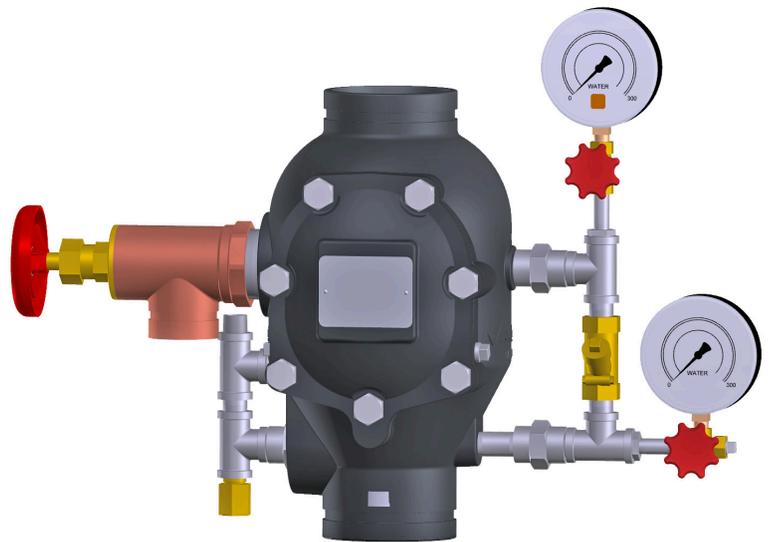


# Series 751 FireLock™ Alarm Check Valve (UL/FM Alarm Valve and Trim With or Without Excess Pressure Pump)

KEEP THESE INSTRUCTIONS WITH THE INSTALLED VALVE FOR FUTURE REFERENCE



Scan QR Code for Access to Videos and Additional Publications



## **⚠ WARNING**



- Read and understand all instructions before attempting to install any Victaulic products.
- Always verify that the piping system has been completely depressurized and drained immediately prior to installation, removal, adjustment, or maintenance of any Victaulic products.
- Wear safety glasses, hardhat, and foot protection.
- Failure to follow these instructions could result in death or serious personal injury and property damage.

- Series 751 FireLock™ Alarm Check Valves shall be used only in fire protection systems that are designed and installed in accordance with current, applicable National Fire Protection Association (NFPA 13, 13D, 13R, etc.) standards, or equivalent standards, and in accordance with applicable building and fire codes. These standards and codes contain important information regarding protection of systems from freezing temperatures, corrosion, mechanical damage, etc.
  - These installation instructions are intended for an experienced, trained installer. The installer shall understand the use of this product and why it was specified for the particular application.
  - The installer shall understand common industry safety standards and potential consequences of improper product installation.
- Failure to follow installation requirements and local and national codes and standards could compromise system integrity or cause system failure, resulting in death or serious personal injury and property damage.

# SERIES 751 FIRELOCK™ ALARM CHECK VALVE

THIS QUICK REFERENCE SECTION IS FOR PLACING THE SYSTEM IN SERVICE AND FOR PERFORMING REQUIRED MAIN DRAIN TESTS. AN EXPERIENCED, TRAINED INSTALLER SHALL READ AND UNDERSTAND THE FULL CONTENTS OF THIS MANUAL AND ALL WARNING MESSAGES BEFORE ATTEMPTING TO PLACE THE SYSTEM INTO SERVICE.

## INITIAL SYSTEM SETUP

### WARNING

- The Series 751 Alarm Check Valve and supply piping shall be protected from freezing temperatures and mechanical damage.
  - For proper operation of alarms in a wet system, it is important to remove all air from the system. Auxiliary drains may be required to release all trapped air from the system.
  - Alarms and electrical panels that are controlled by an alarm flow switch on the riser shall not be interrupted.
- Failure to follow these instructions could cause improper valve operation, resulting in death or serious personal injury and property damage

#### Step 1:

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

#### Step 2:

Confirm that the system has been depressurized. The gauges should indicate zero pressure.

#### Step 3:

Open the remote system test valve (inspector's test connection) and any auxiliary drains.

#### Step 4:

Close the alarm line ball valve to prevent alarms from operating while the system is filling.

#### Step 5:

Open the water supply main control valve slowly. Allow the system to fill with water completely. Allow water to flow from the remote system test valve (inspector's test connection) and any auxiliary drains until all trapped air is removed from the system.

#### Step 6:

Close the remote system test valve (inspector's test connection) and any auxiliary drains. **NOTE:** The system pressure gauge should be equal to or greater than the water supply pressure gauge.

#### Step 7:

Open the water supply main control valve fully.

### WARNING

- The alarm line ball valve (lockable) shall remain in the open position to allow alarms to activate.
- Failure to leave the alarm line ball valve open will prevent alarms from activating, resulting in death or serious personal injury and property damage.

#### Step 8:

Open the alarm line ball valve (lockable).

#### Step 9:

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

#### Step 10:

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

### NOTICE

- Excess pressure pump operation shall be automatic in response to decreasing pressure.

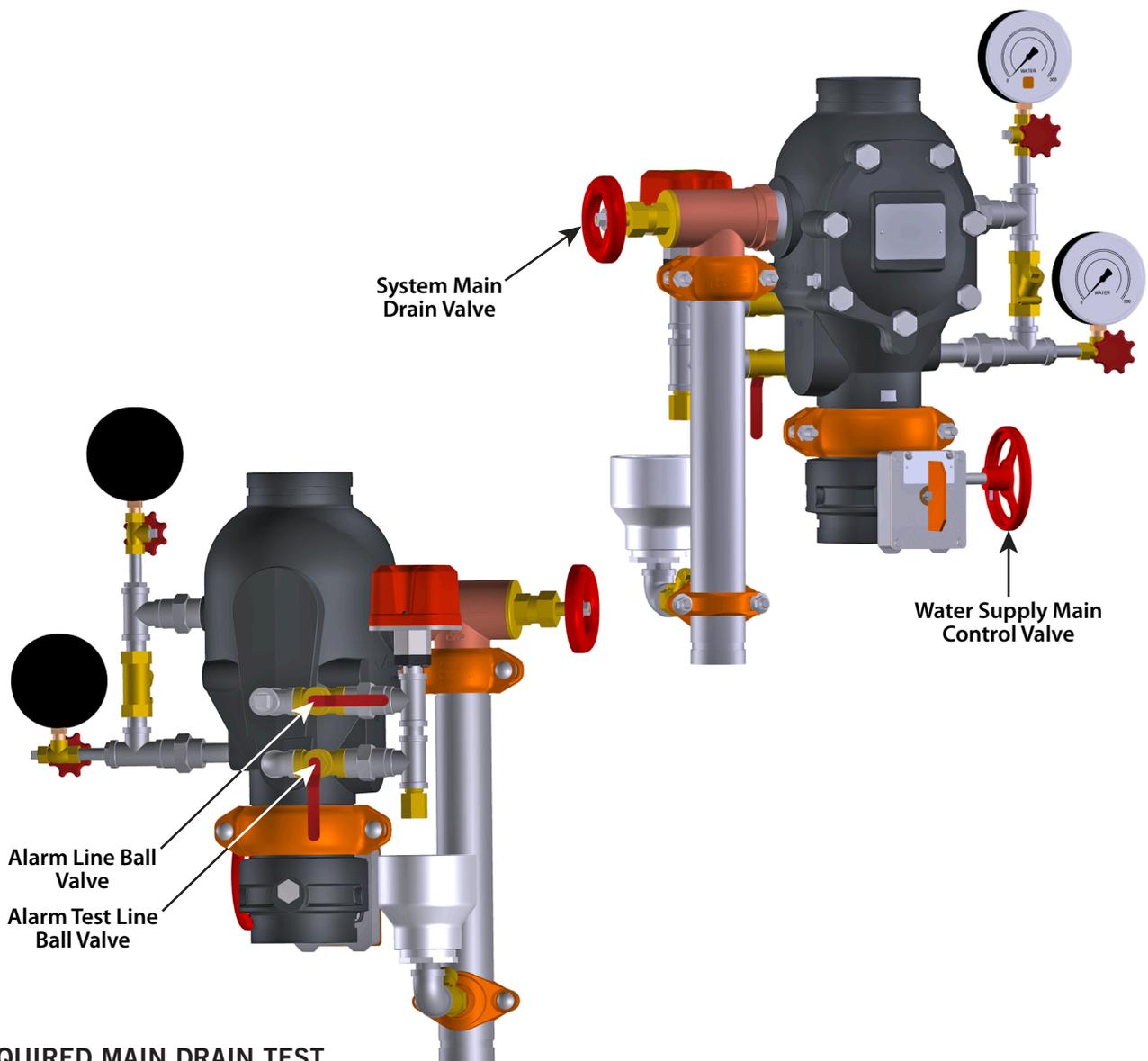
## NORMAL OPERATING POSITIONS FOR VALVES

### Standard Trim

Valve	Normal Operating Position
Alarm Line Ball Valve (Lockable)	Open
Alarm Test Line Ball Valve (Lockable)	Closed
Water Supply Main Control Valve	Open
System Main Drain Valve	Closed

### Trim for Use with Excess Pressure Pump

Valve	Normal Operating Position
Excess Pressure Pump Isolation Ball Valves	Open
Excess Pressure Pump Pressure Switch Isolation Ball Valve	Open
Alarm Line Ball Valve (Lockable)	Open
Alarm Test Line Ball Valve (Lockable)	Closed
Water Supply Main Control Valve	Open
System Main Drain Valve	Closed



## REQUIRED MAIN DRAIN TEST

Refer to NFPA 25, FM Datasheets, or any applicable local requirements to perform main drain tests. The authority having jurisdiction in the area may require 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 available.
3. Record the water supply pressure and system water pressure.

### NOTICE

- Close the alarm line ball valve at this point to prevent alarms from activating during the main drain test.

4. Close the alarm line ball valve.
5. Open the system main drain valve fully. Record the water supply pressure as the residual pressure.
6. Close the system main drain valve slowly. Record the water pressure established after closing the system main drain valve.
7. Compare the residual pressure reading to the residual pressure readings taken in previous main drain tests. If there is degradation in the residual water supply reading, restore the proper water supply pressure.

### ⚠ WARNING

- The alarm line ball valve (lockable) shall remain in the open position to allow alarms to activate.

Failure to leave the alarm line ball valve open will prevent alarms from activating, resulting in death or serious personal injury and property damage.

8. Open the alarm line ball valve.
9. Confirm that all valves are in their normal operating positions (refer to the table to the left).
10. Notify the authority having jurisdiction, remote station alarm monitors, and those in the affected area that the valve is back in service. Provide test results to the authority having jurisdiction, if required.

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**HAZARD IDENTIFICATION**



Definitions for identifying the various hazard levels are provided below. 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 and property damage if instructions 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 are not followed.

**NOTICE**

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

**INSTALLER SAFETY INFORMATION**

**WARNING**



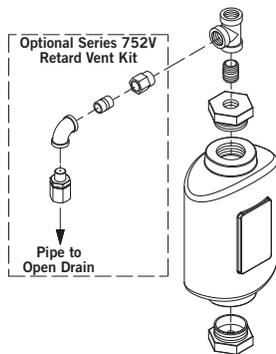

- An experienced, trained installer shall install this product in accordance with all instructions. These instructions contain important information.
- Depressurize and drain the piping system before attempting to install, remove, adjust, or maintain any Victaulic piping products.

**Failure to follow these instructions can cause product failure, resulting in death or serious personal injury and property damage.**

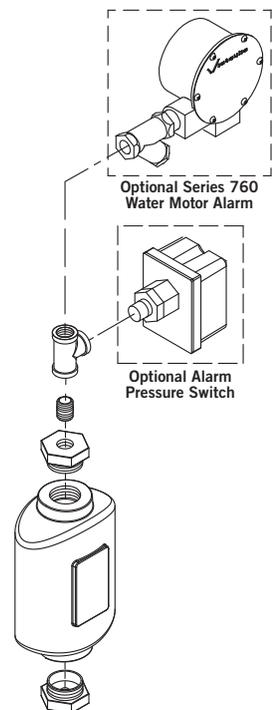
1. **Read and understand all instructions and refer to the trim diagrams before installing, maintaining, or testing this Victaulic Series 751 FireLock Alarm Check Valve.** For proper operation and approval, the Series 751 FireLock Alarm Check Valve and accessories shall be installed in accordance with the specific trim diagrams included with the shipment.
2. **Use only recommended accessories.** Accessories and equipment that are not approved for use with this alarm valve may cause improper system operation and property damage.
3. **Wear safety glasses, hardhat, foot protection, and hearing protection.** Wear hearing protection if you are exposed to long periods of noisy jobsite operations.
4. **Prevent back injury.** Valve assemblies require more than one person (or mechanical lifting equipment) to position and install the assembly. Always practice proper lifting techniques.
5. **Keep work areas clean.** Keep the work area clean and well lit, and allow enough space to accommodate proper installation of the valve, trim, and accessories.
6. **Avoid pinch points.** Due to the weight of the valve body, use caution around pinch points and spring-loaded components (i.e. clapper assembly) in order to prevent bodily injury.

## IMPORTANT INSTALLATION INFORMATION

1. **Verify that adequate space is available for valve, trim, and accessories.** Refer to pages 3 and 4 for dimensional information.
2. **Flush water supply piping.** Before installing the Series 751 FireLock Alarm Check Valve, flush the water supply piping thoroughly to remove all foreign material.
3. **Protect system from freezing temperatures.** Series 751 FireLock Alarm Check Valves and supply piping SHALL NOT be located in an area where the valve can be exposed to freezing temperatures or mechanical damage.
4. **Confirm material compatibility.** It is the system designer's responsibility to confirm material compatibility of the Series 751 FireLock Alarm Valve, trim, and associated accessories when a corrosive environment or contaminated water is present.
5. **Supply water to the system.** Supply an uninterrupted source of water from upstream of the main control valve.
6. **Install Series 752 Retard Chamber in variable pressure systems.** The Series 752 Retard Chamber shall be installed in variable pressure systems. Refer to the specific trim diagrams included with the shipment.



7. **Install Series 752V Retard Vent Kit when an air break is required above the Series 752 Retard Chamber.** In addition, the Series 752V Retard Vent Kit is required when multiple Series 751 FireLock Alarm Check Valves are tied to one Series 760 Water Motor Alarm and a check valve isolates each line. Refer to the specific trim diagrams included with the shipment.



8. **Install an uninterrupted alarm pressure switch when a Series 760 Water Motor Alarm is used.** When a Series 751 FireLock Alarm Check Valve is used with a Series 760 Water Motor Alarm, install an uninterrupted alarm pressure switch in the location shown to the left.

## HYDROSTATIC TESTING

<b>⚠ WARNING</b>	
	<ul style="list-style-type: none"> <li>• If air testing is required, <b>DO NOT</b> exceed 50 psi/345 kPa/3.4 Bar air pressure.</li> </ul> <p>Failure to follow this instruction could result in death or serious personal injury and property damage.</p>

The Series 751 FireLock Alarm Check Valve is cULus Listed and FM Approved for a maximum working pressure of:

- 300 psi/2068 kPa/20.7 Bar for 1½ – 6-inch/DN40 – DN150 sizes
- 232 psi/1600 kPa/16.0 Bar for the 8-inch/DN200 size

The Series 751 FireLock Alarm Check Valve is factory tested to:

- 600 psi/4137 kPa/41.4 Bar for 1½ - 6-inch/DN40 – DN150 sizes
- 450 psi/3103 kPa/31.0 Bar for the 8-inch/DN200 size

The valve can be hydrostatically tested against the clapper at:

- 200 psi/1379 kPa/13.8 Bar or 50 psi/345 kPa/3.4 Bar above the normal water supply pressure (2-hour limited time period) for acceptance by the authority having jurisdiction

## RECEIVING THE SHIPMENT

<b>NOTICE</b>	
<ul style="list-style-type: none"> <li>• Drawings and/or pictures in this manual may be exaggerated for clarity.</li> <li>• This product and this installation, maintenance, and testing manual contain trademarks, copyrights, and/or patented features that are the exclusive property of Victaulic.</li> </ul>	

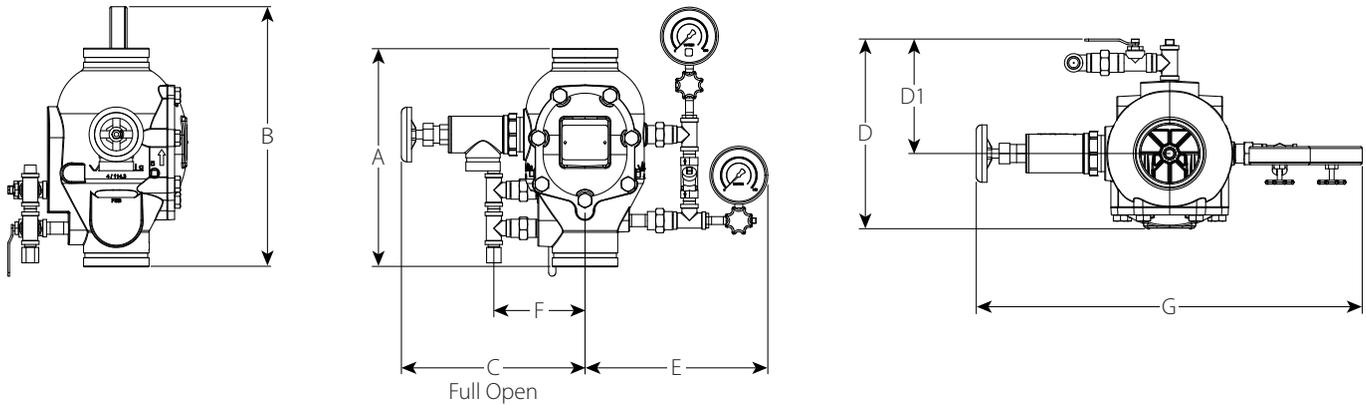
1. Verify that all components are included in the shipment and that all necessary tools are available for installation. Verify that the provided trim drawing matches the system's requirements.

<b>⚠ CAUTION</b>	
<ul style="list-style-type: none"> <li>• Verify that all protective shipping items are removed from the interior and exterior of the valve body before installation.</li> <li>• Verify that no foreign material gets into the valve body, pipe nipples, or valve openings.</li> <li>• If using any material other than PTFE thread sealant tape, use extra caution so that material does not enter the trim.</li> </ul> <p>Failure to follow these instructions could cause improper valve operation, resulting in personal injury and property damage.</p>	

2. Remove all plastic caps and foam spacers from the valve.
3. Install the valve assembly into the riser with two Victaulic rigid couplings. Refer to the instructions, supplied with the coupling, for complete installation requirements. **SERIES 751 FIRELOCK ALARM CHECK VALVES SHALL BE INSTALLED ONLY IN THE VERTICAL POSITION WITH THE ARROW ON THE BODY POINTING UPWARD.** In addition, the arrow on the swing check valve in the bypass line shall point upward.
4. For components shipped separate from the valve, apply a small amount of pipe joint compound or PTFE thread sealant tape to the external threads of all threaded connections. DO NOT get any tape, compound, or other foreign material into the openings of the threaded connections.

**TRIM DIMENSIONS – STANDARD TRIM AND TRIM FOR USE WITH EXCESS PRESSURE PUMP (WITHOUT DRAIN CONNECTION KIT AND WATER SUPPLY MAIN CONTROL VALVE OPTIONS)**

A 4-INCH/DN100 FIRELOCK™ ALARM CHECK VALVE WITH STANDARD TRIM IS SHOWN BELOW



**NOTES:**

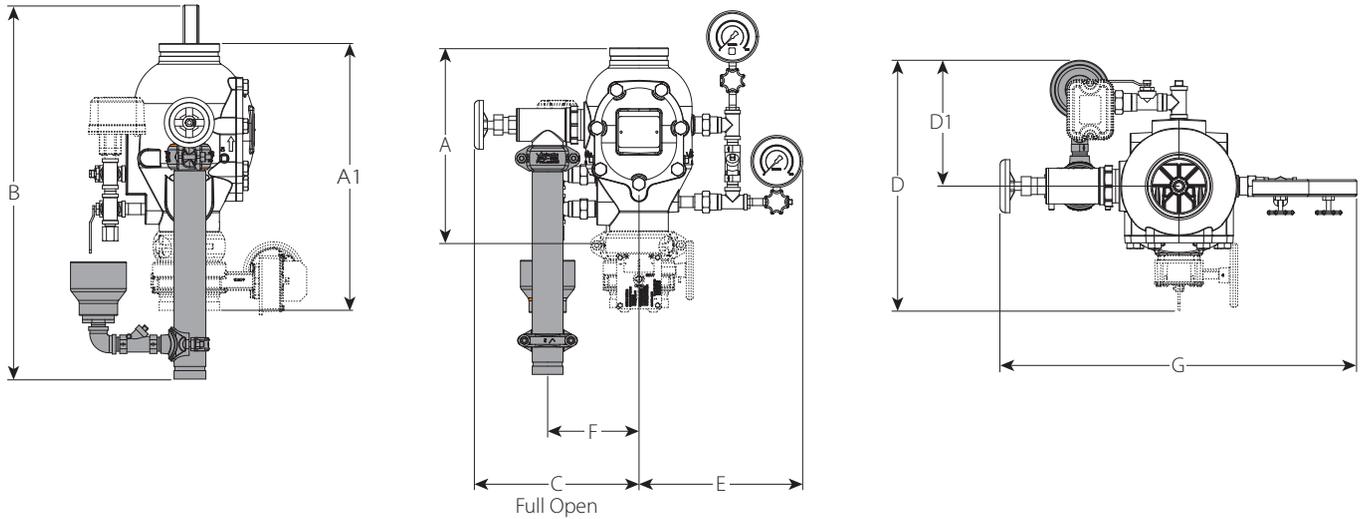
The "A" dimension is the actual takeout dimension of the valve body.

For systems with the optional Series 752 Retard Chamber Assembly, add 12 inches/305 mm to the "B" dimension to account for the additional height.

Size		Dimensions - inches/mm								Approx. Weight Each lbs/kg	
Nominal inches DN	Actual Outside Diameter inches mm	A	B	C	D	D1	E	F	G	Without Trim	With Trim
1½ DN40	1.900 48.3	9.00 228.60	11.75 298	10.00 254	11.25 286	7.00 178	11.00 279	5.00 127	21.00 533	14.2 6.4	31.0 14.1
2 DN50	2.375 60.3	9.00 228.60	11.75 298	10.00 254	11.25 286	7.00 178	11.00 279	5.00 127	21.00 533	14.6 6.6	31.0 14.1
2½ DN65	2.875 73.0	12.61 320.29	15.00 381	11.25 286	11.75 298	7.50 191	11.75 298	7.50 191	23.00 584	34.4 15.6	52.0 23.6
3 DN80	3.500 88.9	12.61 320.29	15.00 381	11.25 286	11.75 298	7.50 191	11.75 298	7.50 191	23.00 584	35.3 16.0	52.0 23.6
4 DN100	4.500 114.3	15.03 381.76	18.25 464	13.00 330	12.75 324	7.75 197	13.00 330	6.75 171	26.00 660	49.0 22.2	80.0 36.3
6 DN150	6.500 165.1	16.00 406.40	19.00 483	13.50 343	14.75 375	9.00 229	13.75 349	6.75 171	27.25 692	69.0 31.3	91.0 41.3
8 DN200	8.000 203.2	17.50 444.50	18.75 476	14.75 375	17.25 438	10.00 254	14.75 375	6.75 171	29.50 749	142.0 64.4	182.0 82.6

**TRIM DIMENSIONS – STANDARD TRIM AND TRIM FOR USE WITH EXCESS PRESSURE PUMP (WITH DRAIN CONNECTION KIT AND WATER SUPPLY MAIN CONTROL VALVE OPTIONS)**

A 4-INCH/DN100 FIRELOCK™ ALARM CHECK VALVE WITH OPTIONAL DRAIN CONNECTION KIT AND WATER SUPPLY MAIN CONTROL VALVE IS SHOWN BELOW



**NOTES:**

The “A” dimension is the actual takeout dimension of the valve body.

The “A1” dimension is the actual takeout dimension of the valve body with optional water supply main control valve.

For systems with the optional Series 752 Retard Chamber Assembly, add 12 inches/305 mm to the “B” dimension to account for the additional height.

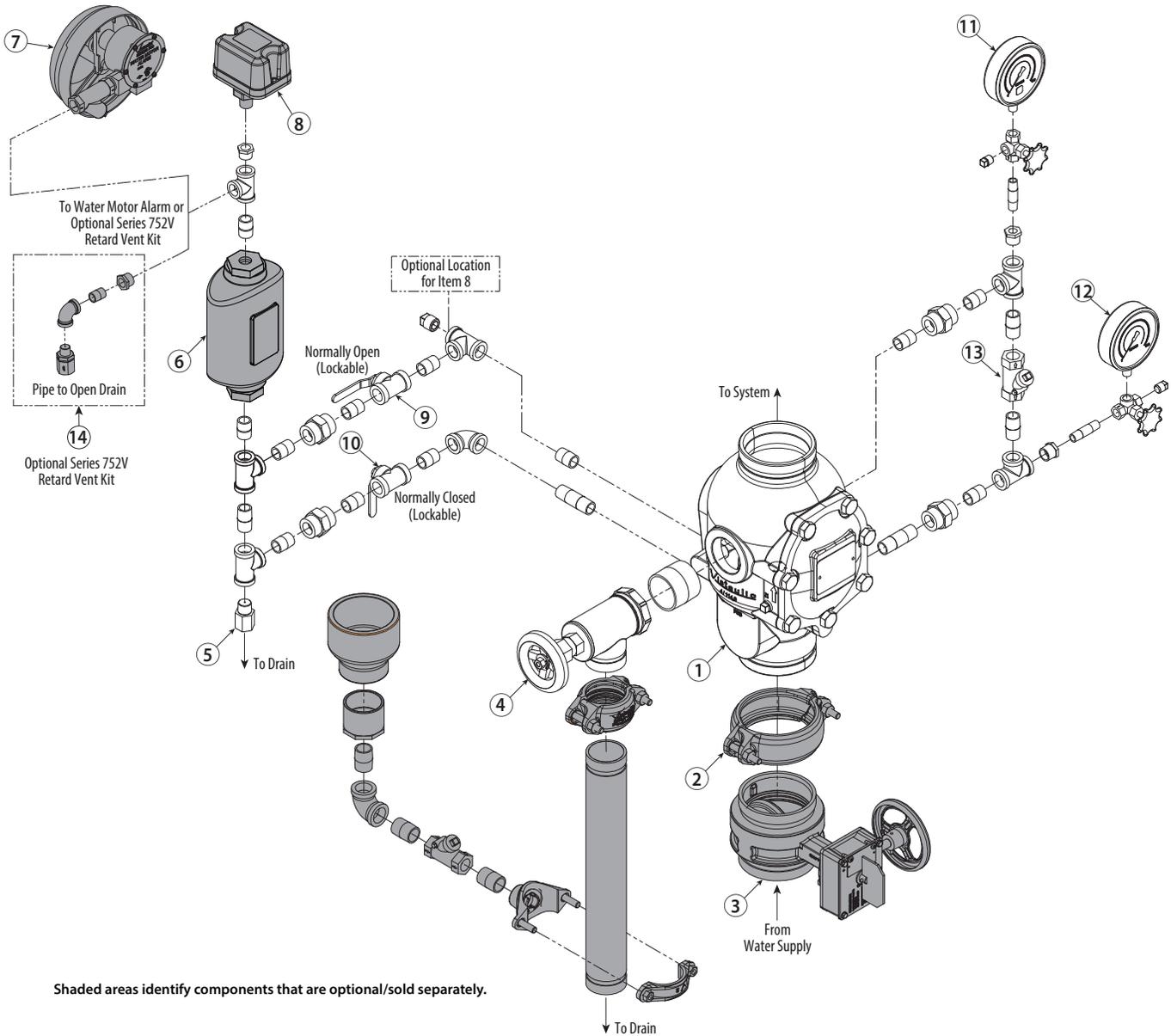
The “D” and “D1” dimensions are not fixed measurements. The drip cup of the drain/connection kit option can be rotated to provide more clearance at the back of the trim.

Components shown as dotted lines denote optional equipment.

The recommended drain connection kit (optional/sold separately) is shown for reference and takeout dimensions. Refer to shaded areas above.

Size		Dimensions - inches/mm									Approx. Weight Each lbs/kg	
Nominal inches DN	Actual Outside Diameter inches mm	A	A1	B	C	D	D1	E	F	G	Without Trim	With Trim
1 ½ DN40	1.900 48.3	9.00 228.60	16.37 415.80	24.50 622	9.25 235	14.00 356	7.50 191	11.25 286	5.75 146	20.50 521	16.7 7.6	43.0 19.5
2 DN50	2.375 60.3	9.00 228.60	13.83 351.28	24.50 622	9.25 235	14.00 356	7.50 191	11.25 286	5.75 146	20.50 521	17.0 7.7	43.0 19.5
2 ½	2.875 73.0	12.61 320.29	16.51 419.35	26.25 667	11.25 286	16.50 419	9.00 229	11.75 298	6.50 165	23.00 584	41.0 18.7	65.0 29.5
DN65	3.000 76.1	12.61 320.29	16.51 419.35	26.25 667	11.25 286	16.50 419	9.00 229	11.75 298	6.50 165	23.00 584	41.0 18.7	65.0 29.5
3 DN80	3.500 88.9	12.61 320.29	16.51 419.35	26.25 667	11.25 286	16.50 419	9.00 229	11.75 298	6.50 165	23.00 584	41.0 18.7	65.0 29.5
4 DN100	4.500 114.3	15.03 381.76	19.85 504.19	25.50 648	13.00 330	18.00 457	9.25 235	13.00 330	7.50 191	26.00 660	59.0 26.7	95.0 43.0
	6.500 165.1	16.00 406.40	22.13 562.10	25.25 641	13.50 343	20.75 527	9.25 235	13.75 349	7.75 197	27.25 692	80.0 36.2	116.0 52.6
6 DN150	6.625 168.3	16.00 406.40	22.13 562.10	25.25 641	13.50 343	20.75 527	9.25 235	13.75 349	7.75 197	27.25 692	80.0 36.2	116.0 52.6
8 DN200	8.000 203.2	17.50 444.50	23.02 584.71	26.75 679	14.75 375	24.00 610	10.50 267	14.50 368	9.25 235	29.25 743	122.0 55.3	158.0 71.6

**TRIM COMPONENTS (STANDARD) – EXPLODED VIEW DRAWING**

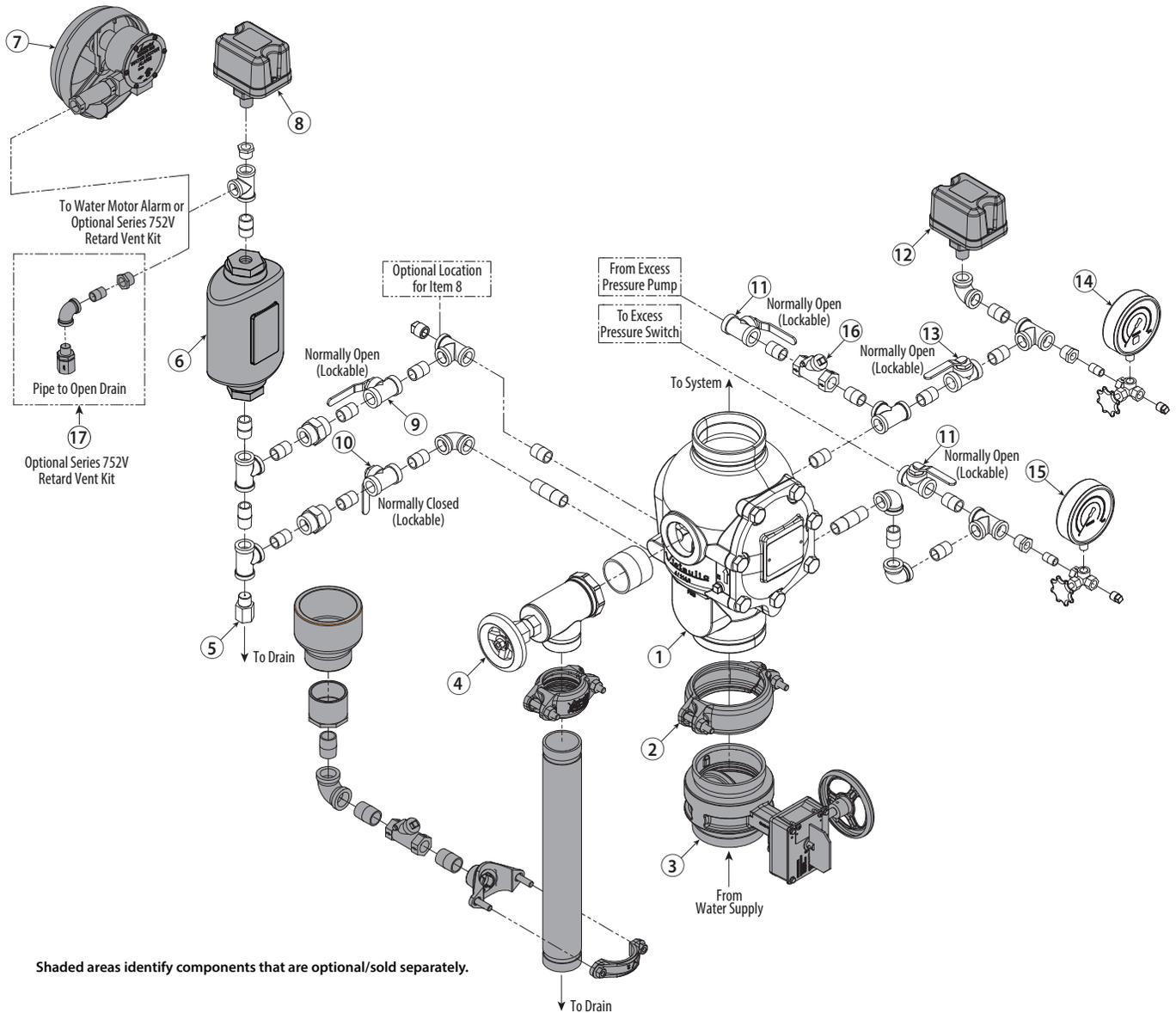


Item	Description
1	Series 751 FireLock Alarm Check Valve
2	FireLock Rigid Coupling
3	Water Supply Main Control Valve
4	System Main Drain Valve
5	Alarm Line Drain Restrictor
6	Series 752 Retard Chamber Assembly
7	Series 760 Water Motor Alarm Assembly

Item	Description
8	Alarm Pressure Switch
9	Alarm Line Ball Valve (Normally Open - Lockable)
10	Alarm Test Line Ball Valve (Normally Closed - Lockable)
11	System Pressure Gauge/Gauge Valve Assembly
12	Water Supply Pressure Gauge/Gauge Valve Assembly
13	Swing Check Valve
14	Series 752V Retard Vent Kit*

\*Install the Series 752V Retard Vent Kit when an air break is required above the Series 752 Retard Chamber. In addition, the Series 752V Retard Vent Kit is required when multiple Series 751 FireLock Alarm Check Valves are tied to one Series 760 Water Motor Alarm and a check valve isolates each line.

**TRIM COMPONENTS (EXCESS PRESSURE PUMP) – EXPLODED VIEW DRAWING**

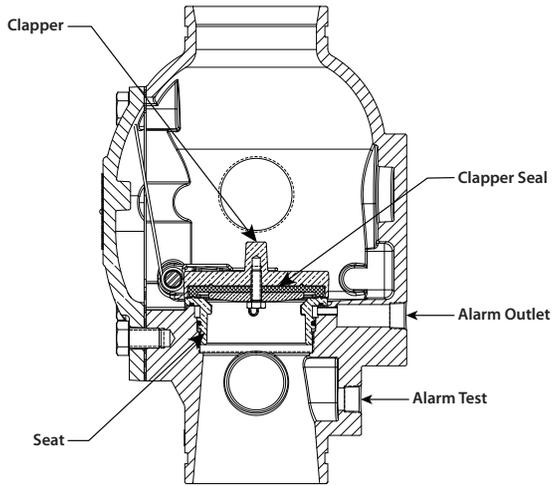


Item	Description
1	Series 751 FireLock Alarm Check Valve
2	FireLock Rigid Coupling
3	Water Supply Main Control Valve
4	System Main Drain Valve
5	Alarm Line Drain Restrictor
6	Series 752 Retard Chamber Assembly
7	Series 760 Water Motor Alarm Assembly
8	Alarm Pressure Switch
9	Alarm Line Ball Valve (Normally Open - Lockable)

Item	Description
10	Alarm Test Line Ball Valve (Normally Closed - Lockable)
11	Excess Pressure Pump Isolation Ball Valve (Normally Open - Lockable)
12	Excess Pressure Pump Pressure Switch
13	Excess Pressure Pump Pressure Switch Isolation Ball Valve (Normally Open - Lockable)
14	System Pressure Gauge
15	Water Supply Pressure Gauge
16	Swing Check Valve
17	Series 752V Retard Vent Kit*

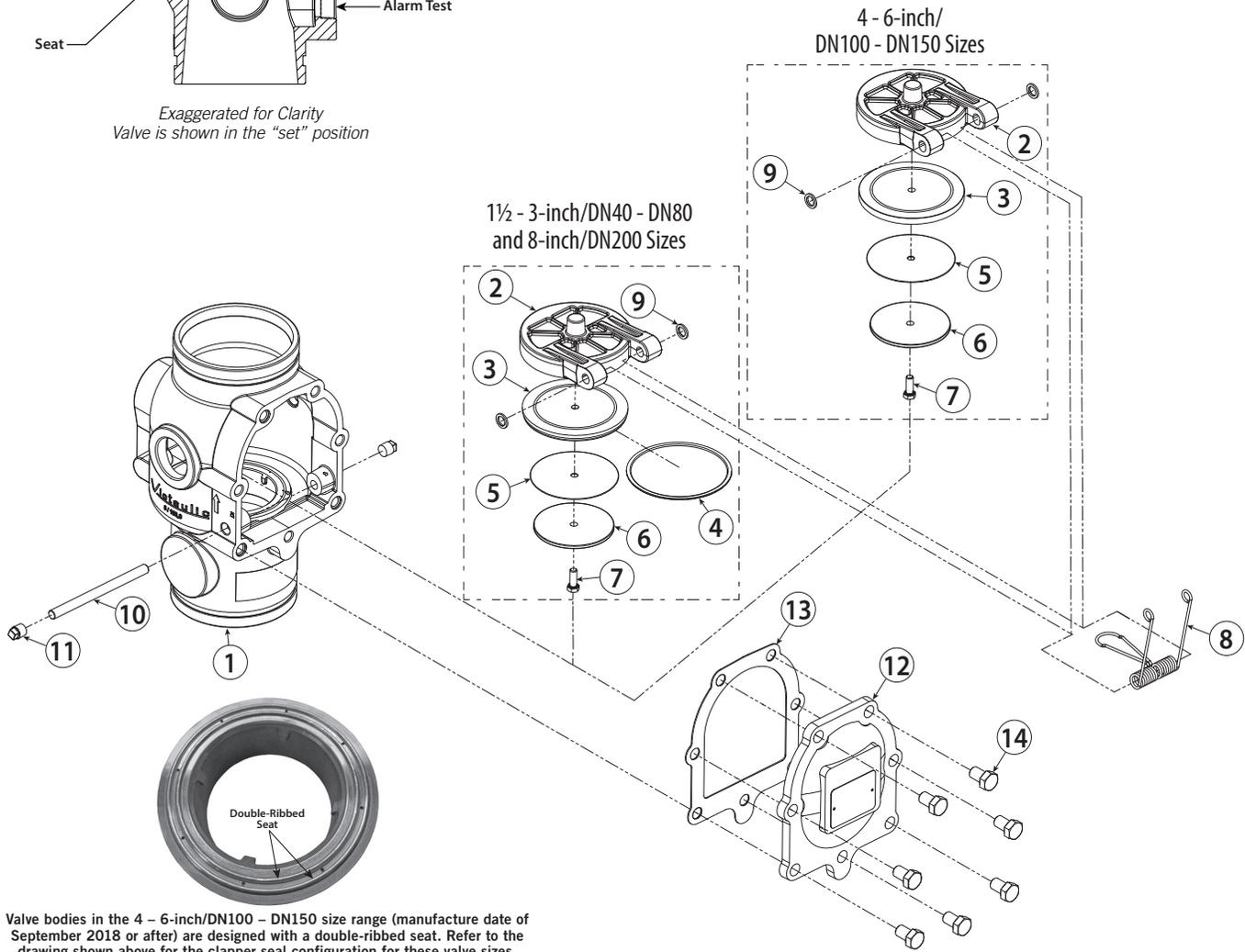
\*Install the Series 752V Retard Vent Kit when an air break is required above the Series 752 Retard Chamber. In addition, the Series 752V Retard Vent Kit is required when multiple Series 751 FireLock Alarm Check Valves are tied to one Series 760 Water Motor Alarm and a check valve isolates each line.

**INTERNAL VALVE COMPONENTS – SECTION VIEW AND EXPLODED VIEW DRAWINGS**



*Exaggerated for Clarity  
Valve is shown in the "set" position*

<b>NOTICE</b>	
	<p>For 4 – 6-inch/DN100 – DN150 and 165.1-mm sizes of Series 751 Alarm Check Valves:</p> <ul style="list-style-type: none"> <li>If you are referencing this section for a valve that was manufactured prior to September 2018, scan the QR code to the left to access the I-30 Clapper Seal/Clapper Assembly Replacement instructions. The I-30 contains additional instructions for a Clapper Seal "C" solid design for the above-listed sizes.</li> </ul>



Valve bodies in the 4 – 6-inch/DN100 – DN150 size range (manufacture date of September 2018 or after) are designed with a double-ribbed seat. Refer to the drawing shown above for the clapper seal configuration for these valve sizes.

Item	Description
1	Valve Body
2	Clapper
3	Clapper Seal
4	Seal Ring*
5	Seal Washer
6	Seal Retaining Ring
7	Seal Assembly Bolt (Self-Sealing)

Item	Description
8	Clapper Spring
9	Spacers (Qty. 2)
10	Clapper Shaft
11	Clapper Shaft Retaining Plug (Qty. 2)
12	Cover Plate
13	Cover Plate Gasket
14	Cover Plate Bolts

\* Item 4 (Seal Ring) is not used in 4 – 6-inch/DN100 – DN150 valve sizes.

**SERIES 751 FIRELOCK ALARM CHECK VALVE  
(STANDARD TRIM) – TRIM ASSEMBLY  
DRAWING NUMBERS**

Size		Vertical Trim Drawing Number
Nominal inches DN	Actual Outside Diameter inches mm	
1½ DN40	1.900 48.3	Z-014-751-201
2 DN50	2.375 60.3	Z-014-751-201
2½	2.875 73.0	Z-024-751-201
DN65	3.000 76.1	Z-024-751-201
3 DN80	3.500 88.9	Z-024-751-201
4 DN100	4.500 114.3	Z-040-751-201
	6.500 165.1	Z-060-751-201
6 DN150	6.625 168.3	Z-060-751-201
8 DN200	8.000 203.2	Z-080-751-201

**SERIES 751 FIRELOCK ALARM CHECK VALVE  
(TRIM FOR USE WITH EXCESS PRESSURE  
PUMP) – TRIM ASSEMBLY DRAWING NUMBERS**

Size		Vertical Trim Drawing Number
Nominal inches DN	Actual Outside Diameter inches mm	
1½ DN40	1.900 48.3	Z-014-751-203
2 DN50	2.375 60.3	Z-014-751-203
2½	2.875 73.0	Z-024-751-203
DN65	3.000 76.1	Z-024-751-203
3 DN80	3.500 88.9	Z-024-751-203
4 DN100	4.500 114.3	Z-040-751-203
	6.500 165.1	Z-060-751-203
6 DN150	6.625 168.3	Z-060-751-203
8 DN200	8.000 203.2	Z-080-751-203

# SECTION I

- Initial System Setup

**INITIAL SYSTEM SETUP**

**⚠ WARNING**

- The Series 751 Alarm Check Valve and supply piping shall be protected from freezing temperatures and mechanical damage.
- For proper operation of alarms in a wet system, it is important to remove all air from the system. Auxiliary drains may be required to release all trapped air from the system.
- Alarms and electrical panels that are controlled by an alarm flow switch on the riser shall not be interrupted.

Failure to follow these instructions could cause improper valve operation, resulting in death or serious personal injury and property damage

**Step 1:**

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

**Step 2:**

Confirm that the system has been depressurized. The gauges should indicate zero pressure.

**Step 3:**

Open the remote system test valve (inspector’s test connection) and any auxiliary drains.

**Step 4:**

Close the alarm line ball valve to prevent alarms from operating while the system is filling.

**Step 5:**

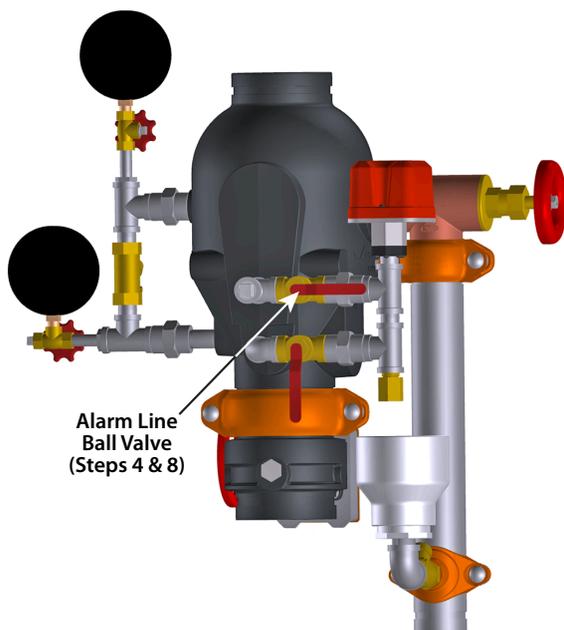
Open the water supply main control valve slowly. Allow the system to fill with water completely. Allow water to flow from the remote system test valve (inspector’s test connection) and any auxiliary drains until all trapped air is removed from the system.

**Step 6:**

Close the remote system test valve (inspector’s test connection) and any auxiliary drains. **NOTE:** The system pressure gauge should be equal to or greater than the water supply pressure gauge.

**Step 7:**

Open the water supply main control valve fully.



**⚠ WARNING**

- The alarm line ball valve (lockable) shall remain in the open position to allow alarms to activate.

Failure to leave the alarm line ball valve open will prevent alarms from activating, resulting in death or serious personal injury and property damage.

**Step 8:**

Open the alarm line ball valve (lockable).

**Step 9:**

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

**Standard Trim**

Valve	Normal Operating Position
Alarm Line Ball Valve (Lockable)	Open
Alarm Test Line Ball Valve (Lockable)	Closed
Water Supply Main Control Valve	Open
System Main Drain Valve	Closed

**Trim for Use with Excess Pressure Pump**

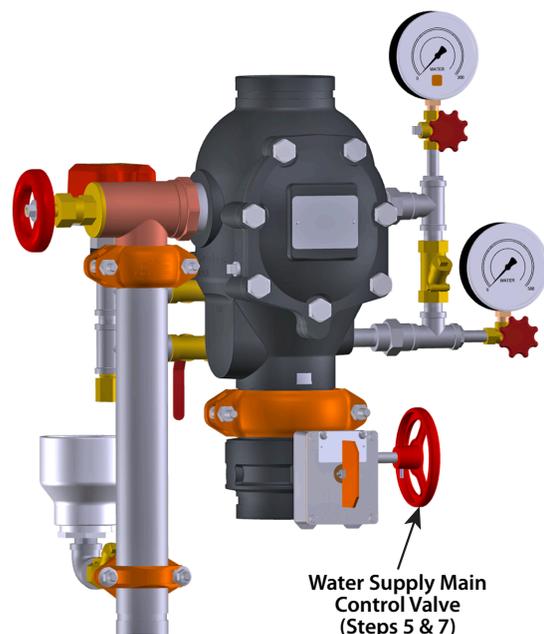
Valve	Normal Operating Position
Excess Pressure Pump Isolation Ball Valves	Open
Excess Pressure Pump Pressure Switch Isolation Ball Valve	Open
Alarm Line Ball Valve (Lockable)	Open
Alarm Test Line Ball Valve (Lockable)	Closed
Water Supply Main Control Valve	Open
System Main Drain Valve	Closed

**Step 10:**

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

**NOTICE**

- Excess pressure pump operation shall be automatic in response to decreasing pressure.



# SECTION II

- **Resetting the System**

## RESETTING THE SYSTEM

### Step 1:

Close the water supply main control valve.

### Step 2:

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

### Step 3:

Close the system main drain valve.

### Step 4:

Confirm that all system drains are shut and that the system is free from leaks.

### Step 5:

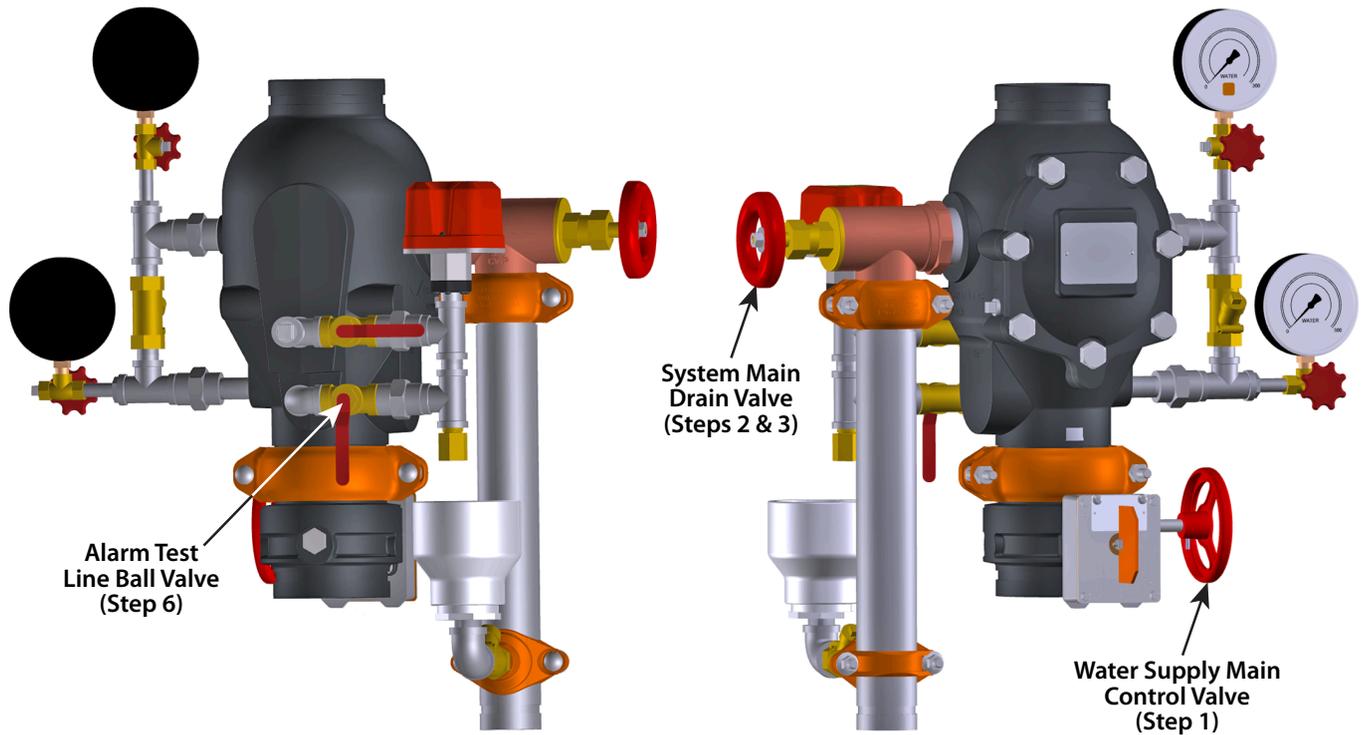
Confirm that the system has been depressurized. The gauges should indicate zero pressure.

### Step 6:

Confirm that the alarm test line ball valve is closed.

### Step 7:

Follow steps 4 - 10 of the "Initial System Setup" section.



# SECTION III

- **Inspection/Testing Requirements**

 **WARNING**

- The building owner or their representative is responsible for maintaining the fire protection system in proper operating condition.
- To ensure proper system operation, refer to NFPA 25, FM Datasheets, or any applicable local requirements for valve inspection requirements. The authority having jurisdiction in the area may require these inspections on a more frequent basis. Verify these requirements by contacting the authority having jurisdiction in the affected area, and always refer to the instructions in this manual for additional inspection and testing requirements.
- The frequency of inspections shall be increased in the presence of contaminated water supplies, corrosive/scaling water supplies, and corrosive atmospheres.

Failure to follow these instructions could cause system failure, resulting in death or serious personal injury and property damage.

### DAILY/WEEKLY INSPECTION

Refer to NFPA 25, FM Datasheets, or any applicable local requirements to perform daily/weekly inspections. The authority having jurisdiction in the area may require these inspections on a more frequent basis. Verify these requirements by contacting the authority having jurisdiction in the affected area.

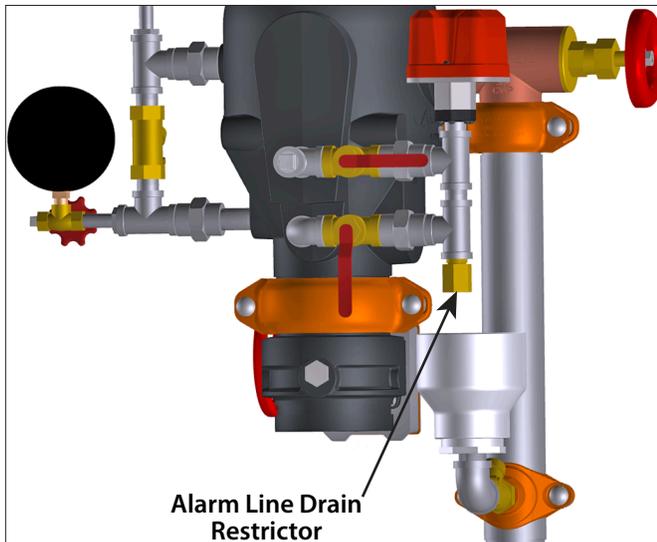
1. During cold weather conditions, verify on a daily basis that the enclosure temperature is maintained above 40° F/4° C.
2. Inspect the valve and trim for mechanical damage and corrosion. Replace any damaged or corroded parts.

NOTICE
<ul style="list-style-type: none"> <li>• If the alarm valve is equipped with a low-pressure alarm, monthly inspections may be sufficient. Contact the local authority having jurisdiction for specific requirements.</li> </ul>

### MONTHLY INSPECTION

Refer to NFPA 25, FM Datasheets, or any applicable local requirements to perform monthly inspections. The authority having jurisdiction in the area may require these inspections on a more frequent basis. Verify these requirements by contacting the authority having jurisdiction in the affected area.

1. Record the system pressure and water supply pressure. Confirm that the water supply pressure is within the range of normal pressures observed in the area. Significant loss of water supply pressure could indicate an adverse condition in the water supply. Any variations outside of the normal pressures shall be investigated.
2. Inspect the valve and trim for mechanical damage and corrosion. Replace any damaged or corroded parts.
3. Confirm that the valve and trim are located in an area that is not subject to freezing temperatures.



4. If the alarm valve is installed in a variable pressure system, confirm that continuous leakage is not occurring from the alarm line drain leakage. **NOTE:** It is normal for intermittent leakage to occur from the alarm line drain restrictor due to pressure surges that lift the clapper and allow water into the intermediate chamber.

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

#### Standard Trim

Valve	Normal Operating Position
Alarm Line Ball Valve (Lockable)	Open
Alarm Test Line Ball Valve (Lockable)	Closed
Water Supply Main Control Valve	Open
System Main Drain Valve	Closed

#### Trim for Use with Excess Pressure Pump

Valve	Normal Operating Position
Excess Pressure Pump Isolation Ball Valves	Open
Excess Pressure Pump Pressure Switch Isolation Ball Valve	Open
Alarm Line Ball Valve (Lockable)	Open
Alarm Test Line Ball Valve (Lockable)	Closed
Water Supply Main Control Valve	Open
System Main Drain Valve	Closed

### ANNUAL INSPECTION

Refer to NFPA 25, FM Datasheets, or any applicable local requirements to perform annual inspections. The authority having jurisdiction in the area may require these inspections on a more frequent basis. Verify these requirements by contacting the authority having jurisdiction in the affected area.

1. Perform the required main drain test in accordance with Section IV of this manual.
2. Perform an internal inspection of the alarm check valve in accordance with Section V of this manual.

# SECTION IV

- **Required Main Drain Test**

 **WARNING**

- The building owner or their representative is responsible for maintaining the fire protection system in proper operating condition.
- To ensure proper system operation, refer to NFPA 25, FM Datasheets, or any applicable local requirements for valve inspection requirements. The authority having jurisdiction in the area may require these inspections on a more frequent basis. Verify these requirements by contacting the authority having jurisdiction in the affected area, and always refer to the instructions in this manual for additional inspection and testing requirements.
- The frequency of inspections shall be increased in the presence of contaminated water supplies, corrosive/scaling water supplies, and corrosive atmospheres.
- Any activities that require taking the valve out of service may eliminate the fire protection provided. A fire patrol is strongly recommended for the affected areas.
- Before servicing or testing the system, notify the authority having jurisdiction.

Failure to follow these instructions could cause system failure, resulting in death or serious personal injury and property damage.

## REQUIRED MAIN DRAIN TEST

Refer to NFPA 25, FM Datasheets, or any applicable local requirements to perform main drain tests. The authority having jurisdiction in the area may require 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 available.
3. Record the water supply pressure and system water pressure.

### NOTICE

- Close the alarm line ball valve at this point to prevent alarms from activating during the main drain test.

4. Close the alarm line ball valve.
5. Open the system main drain valve fully. Record the water supply pressure as the residual pressure.
6. Close the system main drain valve slowly. Record the water pressure established after closing the system main drain valve.
7. Compare the residual pressure reading to the residual pressure readings taken in previous main drain tests. If there is degradation in the residual water supply reading, restore the proper water supply pressure.

### WARNING

- The alarm line ball valve (lockable) shall remain in the open position to allow alarms to activate.

Failure to leave the alarm line ball valve open will prevent alarms from activating, resulting in death or serious personal injury and property damage.

8. Open the alarm line ball valve.
9. Confirm that all valves are in their normal operating positions (refer to the table below).

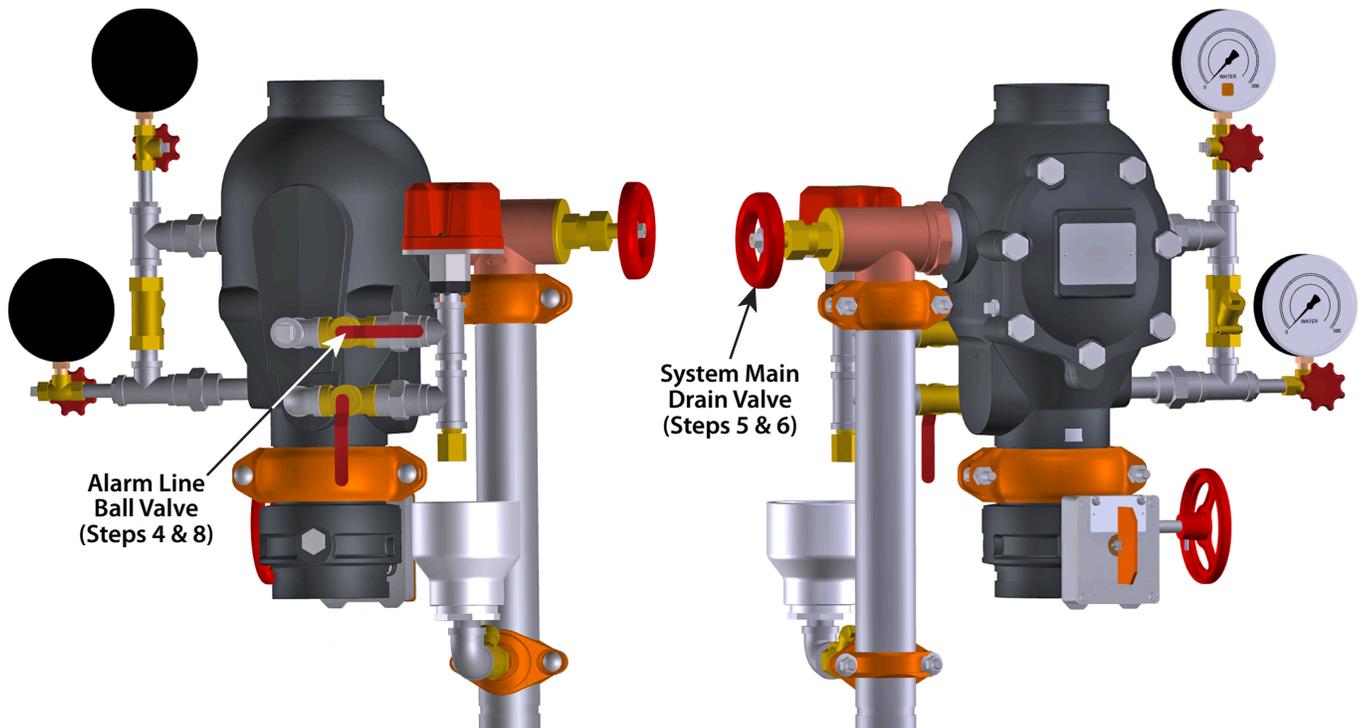
#### Standard Trim

Valve	Normal Operating Position
Alarm Line Ball Valve (Lockable)	Open
Alarm Test Line Ball Valve (Lockable)	Closed
Water Supply Main Control Valve	Open
System Main Drain Valve	Closed

#### Trim for Use with Excess Pressure Pump

Valve	Normal Operating Position
Excess Pressure Pump Isolation Ball Valves	Open
Excess Pressure Pump Pressure Switch Isolation Ball Valve	Open
Alarm Line Ball Valve (Lockable)	Open
Alarm Test Line Ball Valve (Lockable)	Closed
Water Supply Main Control Valve	Open
System Main Drain Valve	Closed

10. Notify the authority having jurisdiction, remote station alarm monitors, and those in the affected area that the valve is back in service. Provide test results to the authority having jurisdiction, if required.



# SECTION V

- **Required Internal Inspection**

 <b>WARNING</b>	
	
<ul style="list-style-type: none"><li>• Depressurize and drain the piping system before attempting to remove the cover plate from the valve.</li><li>• The building owner or their representative is responsible for maintaining the fire protection system in proper operating condition.</li><li>• To ensure proper system operation, refer to NFPA 25, FM Datasheets, or any applicable local requirements for valve inspection requirements. The authority having jurisdiction in the area may require these inspections on a more frequent basis. Verify these requirements by contacting the authority having jurisdiction in the affected area, and always refer to the instructions in this manual for additional inspection and testing requirements.</li><li>• The frequency of inspections shall be increased in the presence of contaminated water supplies, corrosive/scaling water supplies, and corrosive atmospheres.</li><li>• Any activities that require taking the valve out of service may eliminate the fire protection provided. A fire patrol is strongly recommended for the affected areas.</li><li>• Before servicing or testing the system, notify the authority having jurisdiction.</li></ul> <p>Failure to follow these instructions could cause system failure, resulting in death or serious personal injury and property damage.</p>	

## REQUIRED INTERNAL INSPECTION

Refer to NFPA 25, FM Datasheets, or any applicable local requirements to perform internal inspections. The authority having jurisdiction in the area may require these inspections 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 system is being taken out of service.
2. Close the water supply main control valve to take the system out of service.
3. Open the system main drain valve to allow the system to drain completely.

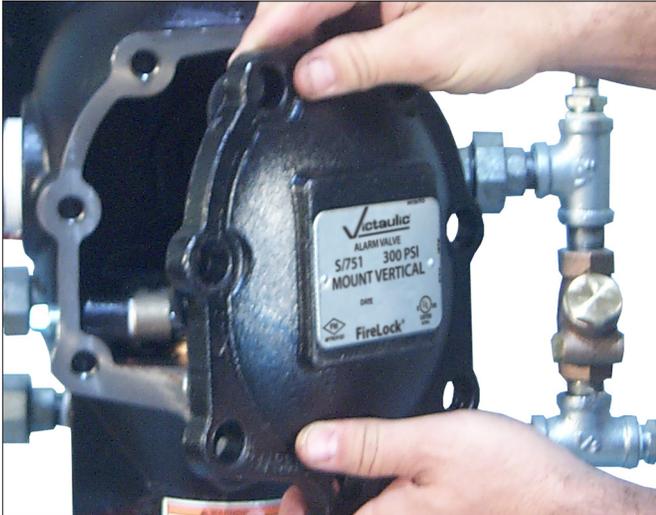
**NOTE:** If the system has operated, open the remote system test valve (inspector's test connection) and any auxiliary drain valves.

### WARNING

- **Verify that the valve is depressurized and drained completely before the cover plate bolts are removed.**

**Failure to follow this instruction could result in death or serious personal injury and property damage.**

4. After all pressure is released from the system, loosen the cover plate bolts slowly. **NOTE:** DO NOT remove any cover plate bolts until all cover plate bolts are loosened.



5. Remove all cover plate bolts, along with the cover plate and cover plate gasket.

### 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, resulting in valve leakage.**



6. Rotate the clapper out of the valve body. Inspect the clapper seal and seal retaining ring. Wipe away any contaminants, dirt, and mineral deposits. Clean out any holes that are plugged in the valve body seat ring. **DO NOT USE SOLVENTS OR ABRASIVES.**
7. Inspect the clapper for freedom of movement and physical damage. Replace any damaged or worn parts by following the applicable instructions in Section VI.
8. Re-install the cover plate by following the "Installing the Cover Plate Gasket and Cover Plate" section.
9. Place the system back in service by following the "Resetting the System" section.

# SECTION VI

- Removing and Replacing the Clapper Seal (All Sizes)
- Removing and Replacing the Clapper Assembly (All Sizes)
- Installing the Cover Plate Gasket and Cover Plate

<b>⚠ WARNING</b>	
	
<ul style="list-style-type: none"> <li>• Before servicing or testing the system, notify the authority having jurisdiction.</li> <li>• Depressurize and drain the piping system before attempting to remove the cover plate from the valve.</li> <li>• The building owner or their representative is responsible for maintaining the fire protection system in proper operating condition.</li> <li>• To ensure proper system operation, valves shall be inspected in accordance with current NFPA 25 requirements or in accordance with the requirements of the local authority having jurisdiction (whichever is more stringent). Always refer to the instructions in this manual for additional inspection and testing requirements.</li> <li>• The frequency of inspections shall be increased in the presence of contaminated water supplies, corrosive/scaling water supplies, and corrosive atmospheres.</li> <li>• Any activities that require taking the valve out of service may eliminate the fire protection provided. A fire patrol is strongly recommended for the affected areas.</li> </ul> <p>Failure to follow these instructions could cause system failure, resulting in death or serious personal injury and property damage.</p>	

<b>NOTICE</b>	
	<p>For 4 – 6-inch/DN100 – DN150 and 165.1-mm sizes of Series 751 Alarm Check Valves:</p> <ul style="list-style-type: none"> <li>• If you are referencing this section for a valve that was manufactured prior to September 2018, scan the QR code to the left to access the I-30 Clapper Seal/Clapper Assembly Replacement instructions. The I-30 contains additional instructions for a Clapper Seal “C” solid design for the above-listed sizes.</li> </ul>

## REMOVING AND REPLACING THE CLAPPER SEAL (ALL SIZES)

1. Perform steps 1 – 6 of the “Required Internal Inspection” section.



2. Remove the seal assembly bolt/bolt seal from the clapper seal.



3. Remove the seal retaining ring. Save the seal retaining ring for re-installation.

### ⚠ 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 valve leakage.



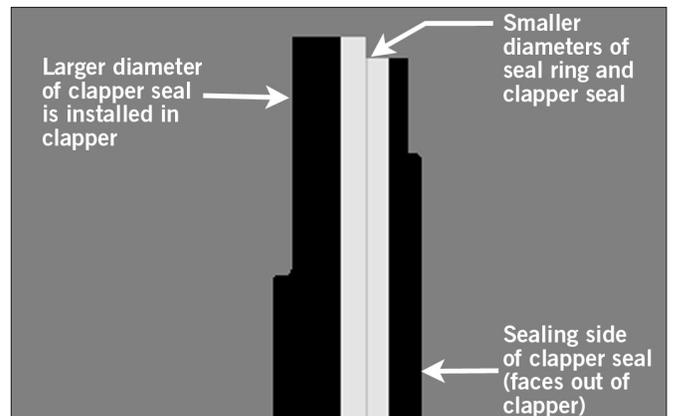
4. Pry the edge of the old seal washer from inside the clapper seal, as shown above.



5. Remove and discard the old seal washer.



6. Pry the old clapper seal out of the clapper. For 1½ – 3-inch/ DN40 – DN80 and 8-inch/DN200 sizes, verify that the seal ring is removed with the clapper seal. Discard the old clapper seal and replace it with a new, Victaulic-supplied clapper seal assembly. Proceed to step 6a for 1½ – 3-inch/DN40 – DN80 and 8-inch/DN200 sizes or step 7 for all other sizes.



- 6a. **FOR 1½ – 3-INCH/DN40 – DN80 AND 8-INCH/DN200 SIZES:** Verify that the seal ring is installed in the new clapper seal properly, as shown above. The smaller diameter of the seal ring must be installed toward the sealing surface of the clapper seal. Proceed to step 7.



- Verify that the seal washer is inserted completely underneath the sealing lip of the gasket.

**⚠ CAUTION**

- DO NOT** use solvents or abrasives on or near the valve body seat ring.
  - Use only** Victaulic-supplied replacement parts.
- Failure to follow these instructions could cause improper valve operation, resulting in property damage.

- Remove any debris from the clapper. Inspect the clapper for damage that may affect the sealing capabilities of the clapper seal. Clean out any holes that are plugged in the valve body seat ring. **DO NOT USE SOLVENTS OR ABRASIVES.** If the clapper requires replacement, contact Victaulic and follow the “Removing and Replacing the Clapper Assembly (All Sizes)” section.



- Install the clapper seal into the clapper carefully. **FOR 1 ½ – 3-INCH/DN40 – DN80 AND 8-INCH/DN200 SIZES:** Verify that the seal ring snaps into the clapper completely.



- Place the seal retaining ring (flat side down) onto the seal washer of the clapper seal, as shown above.



- Install the seal assembly bolt/bolt seal through the seal retaining ring and clapper. Tighten the seal assembly bolt/bolt seal to the torque value listed in the table below to ensure a proper seal.

**REQUIRED SEAL ASSEMBLY BOLT TORQUES FOR 1 ½ – 3-INCH/ DN40 – DN80 AND 8-INCH/DN200 SIZES**

Size		Required Torque inch-lbs/N•m
Nominal inches DN	Actual Outside Diameter inches mm	
1 ½ DN40	1.900 48.3	40 5
2 DN50	2.375 60.3	40 5
2 ½	2.875 73.0	90 10
DN65	3.000 76.1	90 10
3 DN80	3.500 88.9	90 10
8 DN200	8.000 203.2	160 18

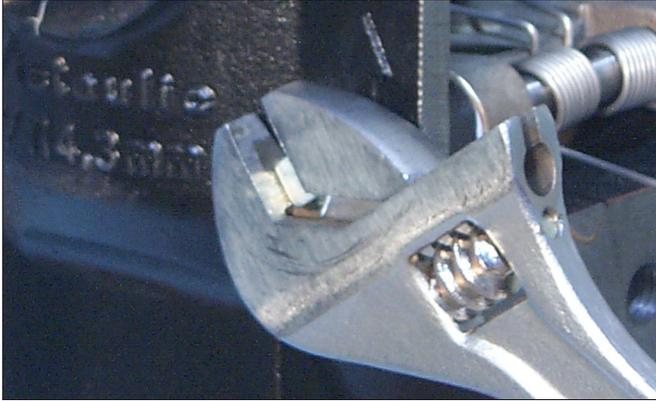
**REQUIRED SEAL ASSEMBLY BOLT TORQUES FOR 4 – 6-INCH/ DN100 – DN150 SIZES**

Size		Required Torque inch-lbs/N•m
Nominal inches DN	Actual Outside Diameter inches mm	
4 DN100	4.500 114.3	75 8
	6.500 165.1	75 8
6 DN150	6.625 168.3	75 8

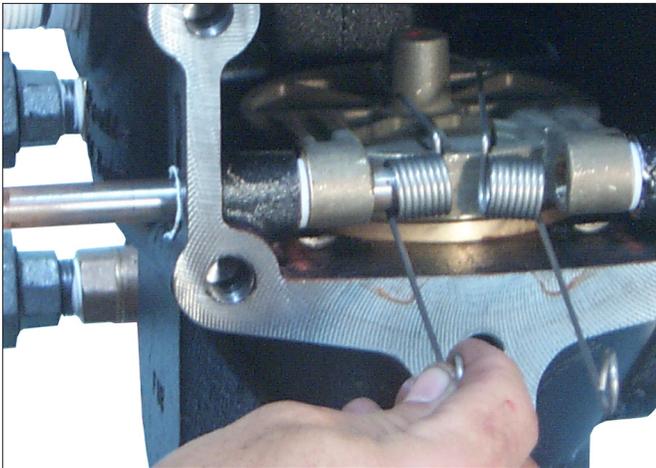
- Replace the cover plate by following the “Installing the Cover Plate Gasket and Cover Plate” section.
- Place the system back in service by following the “Resetting the System” section.

## REMOVING AND REPLACING THE CLAPPER ASSEMBLY (ALL SIZES)

1. Perform steps 1 – 5 of the “Required Internal Inspection” section.



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



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



4. Remove the clapper assembly from the valve body seat ring. Clean out any holes that are plugged in the valve body seat ring. **DO NOT USE SOLVENTS OR ABRASIVES.**

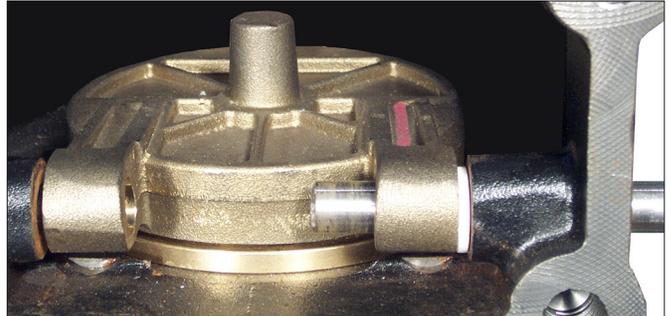
### **⚠ CAUTION**

- **DO NOT** use solvents or abrasives on or near the valve body seat ring.
- Use only Victaulic-supplied replacement parts.

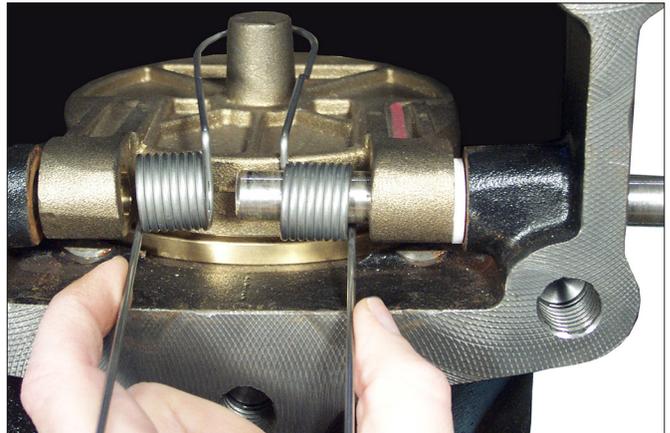
Failure to follow these instructions could cause improper valve operation, resulting in property damage.



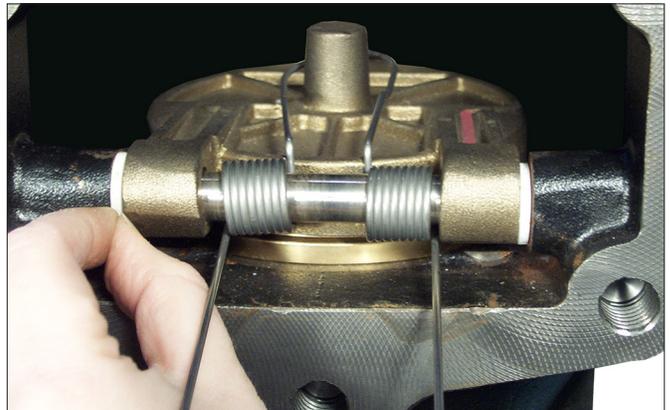
5. Place the new clapper assembly onto the valve body seat ring. Verify that the holes in the clapper arms align with the holes in the valve body.



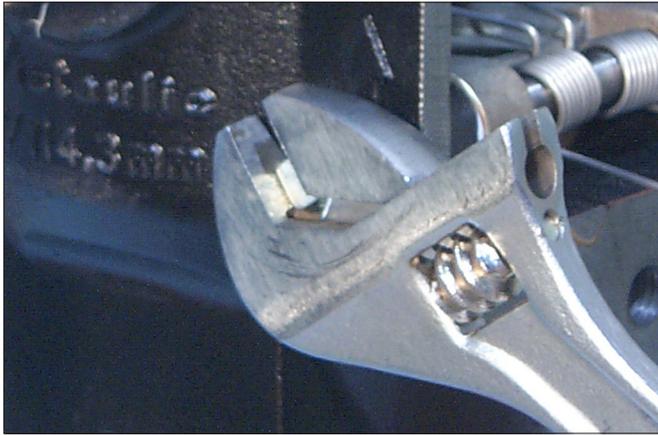
6. Start the clapper shaft into the valve body and place one spacer between the clapper and valve body, as shown above.



7. Install the clapper spring onto the clapper shaft. Verify that the loop of the clapper spring is facing the clapper, as shown above.



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



9. Apply thread sealant to each clapper shaft retaining plug. Install the clapper shaft retaining plugs into the valve body until hand-tight.
- 9a. Tighten the clapper shaft retaining plugs until metal-to-metal contact occurs with the valve body.
- 9b. Check the clapper for freedom of movement.
10. Replace the cover plate by following the “Installing the Cover Plate Gasket and Cover Plate” section.

### INSTALLING THE COVER PLATE GASKET AND COVER PLATE

#### CAUTION

- Use only Victaulic-supplied replacement parts.  
Failure to follow this instruction could cause improper valve operation, resulting in property damage.

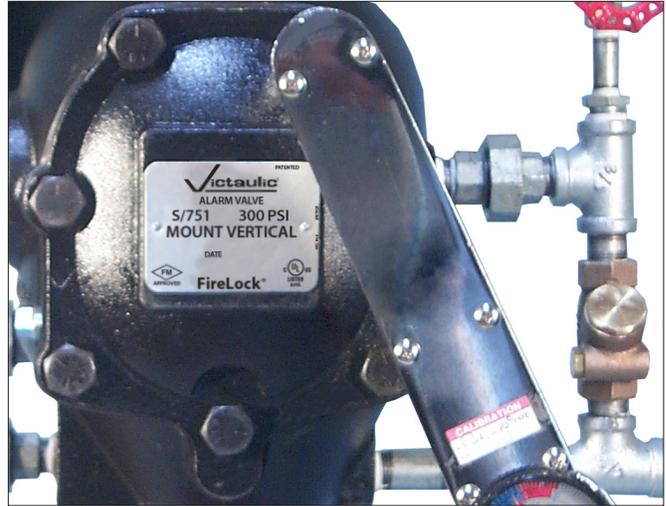
1. Verify that the cover plate gasket is in good condition. If the gasket is torn or worn, replace it with a new, Victaulic-supplied gasket.



2. Align the holes of the cover plate gasket with the holes in the cover plate.
3. Insert one cover plate bolt through the cover plate and cover plate gasket to ease alignment.

#### CAUTION

- DO NOT over-tighten the cover plate bolts.  
Failure to follow this instruction could cause damage to the cover plate gasket, resulting in valve leakage.



4. Align the cover plate/cover plate gasket to the valve. Verify that the clapper spring's arms are rotated to their installed position. Tighten all cover plate bolts into the cover plate/valve body.
5. Torque all cover plate bolts in an even, crossing pattern. Refer to the “Required Cover Plate Bolt Torques” table below for the required torque values. DO NOT over-tighten the cover plate bolts.

#### REQUIRED COVER PLATE BOLT TORQUES

Size		Required Torque inch-lbs/N•m
Nominal inches DN	Actual Outside Diameter inches mm	
1 ½ DN40	1.900 48.3	30 41
2 DN50	2.375 60.3	30 41
2 ½	2.875 73.0	60 81
DN65	3.000 76.1	60 81
3 DN80	3.500 88.9	60 81
4 DN100	4.500 114.3	100 136
	6.500 165.1	115 156
6 DN150	6.625 168.3	115 156
8 DN200	8.000 203.2	100 136

6. Place the system back in service by following the “Resetting the System” section.

# SECTION VII

- Troubleshooting

## TROUBLESHOOTING – SYSTEM

Problem	Possible Cause	Solution
The system water pressure gauge is fluctuating with the supply pressure.	The check valve in the bypass line is installed backward.	Check the orientation of the bypass check valve. The arrow shall point from the supply side to the system side.
	Debris is present in the bypass check valve.	Remove the threaded cap to the check valve, and remove any debris. Verify that the clapper is free to move.
Water is leaking from the intermediate chamber.	Water is getting past the seal.	Check the clapper seal and seat for physical damage. Verify that no debris is present on the clapper seal and seat. Verify that there is no vacuum in the alarm line. If a vacuum is present in the alarm line, install the Series 752V Retard Vent Kit or create some means of an air break in the alarm line.
	There is flow coming from downstream of the valve.	Shut off any flow that is coming from downstream of the valve.
	A differential has not been created across the valve.	Verify that the bypass line is installed properly or that the excess pressure pump (if equipped) is set up properly.
The water motor gong is not ringing or the ringing is weak.	No water is going into the intermediate chamber.	Verify that the holes in the valve body seat ring are not plugged. Verify that the orifice from the intermediate chamber to the alarm line is not plugged.
	Water from the alarm line could be leaking out of the alarm line drain of another valve.	Verify that there are check valves isolating the alarm line of each valve in the system.
	The wrong restrictor size is installed in the alarm line drain.	Verify that the proper restrictor size is installed in the alarm line drain. If the proper restrictor size is not installed, refer to the trim drawing to replace the restrictor with the correct size.

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# Series 751 FireLock™ Alarm Check Valve

(UL/FM Alarm Valve and Trim With or Without Excess Pressure Pump)

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For complete contact information, visit [victaulic.com](http://victaulic.com)

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