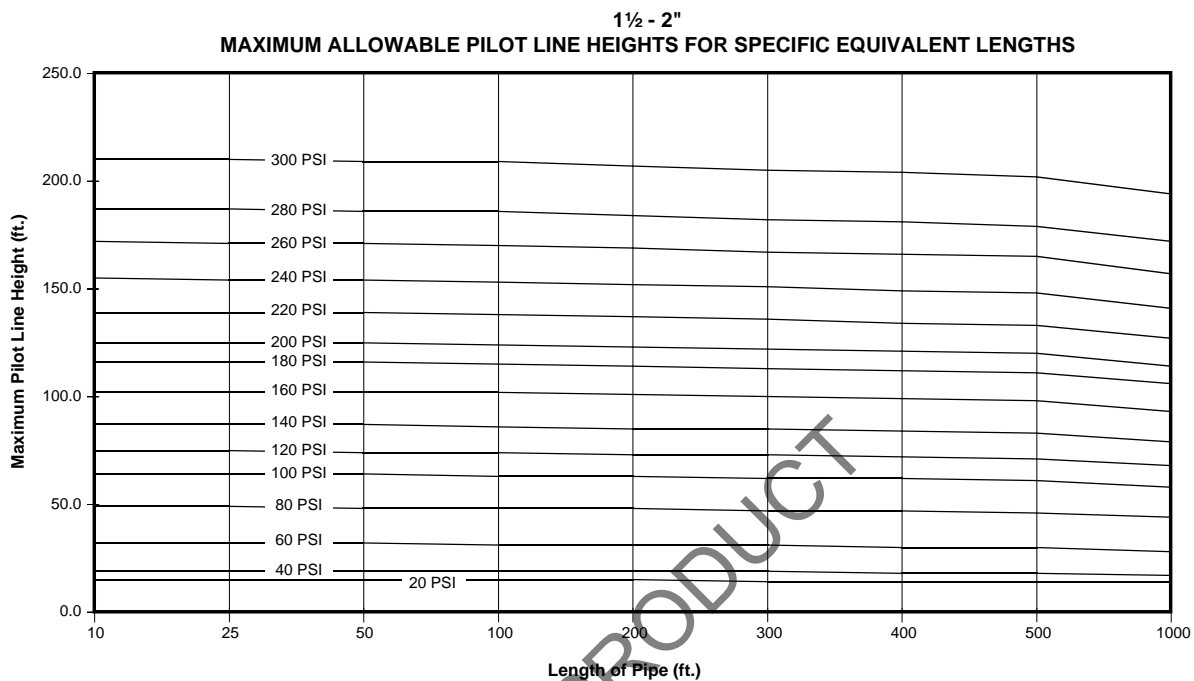


COMPRESSOR REQUIREMENTS



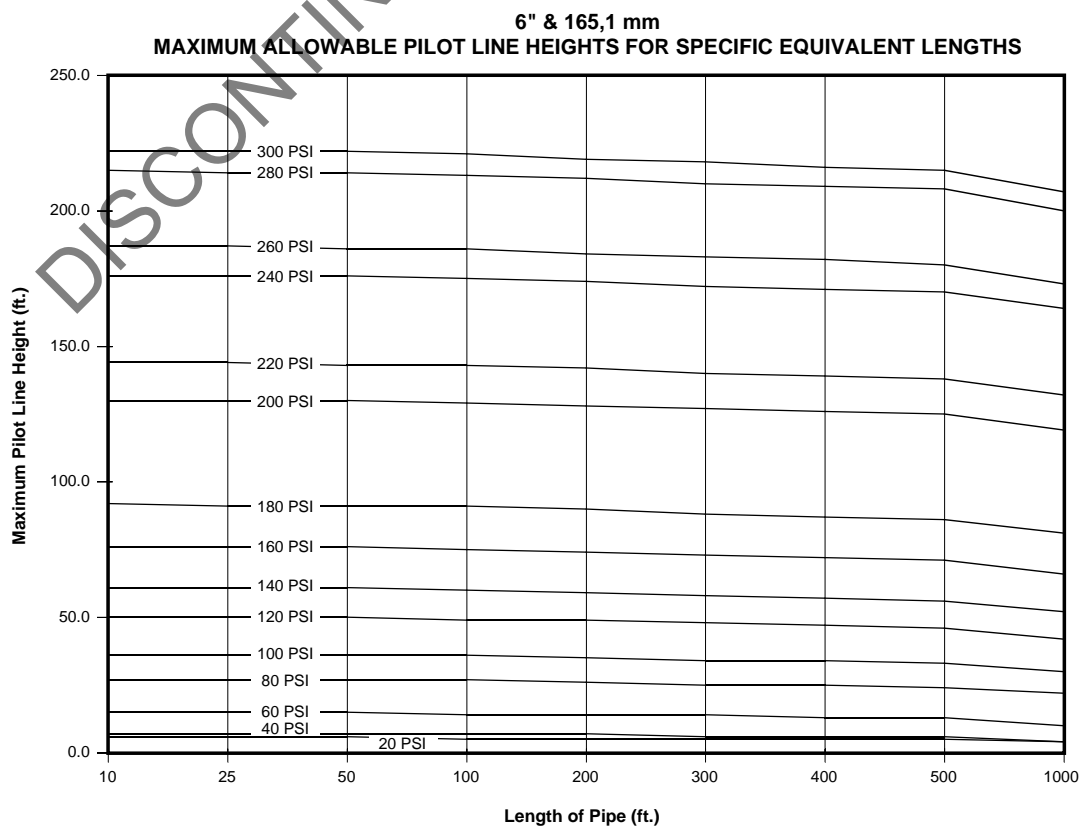
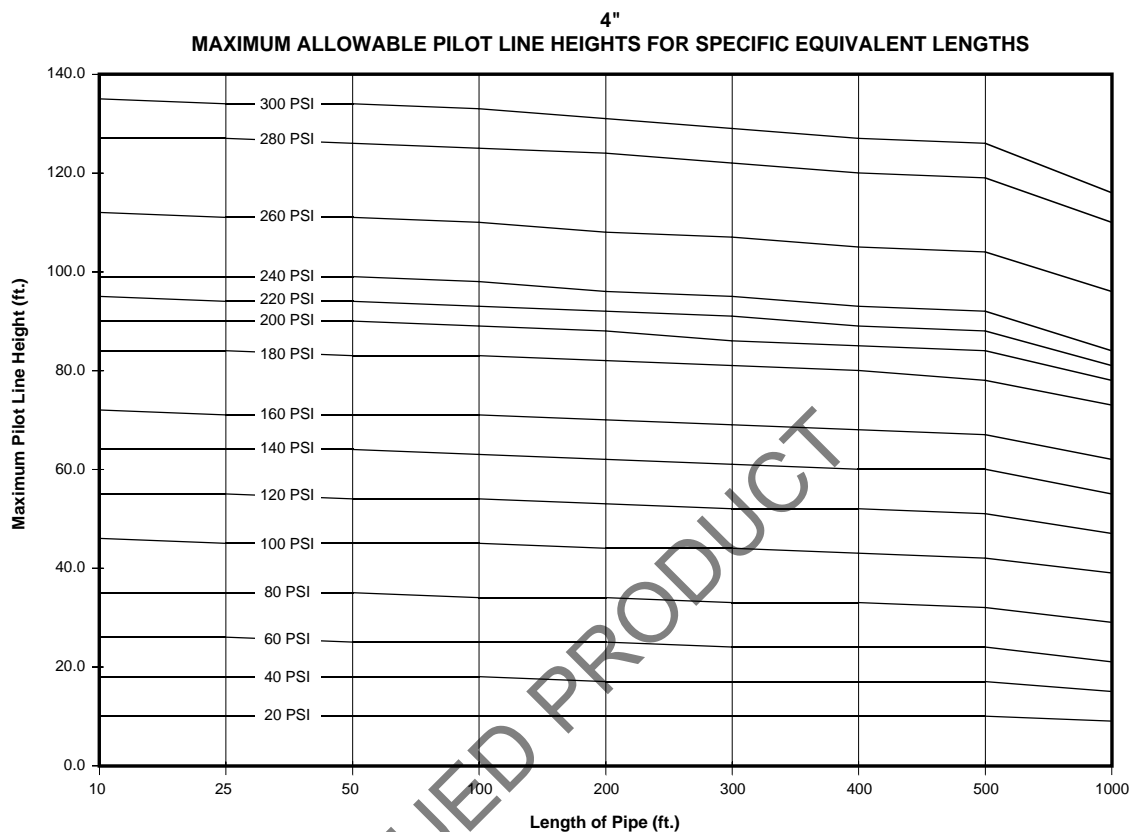
WET PILOT LINE CHARTS

Heights are based on 1/2" schedule 40 pipe and a 1/2" sprinkler head.



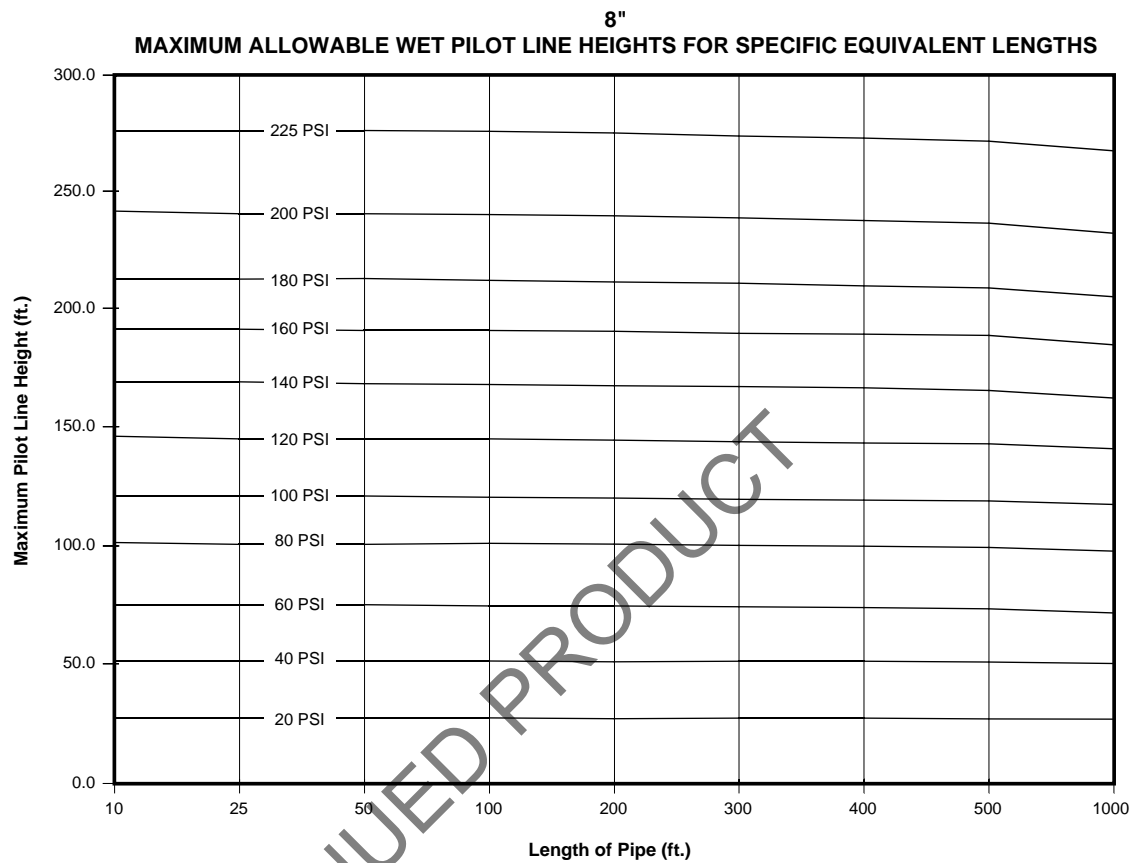
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Heights are based on 1/2" schedule 40 pipe and a 1/2" sprinkler head.



WET PILOT LINE CHARTS

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INSTALLATION

For proper operation and approval, you must install the valve in accordance with the trim diagrams for the Series 758 Deluge Valve. Victaulic provides specific trim drawings for pneumatic, hydraulic, and electric release installations.

The Series 758 Deluge Valve must **NOT** be located in an area that is subject to freezing temperatures. In addition, the valve must **NOT** be located in an area where physical damage may occur. It is the owner's responsibility to confirm material compatibility of the Series 758 Deluge Valve, trim, and associated accessories when a corrosive atmosphere or contaminated water is present.

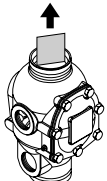
Air or nitrogen supply to the deluge piping system must be clean, dry, and oil free. Automatic air supplies must be regulated, restricted, and continuous. Victaulic recommends the installation of an air maintenance device on any system with an automatic air supply.

When used with a water motor alarm, configure the valve with an uninterrupted, low-pressure alarm mounted to the valve's piston.

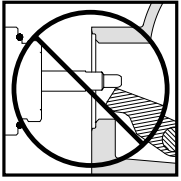
Prior to installing the valve, flush the water supply piping thoroughly in order to ensure that no foreign objects are present.

Install the Series 758 Deluge Valve in the vertical position with the arrow on the body pointing upward.

1. Confirm that all required drawings and data for the installation of the valve are available.
2. Remove all plastic caps from the valve.

! WARNING	
	<ul style="list-style-type: none">• Valves are shipped with a foam spacer holding the clapper shut. This spacer MUST be removed BEFORE installation of the valve. <p>Failure to follow this instruction could result in serious personal injury, property damage, valve leakage, and/or valve failure.</p>

3. For valves 3" (80 mm) or smaller, it is necessary to remove the piston assembly when trimming the valve.

! WARNING	
	<ul style="list-style-type: none">• Unscrew the piston from the valve body. Notice the position of the o-ring. This o-ring must be in the same position when reassembling.• Install the trim to the back of the valve.• Reassemble the piston by making sure that the o-ring is properly positioned, and that the piston rod and the latch are properly engaged. It may be necessary to rotate the latch inward, toward the valve body's center to ensure proper alignment. Tighten the piston until metal-to-metal contact is attained at the piston-to-valve body surfaces. <p>Failure to do so could result in malfunctioning of the valve and result in serious personal injury and/or property damage.</p>

4. Apply a small amount of pipe joint compound or Teflon* pipe tape to the external threads of all threaded pipe connections. Be careful not to get any tape, compound, or other foreign substance into the valve or the inside of any nipples or valve openings.

5. Make sure the trim drawing matches the system's requirements. Install the Victaulic Series 758 Deluge Valve in accordance with the applicable trim drawings.

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

IMPORTANT SETTINGS

Pneumatic Release Systems

1. For pneumatic release systems used with a Series 753-A Dry Actuator and a base-mounted compressor, supply a minimum air pressure to the unit, according to the chart on page 6. The air pressures in this chart are the "On" or "Low" settings for the pressure switch on the compressor.
2. Set the air supervisory switch to activate at 5 psi (34 kPa) below the minimum air pressure required.
3. Wire the air supervisory switch to activate a low pressure alarm signal. A high pressure alarm may also be required by the authority having jurisdiction.

Alarm Pressure Switch

1. Set the alarm pressure switch to activate on a pressure rise of 4 - 8 psi (25 - 55 kPa). Wire the alarm pressure switch to activate a water flow alarm.

Air Supply Design

1. Size the air supply system to establish the required air pressure in the system within 30 minutes. The air supply must be regulated, restricted, and maintained automatically.

! WARNING	
	<ul style="list-style-type: none">• Properly size and build the air supply system. <p>Failure to follow this instruction could result in serious personal injury, property damage, or valve leakage.</p>

2. Regulate the air pressure to the proper system air pressure. Air pressure differing from the required system air pressure could affect the operation of the system adversely.
3. Restrict the air supply in order to ensure that air being exhausted from an open head or manual release valve is not replaced by the air supply system as fast as it is being exhausted.

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

4. It is recommended practice that an inspector's test connection be provided on the release system. This inspector's test connection should be equipped with a ball valve (normally locked closed), which can be opened in order to simulate the actuation of a release device. Locate the test connection at the highest, most hydraulically demanding location in the release system. The test connection should terminate with an orifice equal to the smallest orifice in the releasing system. The inspector's test connection can be used in order to confirm that the air or water supply systems are not supplying pressure at a rate faster than the releasing device can exhaust pressure.

Pilot Line Heights

1. Determine wet pilot line heights from the graphs on pages 7, 8, and 9. Heights are based on ½" schedule 40 pipe and a ½" sprinkler head.

PLACING THE SYSTEM IN SERVICE

When the deluge system is ready to be placed in service, verify that all equipment is heated and protected properly from freezing temperatures and physical damage.

CAUTION

- Opening the main control valve of the water supply will cause water to flow from all open system openings.
- Doing so may cause personal injury or property damage.

- 1.** Open the system drain valve located above the clapper. Confirm that the system is drained.
- 2.** Confirm that the system drains are shut.



3. For pneumatic systems: Open the fast fill ball valve on the air maintenance device. Fill the pilot system to the appropriate air pressure for the typical water supply pressure in the area. **NOTE:** Confirm that the pilot system is charging by observing the air pressure gage. If the gage is not showing an increase in air pressure, there is a leak or an open line in the release pilot system.

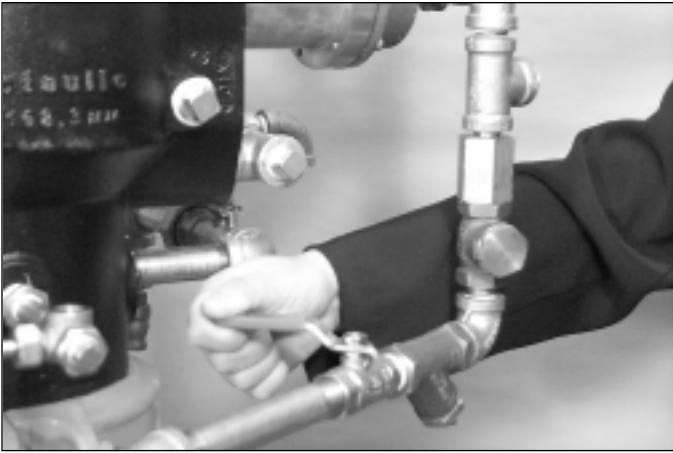


3a. While the system is charging, it may be necessary to push down on the upper chamber seal of the Series 753-A Dry Actuator.



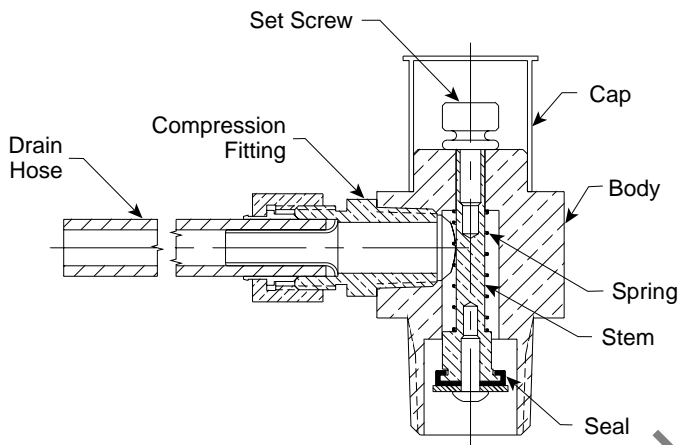
4. For pneumatic systems: Once the pilot system air pressure has been established, close the fast fill ball valve and open the slow fill ball valve. Confirm that the air regulator is set to the proper system pressure. **NOTE:** On systems using a Series 746 Accelerator, set the accelerator by following the installation and assembly instructions (I-746) provided with the accelerator.

4a. For pneumatic systems: Observe the system's air pressure over a 24 hour period to confirm system integrity. If there is degradation in the system's air pressure, find the leaks and correct. NFPA requires less than 2 psi leakage in 24 hours.



5. Open the piston charge line ball valve.

SERIES 749 AUTO DRAIN ASSEMBLY



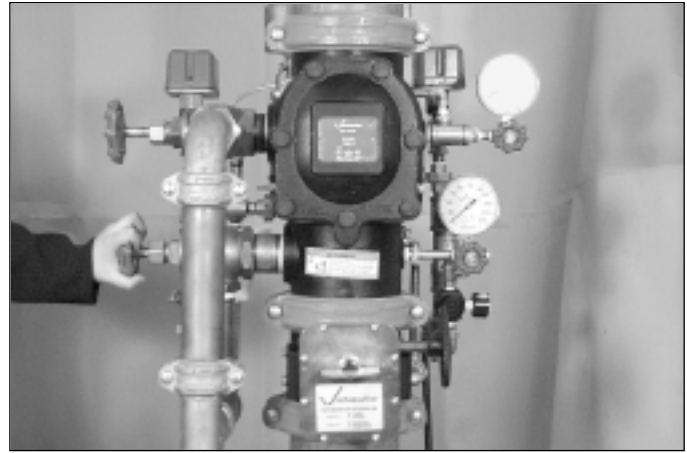
5a. Remove the cap from the Series 746 Auto Drain. Pull on the auto drain set screw until the auto drain is set (approximately 10 psi). Replace the protective cap on the auto drain.

⚠ WARNING

- Make sure you replace the protective cap over the auto drain set screw to avoid accidental contact. Hitting the set screw will cause the valve to trip.

Failure to follow this instruction could cause serious personal injury and/or property damage.

5b. Allow the system to pressurize. Confirm that water pressure is established. The piston is now actuated, and the clapper will now be set.



6. Open the water supply drain valve. This is the drain located below the clapper.



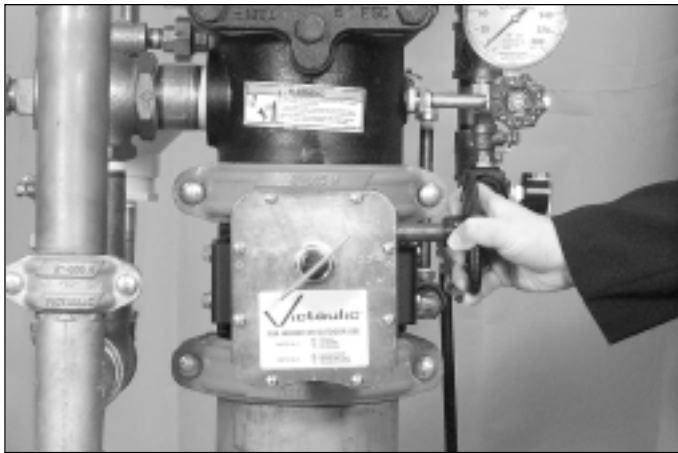
7. Slowly open the main water supply control valve until a steady flow of water is flowing from the open water supply drain valve.

⚠ CAUTION

- Opening the main control valve of the water supply will cause water to flow from all open system openings. Doing so may cause personal injury or property damage.



8. Once a steady flow of water is observed, close the water supply drain valve slowly. Confirm that there is no leakage from the ball drip. If water is flowing from the ball drip, close the main water supply valve and start over at step 1.



9. Fully open the main water supply control valve.

10. Record the system air pressures, if applicable, and the water supply pressures.

11. Make sure all valves are in their normal operating positions.

12. Notify the authority having jurisdiction, remote station monitors, and those in the affected area that the valve and system are in service.

SETTING UP THE SERIES 746 DRY ACCELERATOR



Refer to the installation and assembly instructions for the Series 746 Dry Accelerator (I-746) to set up the accelerator.

INSPECTION AND TESTS

! WARNING

The owner is responsible for maintaining the deluge system in proper operating condition.

- It is important that you inspect and test this deluge system regularly, according to proper procedures.
- The Victaulic Series 758 Deluge Valve and trim must not be exposed to foreign matter, corrosive atmospheres, freezing conditions, contaminated water supplies, or any other condition that could impair the proper operation of the system.
- You must modify the frequency of inspections in the presence of any environmental conditions that could degrade the system's operation.
- The National Fire Protection Association Pamphlet, which describes the care and maintenance of sprinkler systems, outlines the minimum requirements for tests and inspections.
- In addition, the authority having jurisdiction may have maintenance, inspection, and test requirements that must be followed.

Failure to follow these instructions may result in serious personal injury, property damage, and/or system failure.

! WARNING



- Any system service that requires taking the control valve or deluge system out of service may eliminate the fire protection provided by the system. Prior to servicing or testing the system, notify the authority having jurisdiction of the operation being performed. Consideration of a fire patrol should be given in the affected areas. Failure to do so could result in serious personal injury or property damage.

WEEKLY INSPECTION

Victaulic recommends that you perform a visual inspection of the deluge system and the trim on a weekly basis. If the deluge system is equipped with a low-pressure alarm, monthly inspections may be sufficient, depending on requirements of the local authority having jurisdiction. Verify these requirements by contacting the authority having jurisdiction in your affected area.

1. Observe and record the system pressures. Confirm that the water supply pressure is in the range of normal pressures observed in the area. Significant loss in supply pressure could indicate an adverse condition in the water supply.

2. Confirm that there is no leakage from the intermediate chamber of the valve. No water should flow from the ball drip.

3. Check for mechanical damage or corrosion. If found, repair the affected parts.

4. Confirm that the valve and trim are not subject to freezing conditions.

5. Verify that all system valves are in their normal operating position.

6. If the deluge system is equipped with a Series 746 Accelerator, observe and record the pressure in the upper chamber of the accelerator. This pressure should equal the system air pressure within the allowable tolerances of the gauges. If the upper chamber's air pressure is below the system air pressure, follow the troubleshooting procedure for the accelerator.

REQUIRED TESTS

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 your affected area.

1. Inform the authority having jurisdiction, remote station alarms monitor, and anyone in the affected area that the test will be performed.

2. Perform and record as per the monthly visual inspection.

3. Confirm that sufficient drainage is in place for a full flow drain test.

4. Record the water supply pressure and the pilot system air pressure.
5. Verify that the intermediate chamber of the deluge system is dry. No water should flow from the ball drip.
6. For pneumatic systems, verify that the deluge system is pressurized at the proper air pressure for the local water supply pressures.

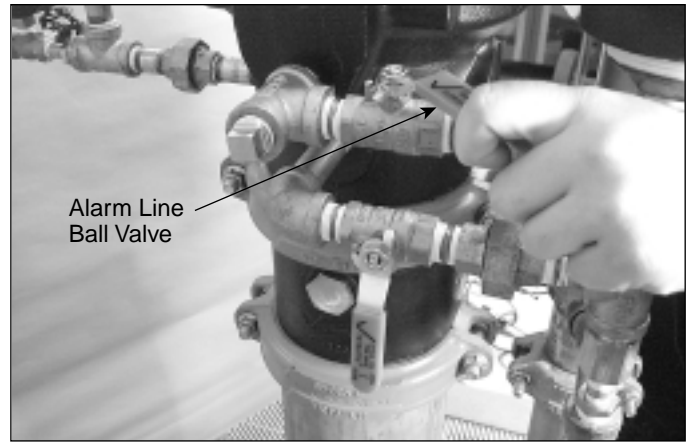


7. Fully open the water supply drain valve located below the clapper.
8. With the water supply drain fully open, record the water supply pressure (record as the residual pressure).
9. Close the water supply drain valve slowly.
10. Compare the new residual pressure reading with the residual pressure readings taken in previous main drain tests. If there is a degradation in the residual water supply readings, take the appropriate measures to restore proper water supply pressure.
11. Record the water pressures established after closing the main drain. Confirm that all ball valves are in their proper operating positions.
12. Notify the authority having jurisdiction, remote station alarm monitors, and those in the affected area that the valve has been placed back in service. Provide test results, as required, to the authority having jurisdiction.

Water Flow Alarm Test

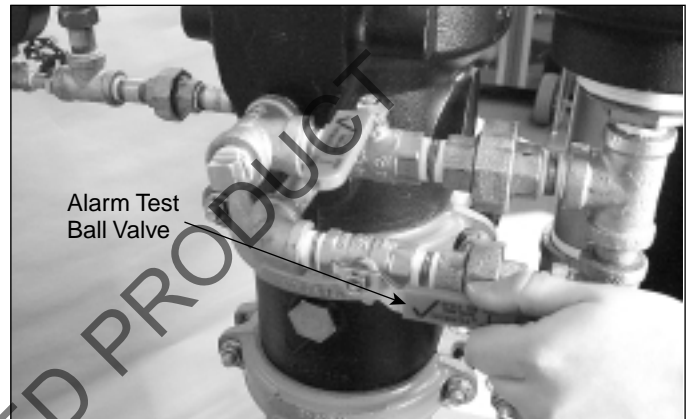
Perform the water flow alarm test on a frequency required by the current NFPA-25 code. The authority having jurisdiction in your area may require that you perform these tests on a more frequent basis. Verify these requirements by contacting the authority having jurisdiction in your affected area.

1. Notify the authority having jurisdiction and those in the affected test area that a test is in progress.
2. Fully open the main water supply drain and flush the water supply of any contaminants.
3. Close the main water supply drain.



NOTE: Photo taken of alarm valve for clarity of ball valve's location.

4. Close the alarm line ball valve.



NOTE: Photo taken of alarm valve for clarity of ball valve's location.

5. Open the alarm test ball valve in the deluge system trim. Confirm that mechanical and electric alarms provided are activated, and that remote monitoring stations, if provided, receive an alarm signal.
6. After proper operation of all alarms is confirmed, close the alarm test ball valve. Open the 1/4" alarm drain ball valve on the drain line located below the restrictor. Verify that all alarms stop sounding, that the water motor alarm has drained properly, and that remote station alarms reset properly.
7. Confirm that the alarm line ball valve in the deluge system trim is open. Confirm that the alarm test ball valve and the alarm drain ball valve are closed.
8. Verify that the intermediate chamber of the deluge system is dry. No water should flow from the ball drip.
9. Notify the authority having jurisdiction, remote station alarm monitors, and those in the affected area that the valve has been placed back in service.

Water Level and Low Air Alarm Test (Pneumatic Systems)

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 your affected area.

1. Notify the authority having jurisdiction and those in the affected area that the test will be in progress.
2. Open the main water supply drain to flush any contaminants that may have collected.
3. Close the water supply control valve.
4. Open the inspector's test valve. Record the system air pressure at which the low air alarm activates.
5. Close the inspector's test valve.
6. Perform Steps 4 - 12 of "Placing the System in Service."

TRIP TEST

Partial flow tests are used to confirm the proper operation of the valve. The partial flow test does not confirm the operation of the full system.

Full flow testing allows the full flow of water into the sprinkler system, and it must be done in warm weather when there is no chance of freezing conditions.

The frequency of inspections may vary due to environmental conditions around the valve. For minimum maintenance and inspection requirements, refer to the NFPA pamphlet describing the care and maintenance of sprinkler systems. More frequent full and partial flow tests may be required by the authority having jurisdiction.

Partial Flow Test

1. Notify the authority having jurisdiction and those in the affected area that the test will be in progress.
2. Record the water supply pressure and the system air pressure.
3. Open the water supply drain valve fully to flush any foreign materials from the system.
4. Close the water supply control valve.
5. Close the water supply drain valve.
6. Open the inspector's test connection to simulate an open sprinkler head.
7. Record the system air pressure when the valve activates. When the valve activates, water will be expelled from the ball drip and the deluge actuator.
8. Follow Steps 4 - 12 of "Placing the System in Service."

Full Flow Test

CAUTION

- Performing the "Full Flow Test" may result in water flowing from all heads in the deluge system. Precautions must be taken to eliminate damage to the affected area. Failure to do so may cause personal injury or property damage.

1. Notify the authority having jurisdiction and those in the affected area that the test will be in progress.
2. Record the water supply pressure and the system air pressure.

3. Open the water supply drain valve fully to flush any foreign materials from the system.
4. Close the water supply drain valve.
5. Open the inspector's test valve to simulate the operation of a sprinkler head.
6. Confirm that all alarms operate properly.
7. Continue to run water until the water runs clear.
8. Close the remote test connection.
9. Close the water supply control valve.
10. Drain the sprinkler system fully.
11. Follow Steps 4 - 12 of "Placing the System in Service."

MAINTENANCE

WARNING



- Piping systems must always be depressurized and drained before attempting disassembly and removal of any Victaulic piping products. Failure to follow this instruction could result in serious personal injury, property damage, or valve leakage.

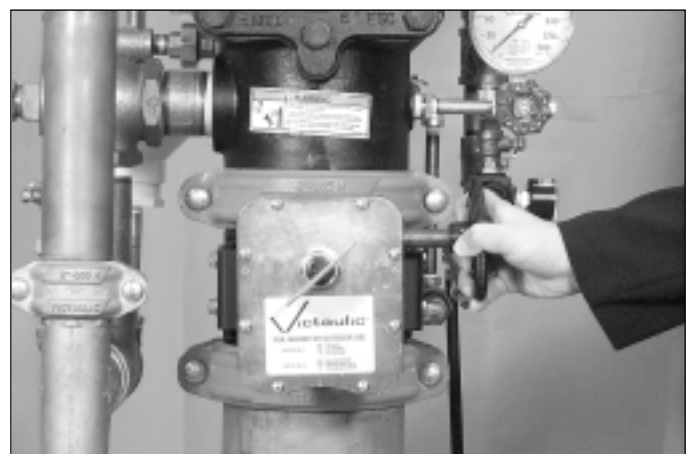
WARNING



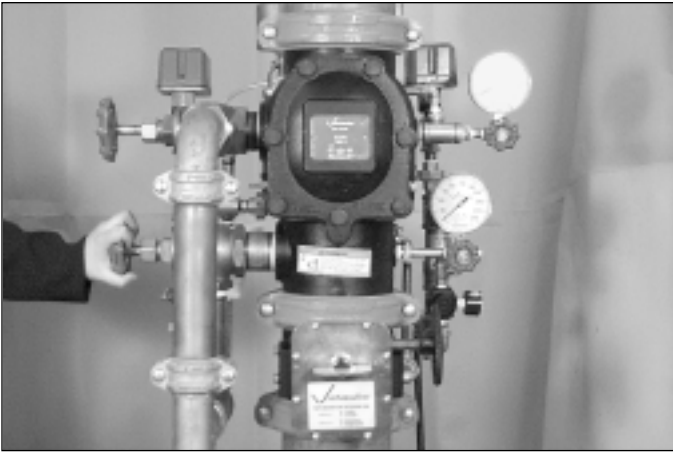
- Any system service that requires taking the control valve or deluge system out of service may eliminate the fire protection provided by the system. Prior to servicing or testing the system, notify the authority having jurisdiction of the operation being performed. Consideration of a fire patrol should be given in the affected areas.

Failure to do so could result in serious personal injury or property damage.

1. Notify the authority having jurisdiction and those in the affected area that the system will be taken out of service.

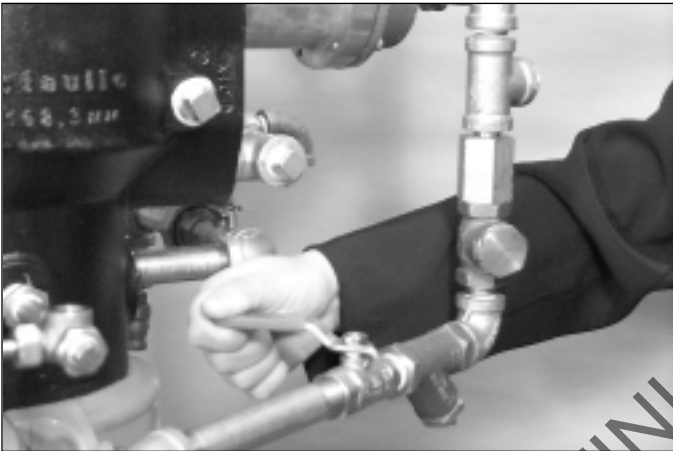


2. Close the main water supply control valve. This takes the system out of service.



3. Open the water supply drain valve located below the clapper.

4. Confirm that no water is flowing from the water supply drain.



5. Close the piston charge line ball valve to the piston.



6. Open the system main drain valve. This drains the system of any water that has accumulated. If the system has operated, open the remote test valve and any auxiliary drain valves in the system.



7. Close the slow fill ball valve on the air maintenance system.

7a. Release pressure from the piston by tripping the inspector's test connection, or by opening the manual release pull station.



8. After all pressure has been released from the system, loosen all cover bolts, which attach the cover plate to the valve. NOTE: Do not remove any bolts until all bolts are loosened.

8a. If necessary, tap on the cover's edges to free the cover.

8b. Remove the cover plate, or allow the cover to pivot on one of the lower bolts.

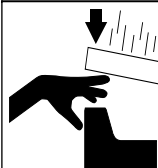
⚠ WARNING



- ALWAYS DEPRESSURIZE THE VALVE BEFORE REMOVING COVER PLATE BOLTS. The valve must be depressurized before removing these bolts. The cover will blow off if these bolts are removed while the valve is pressurized.

Failure to follow this instruction may result in property damage or serious personal injury.

⚠ WARNING



- If water is coming from the weep hole under the valve cover, THE WATER SUPPLY VALVE IS NOT CLOSED! CLOSE THE WATER SUPPLY VALVE NOW!
- Use caution when closing the water supply valve. The clapper could trip and pinch fingers.

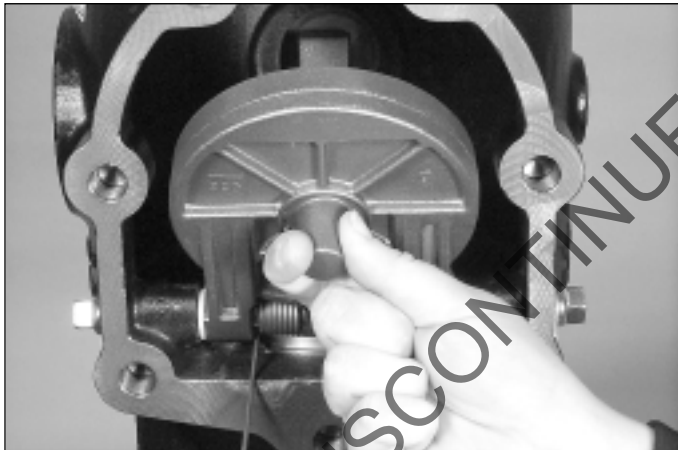
Failure to do so could result in serious personal injury or property damage.



9. Rotate the clapper out of the access area and inspect both the clapper's rubber facing and the brass seat ring in the body. Wipe away any contaminants, dirt, and mineral deposits. Clean any holes in the seat ring that may be plugged or restricted. **DO NOT USE SOLVENTS OR ABRASIVES.**

CAUTION

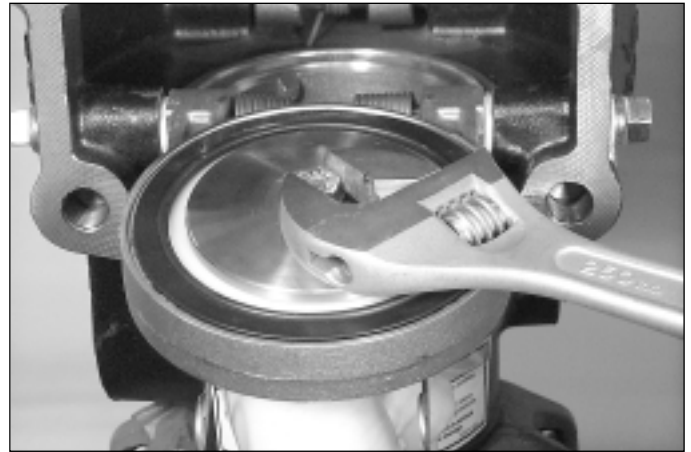
- The use of solvents or abrasives on or near the seat ring may diminish the ability of the valve to seal properly.
- Failure to do so could result in improper operation or property damage.



10. Inspect the clapper for freedom of movement and physical damage. Replace any damaged or worn parts.

11. Following inspection and repair of the valve, perform steps in "Placing the System in Service."

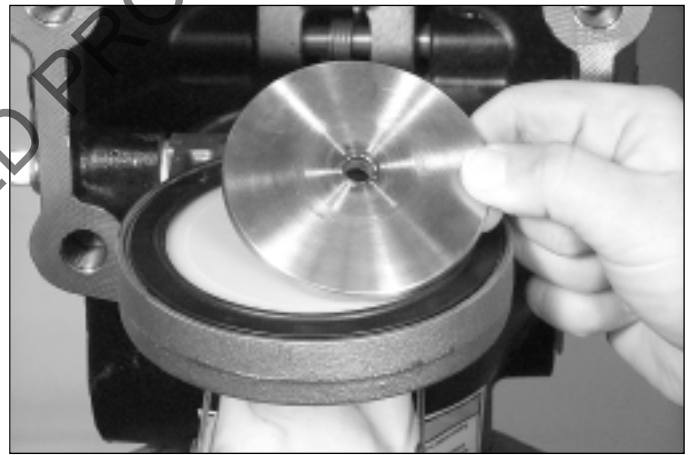
REMOVING THE RUBBER CLAPPER FACING



1. Remove the single bolt/washer from the clapper face.

CAUTION

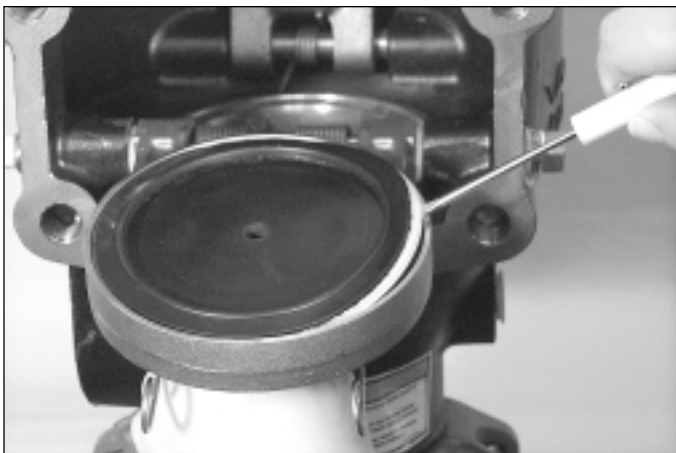
- This is a self-sealing bolt/washer. It is critical that you use a new, Victaulic-supplied replacement when you reassemble the clapper.
- Failure to follow this instruction could result in significant property damage.



2. Remove the brass retaining ring.

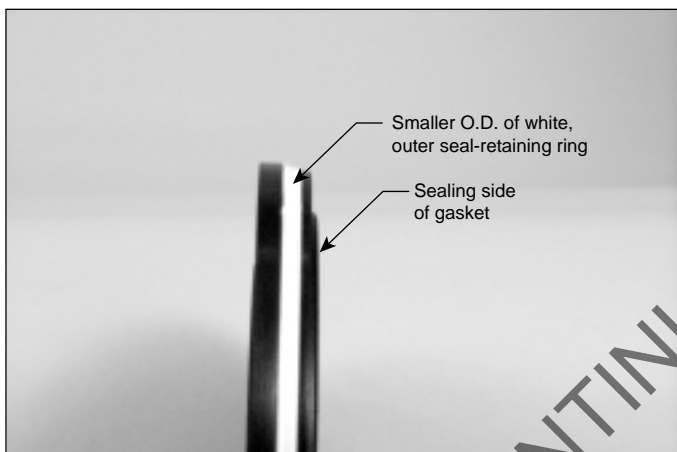


3. Remove the plastic seal-retaining ring from the inside of the rubber seal.

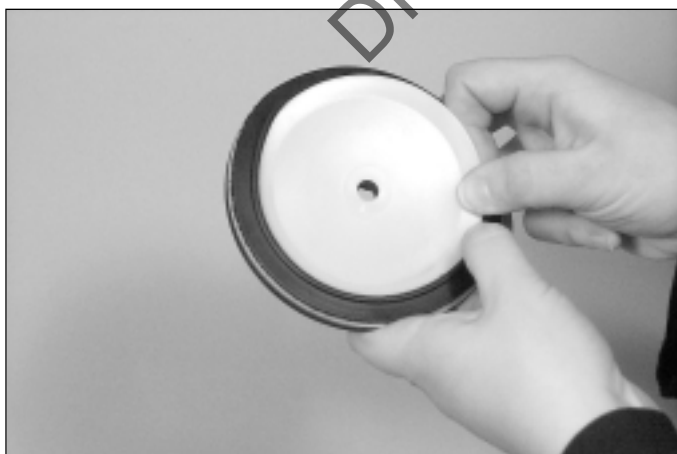


4. Pry the clapper's seal, along with the outer seal-retaining ring, out of the clapper. Inspect the seal. If the seal is torn, or if it shows any signs of wear, replace the seal.

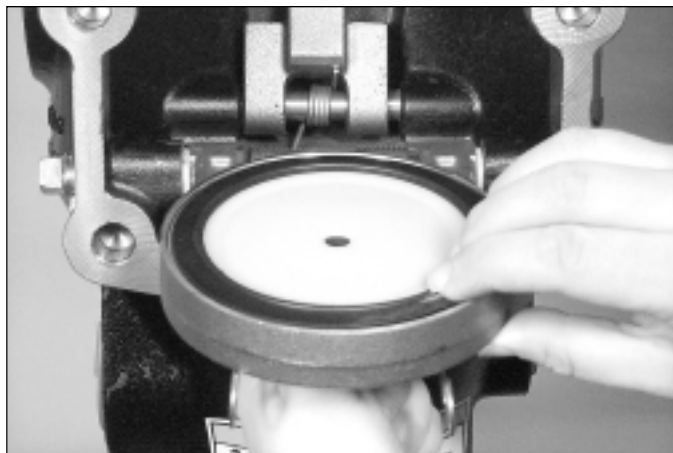
INSTALLING THE RUBBER CLAPPER SEAL



1. If you removed the outer seal-retaining ring from the seal in step 4, re-insert the outer seal-retaining ring carefully underneath the outer lip of the gasket. Make sure the smaller OD of the outer seal-retaining ring is toward the sealing surface of the gasket.



2. Insert the inner seal-retaining ring carefully underneath the sealing lip of the gasket.



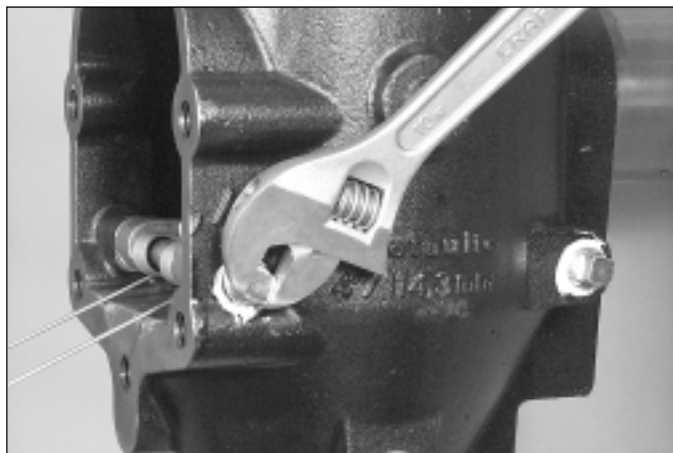
3. Ensure that the clapper is free of contaminants, dirt, and mineral deposits.

3a. Carefully put the rubber seal into the clapper so that the clapper retains the outer edge of the seal. Make sure that the seal is pushed all the way down in the clapper, and the the outer seal-retaining ring snaps into position.

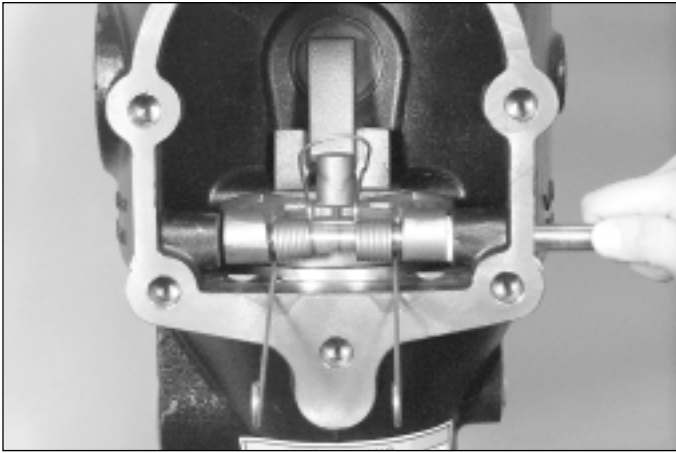


4. Place the brass retaining ring onto the seal and bolt the retaining ring to the clapper with the bolt/washer provided by Victaulic. Tighten the bolt/washer sufficiently, and apply an additional 1/4 turn to ensure a proper seal.

REMOVING THE CLAPPER ASSEMBLY



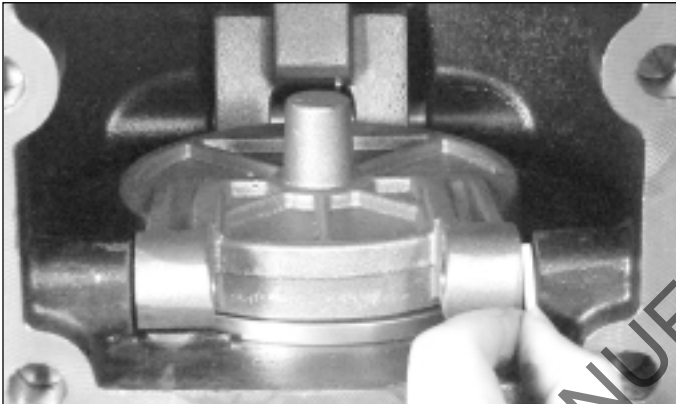
1. Remove the shaft retaining plugs from the valve's body.



2. Slide the clapper shaft through the body and clapper.

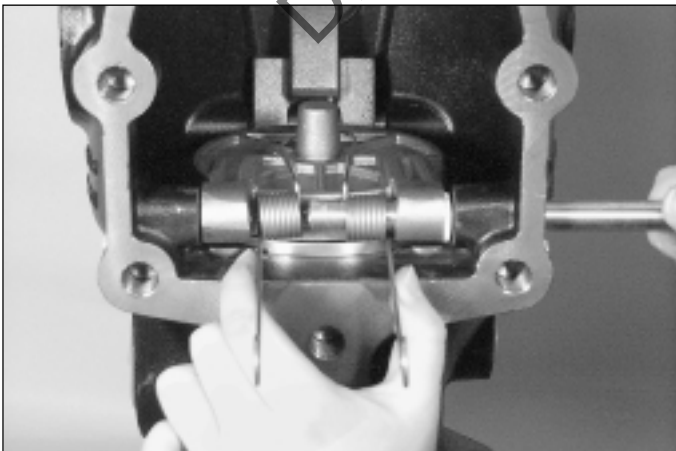
3. Remove the clapper

INSTALLING THE CLAPPER

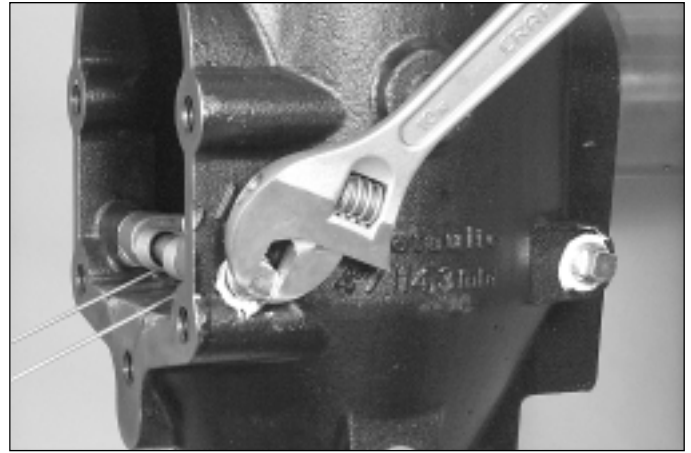


1. Place the clapper on the seat ring so that the clapper shaft can pass through both the body and clapper. Make sure one spacer/washer is placed on the outside of each clapper arm.

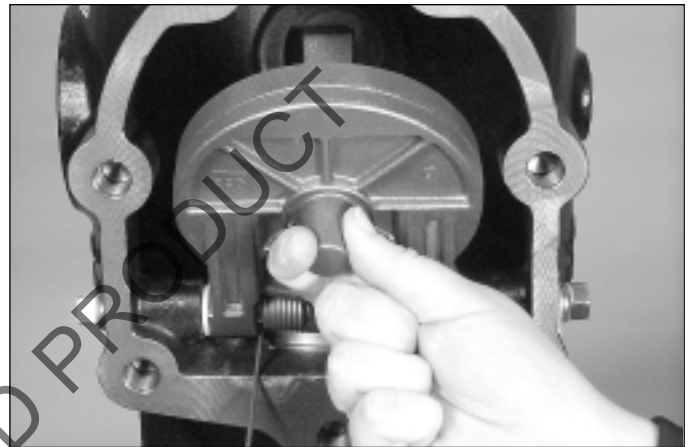
2. Position the clapper spring so that the loop is on the clapper and the spring coils are inside the clapper's arms. Proper positioning will allow the clapper shaft to pass through the spring coils.



3. Slide the shaft through the body into the first clapper arm, then through the clapper spring coils, then out the second clapper arm and into the body.



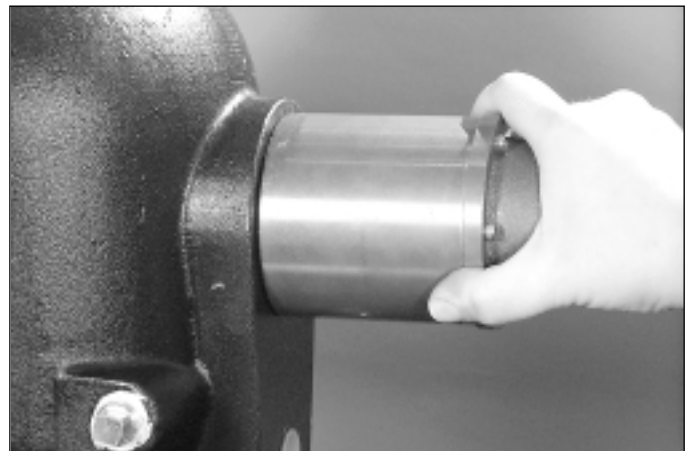
4. Screw the shaft retaining plugs back into the body.



5. Confirm the free movement of the clapper prior to re-assembling the valve.

REMOVING THE ACTUATOR PISTON

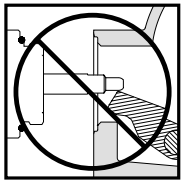
1. Disconnect the trim from the piston.



2. Unscrew the piston from the valve body.

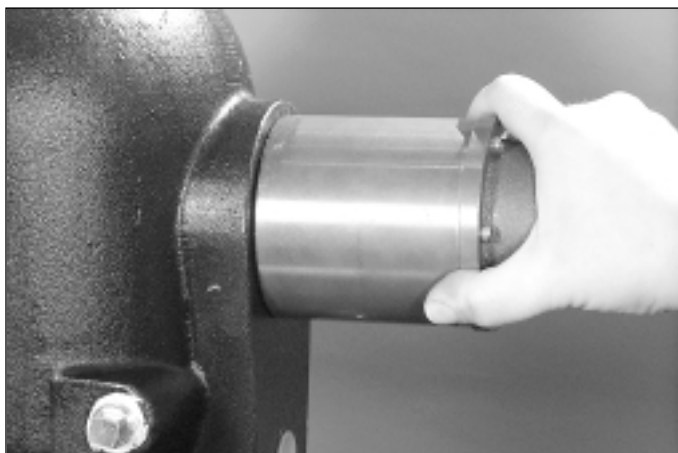
3. Repair or replace the piston assembly.

⚠ WARNING



- Unscrew the piston from the valve body. Notice the position of the o-ring. This o-ring must be in the same position when reassembling.
- Install the trim to the back of the valve.
- Reassemble the piston, making sure that the o-ring is properly positioned, and that the piston rod and the latch are properly engaged. It may be necessary to rotate the latch inward, toward the valve body center, to ensure proper alignment. Tighten the piston until metal-to-metal contact is attained at the piston-to-valve body surfaces.

Failure to do so could result in malfunctioning of the valve, resulting in serious personal injury and/or property damage.



4. Screw the piston into the valve body.

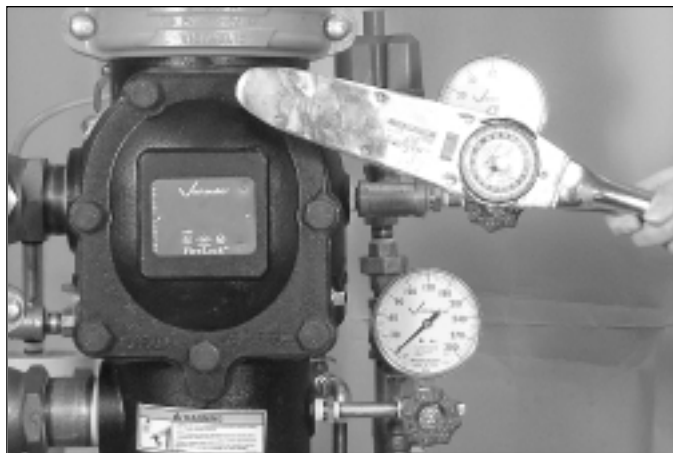
5. Attach the trim as per the trim drawings.

INSTALLING THE COVER PLATE

1. Verify that the cover gasket is in good condition and replace, if necessary. Align the cover plate gasket with the holes on the cover plate. Insert one bolt through the cover plate and the cover gasket.



2. Align the cover plate and cover gasket to the valve. Ensure that the spring arms are now rotated to their installed position. Insert the bolts.



3. Tighten all cover bolts alternately and evenly. Tighten the cover bolts to the proper torque per the chart below. Do not under-tighten or over-tighten these bolts.

Recommended Cover Bolt Torque

Size (Inches)	Torque (Ft. Lbs.)	Size (Inches)	Torque (Ft. Lbs.)	Size (Inches)	Torque (Ft. Lbs.)
1½	30	76,1 mm	60	6	115
2	30	3	60	165,1 mm	115
2½	60	4	100	8	100

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

TROUBLESHOOTING – Series 753-A Dry Actuator

Problem	Possible Cause	Solution
The upper chamber seal does not engage when pushing down on it during system setup.	The adjustable seat on the top of the actuator is set too low.	Turn the seat with an adjustable wrench ¼ turn counterclockwise. Try to set the actuator again. If it still does not set, repeat this adjustment procedure until it does engage.
Water leaks through the actuator into the drain when the water supply line to the piston is opened.	The adjustable seat on the top of the actuator is set too high.	Close the ball valve on the piston water supply line. Open the system main drain until the actuator trips. Turn the seat with an adjustable wrench ¼ turn clockwise. Set the actuator again. If it still leaks, repeat the above procedure until it doesn't leak.

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 any leaks in the system and the trim. Confirm the proper operation of the air maintenance device attached to the trim.
The dry accelerator does not operate within a 5-psi pressure drop in the system's air pressure.	Loss of air pressure in the upper air chamber of the dry accelerator.	Apply soapy water to all dry accelerator joints and check for air leaks. Repair all leaks and re-test.

DISCONTINUED PRODUCT TROUBLESHOOTING – System

Problem	Possible Cause	Solution
Valve actuates when no sprinkler activation has occurred.	Loss of air pressure in system.	Check for system leaks. Confirm the proper operation of the air maintenance device attached to the system. Consider installing a low air pressure alarm.
Water leaking from the ball drip.	Water is getting past the seal into the intermediate chamber.	Check the clapper's rubber seal and the valve seat ring for physical damage, or the presence of a foreign object in the seal surface.
Clapper will not latch closed.	No air pressure on the dry actuator. No water pressure on the actuator piston.	Ensure that the dry actuator is set up properly. Check the water pressure in the piston.

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

DISCONTINUED PRODUCT



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