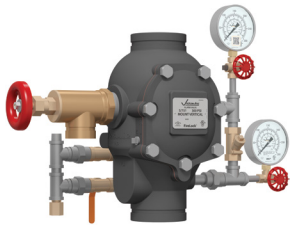
FireLock™ Alarm Check Valve
Series 751

30.01



Series 751

Series 751 European Trim

1.0 PRODUCT DESCRIPTION

Available Sizes

- 1 ½ – 8"/40 – 200 mm

Pressure Class

- 1 ½ – 6"/40 - 152.4 mm 300 psi/2068 kPa/20 Bar
- 8"/200 mm 232 psi/1600 kPa/16 bar. See section 5.0

Valve Configurations

- Bare
- Pre-trimmed
- Vic-Quick Riser: Pre-trimmed and includes:
  - Shut Off Valve (1 ½"/40 mm: Series 728 Ball Valve, 2" – 8"/50 – 200 mm: Series 705 *FireLock* Butterfly Valve)
  - Drain Connection kit
- Fire-Pac Series 745 (refer to Victaulic publication 30.23)

Pipe Preparation

- Victaulic Original Groove System

Application/Media

- For use on fire protection systems only.

2.0 CERTIFICATION/LISTINGS

104e/01 0832

ALWAYS REFER TO ANY NOTIFICATIONS AT THE END OF THIS DOCUMENT REGARDING PRODUCT INSTALLATION, MAINTENANCE OR SUPPORT.

System No.		Location	
Submitted By		Date	

Spec Section		Paragraph	
Approved		Date	

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3.0 SPECIFICATIONS – MATERIAL

Bill of Materials: Standard Trim, cULus, FM, CCC version

Body: Ductile iron, ASTM A-536 Grade 65-45-12

Clapper: Aluminum bronze UNS-C95500

Shaft: Stainless steel 17-4PH

Clapper Seal: EPDM

Seat O-Rings: Nitrile

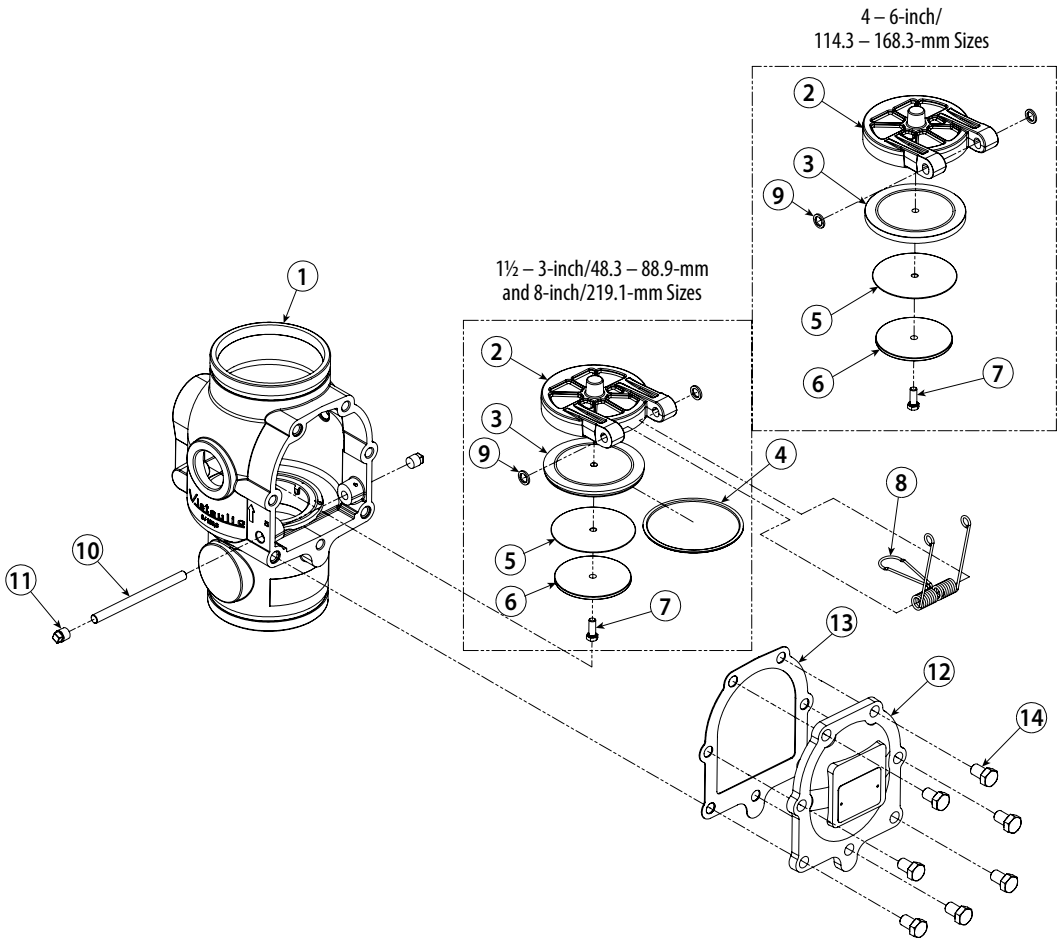
Clapper Spring: Stainless steel (302 Series)

Washers: PTFE

Cover Plate Bolts: Carbon steel, zinc plated

Cover Plate Gasket: Nitrile

Seal Plate: Aluminum Bronze (UNS-C95400)



Item	Description	Item	Description
1	Valve Body	8	Clapper Spring
2	Clapper	9	Washer
3	Clapper Seal	10	Shaft
4	Seal Ring	11	Clapper Shaft Retaining Plug
5	Seal Washer	12	Cover Plate
6	Seal Plate	13	Cover Plate Gasket
7	Screw, Self Sealing	14	Cover Plate Bolts

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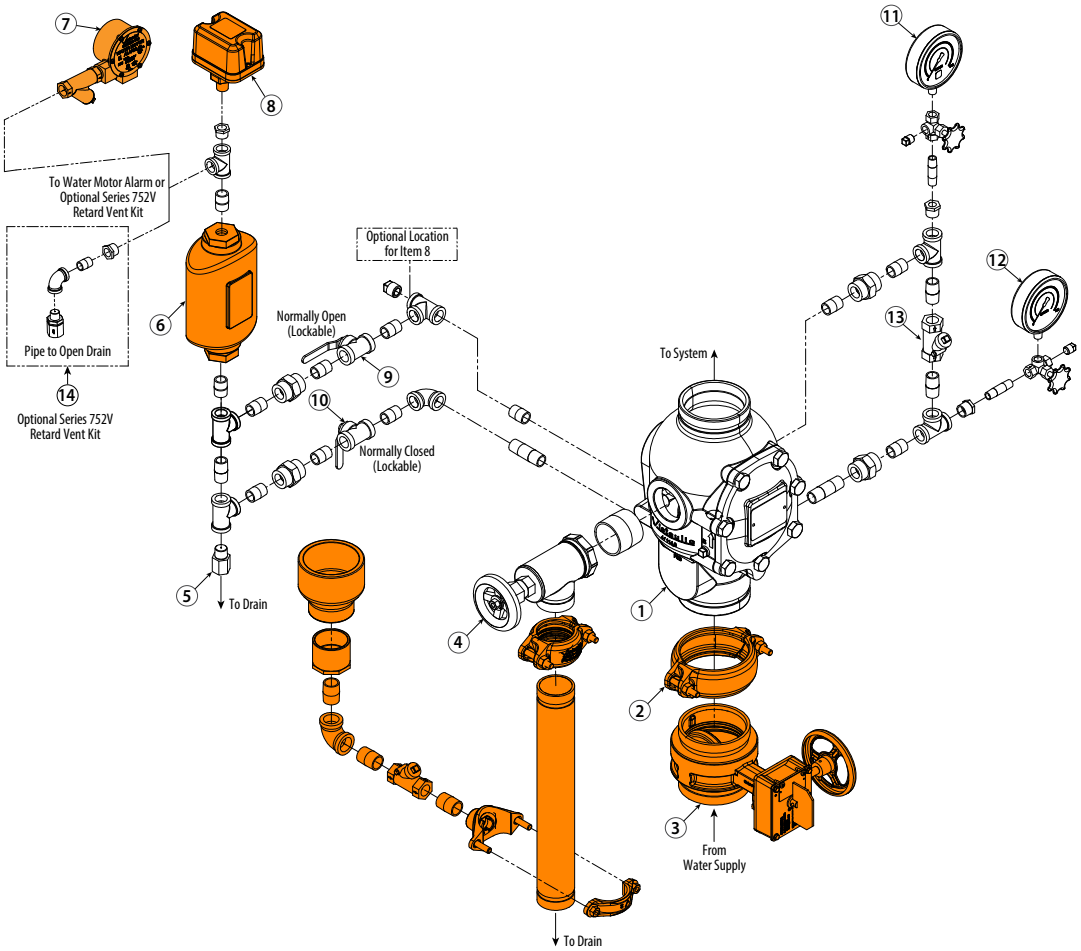
3.1 SPECIFICATIONS – MATERIAL

Standard Trim: cULus, FM, CCC version

Series 751 *FireLock* Alarm Check Valve



Item	Description	Item	Description
1	Series 751 *FireLock* Alarm Check Valve	8	Alarm Pressure Switch (Optional/Sold Separately)
2	*FireLock* Rigid Coupling (Optional/Sold Separately)	9	Alarm Line Ball Valve (Normally Open)
3	Water Supply Main Control Valve (Optional/Sold Separately)	10	Alarm Test Line Ball Valve (Normally Closed)
4	System Main Drain Valve	11	System Pressure Gauge/Gauge Valve Assembly (0-300 psi/0-2068 kPa)
5	Alarm Line Drain Restrictor (1⁄16-inch)	12	Water Supply Pressure Gauge/Gauge Valve Assembly (0-300 psi/0-2068 kPa)
6	Series 752 Retard Chamber Assembly (Optional/Sold Separately)	13	Swing Check Valve
7	Series 760 Water Motor Alarm Assembly (Optional/Sold Separately)	14	Series 752V Retard Vent Kit[1] (Optional/Sold Separately)

[1] The Series 752V Retard Vent Kit is required any time an air break is needed above the Series 752 VdS Retarding Chamber Assembly. In addition, the Series 752V Retard Vent Kit is required if multiple valves are tied into one water motor alarm and a check valve isolates each line.

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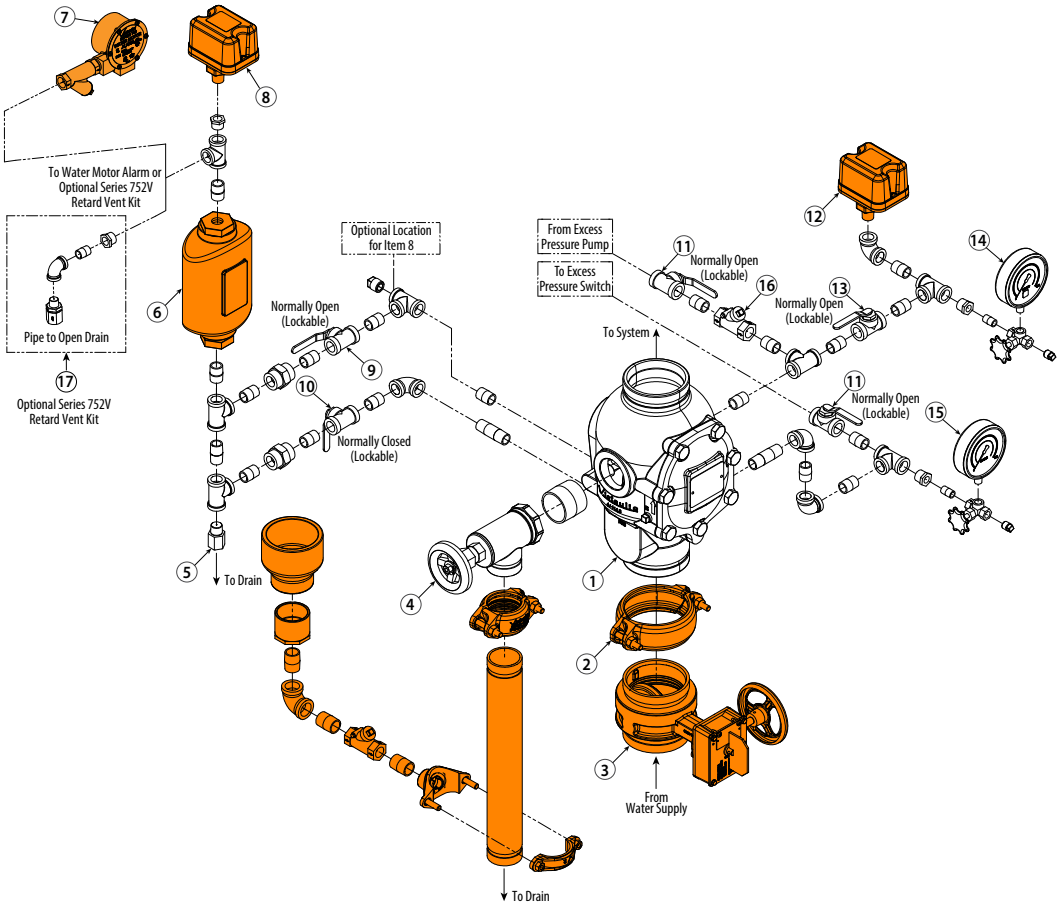
3.2 SPECIFICATIONS – MATERIAL

Standard Trim: cULus, FM, CCC version

Series 751 *FireLock* Alarm Check Valve Trim for Use with Excess Pressure Pump



Item	Description	Item	Description
1	Series 751 *FireLock* Alarm Check Valve	10	Alarm Test Line Ball Valve (Normally Closed)
2	*FireLock* Rigid Coupling (Optional/Sold Separately – Comes Standard when VQR Assembly is Ordered)	11	Excess Pressure Pump Isolation Ball Valve (Normally Open)
3	Water Supply Main Control Valve (Optional/Sold Separately – Comes Standard when VQR Assembly is Ordered)	12	Excess Pressure Pump Pressure Switch (Sold Separately/Not Provided by Victaulic)
4	System Main Drain Valve	13	Excess Pressure Pump Pressure Switch Isolation Ball Valve (Normally Open)
5	Alarm Line Drain Restrictor (1/16-inch)	14	System Pressure Gauge (0-300 psi/0-2068 kPa)
6	Series 752 Retard Chamber Assembly (Optional/Sold Separately)	15	Water Supply Pressure Gauge (0-300 psi/0-2068 kPa)
7	Series 760 Water Motor Alarm Assembly (Optional/Sold Separately)	16	Swing Check Valve
8	Alarm Pressure Switch (Optional/Sold Separately)	17	Series 752V Retard Vent Kit[1] (Optional/Sold Separately)
9	Alarm Line Ball Valve (Normally Open)		

[1] The Series 752V Retard Vent Kit is required any time an air break is needed above the Series 752 VdS Retarding Chamber Assembly. In addition, the Series 752V Retard Vent Kit is required if multiple valves are tied into one water motor alarm and a check valve isolates each line.

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3.2 SPECIFICATIONS – MATERIAL (CONTINUED)

☐ Standard Trim Package

Optional Accessories (specify choice):

☐ Series 752 Retard Chamber – Required when the Series 751 *FireLock* Alarm Check Valve is installed in a variable pressure installation in order to reduce the possibility of false alarms. (Refer to 30.01).

☐ Series 752V Retard Vent Kit – Required when an electric pressure switch is installed on the retard chamber without a water motor alarm.

☐ Series 760 Water Motor Alarm – The Series 751 *FireLock* Alarm Check Valve is designed to activate a mechanical alarm when a sustained flow of water (such as an open sprinkler) causes the alarm check's clapper to lift from its seat. (Refer to 30.32).

☐ Alarm pressure switch – The Series 751 *FireLock* Alarm Check Valve is designed to allow the installation of pressure switches to activate electric alarms and control panels when a sustained flow of water (such as an open sprinkler) causes the alarm check's clapper to lift from its seat.

☐ Waterflow Detectors – Waterflow detectors are available for installation on the riser.

☐ Trim kit available for configuration with excess pressure pump.

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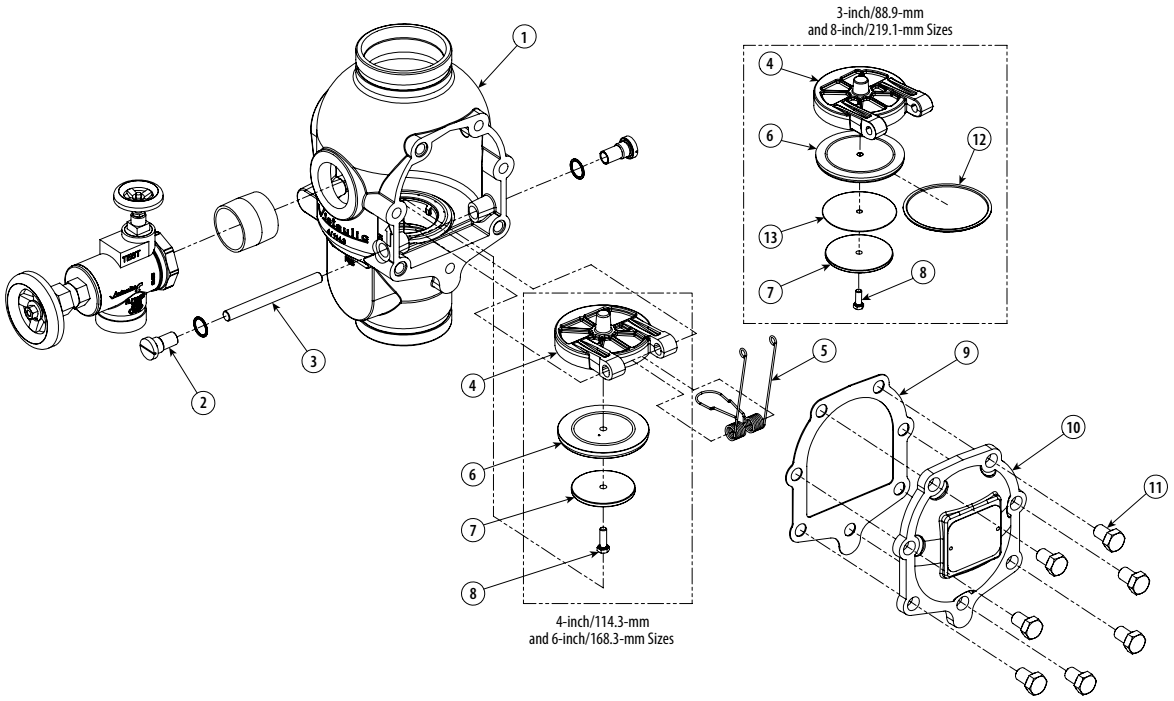
3.3 SPECIFICATIONS – MATERIAL

Bill of Materials: European Trim, VdS, CE, LPCB, CNBOP, FM, EAC version

Series 751 *FireLock* Alarm Check Valve



Item	Description	Item	Description
1	Valve Body	8	Screw, Self Sealing
2	Clapper Shaft Retaining Bushing	9	Cover Plate Gasket
3	Shaft	10	Cover Plate
4	Clapper	11	Cover Plate Bolt
5	Clapper Spring	12	Seal Ring
6	Clapper Seal	13	Seal Washer
7	Seal Plate		

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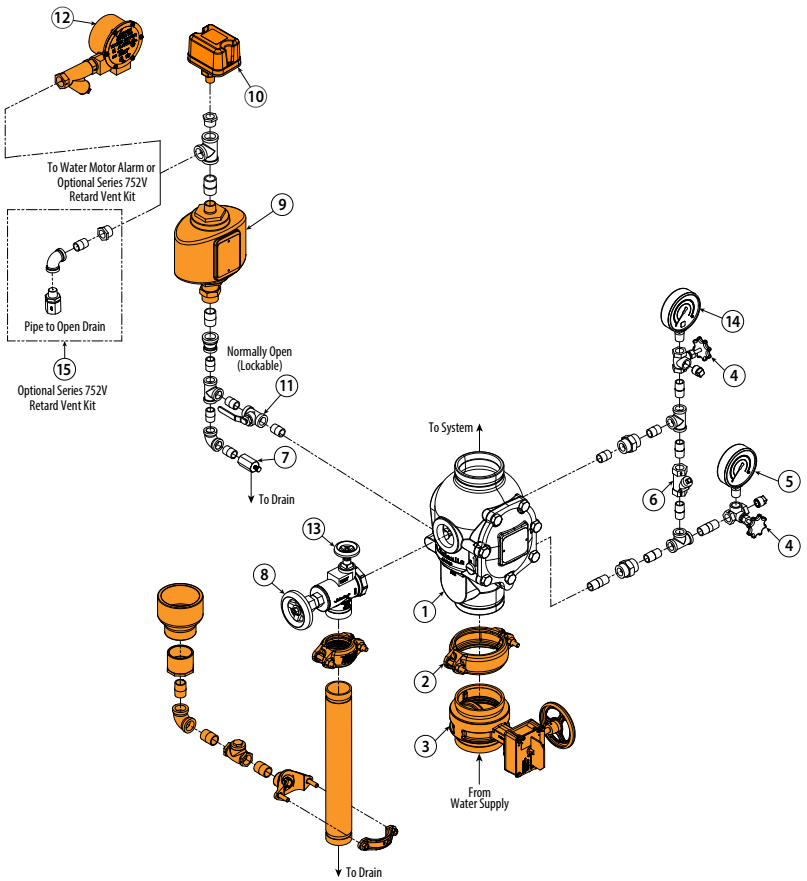
3.4 SPECIFICATIONS – MATERIAL

European Trim: VdS, CE, LPCB, FM, EAC version

Series 751 *FireLock* Alarm Check Valve with Vertical Trim



Item	Description	Item	Description
1	Series 751 *FireLock* European Alarm Check Valve	9	Series 752 VdS Retarding Chamber Assembly (Optional/Sold Separately) Alarm Pressure Switch
2	*FireLock* Rigid Coupling	10	Alarm pressure switch (Optional/Sold Separately)
3	Water Supply Main Control Valve	11	Alarm Line Ball Valve (Lockable – Normally Open) Series 760 European Water Motor Alarm Assembly (Optional/Sold Separately)
4	Gauge Valve	12	Series 760 Water Motor Alarm (Optional/Sold Separately)
5	Water Supply Pressure Gauge (0-25 Bar)	13	System Test Valve
6	Swing Check Valve	14	System Pressure Gauge (0-25 Bar)
7	Restricted Orifice/Alarm Line Drain	15	Series 752V Retard Vent Kit[1] (Optional/Sold Separately)
8	System Main Drain Valve		

[1] The Series 752V Retard Vent Kit is required any time an air break is needed above the Series 752 VdS Retarding Chamber Assembly. In addition, the Series 752V Retard Vent Kit is required if multiple valves are tied into one water motor alarm and a check valve isolates each line.

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3.4 SPECIFICATIONS – MATERIAL (CONTINUED)

☐ Standard Trim Package

Optional Accessories (specify choice):

☐ Series 752 Retard Chamber – Required when the Series 751 *FireLock* Alarm Check Valve is installed in a variable pressure installation in order to reduce the possibility of false alarms. (Refer to 30.01).

☐ Series 752V Retard Vent Kit – Required when an electric pressure switch is installed on the retard chamber without a water motor alarm.

☐ Series 760 Water Motor Alarm – The Series 751 *FireLock* Alarm Check Valve is designed to activate a mechanical alarm when a sustained flow of water (such as an open sprinkler) causes the alarm check's clapper to lift from its seat. (Refer to 30.32).

☐ Waterflow Detectors – Waterflow detectors are available for installation on the riser.

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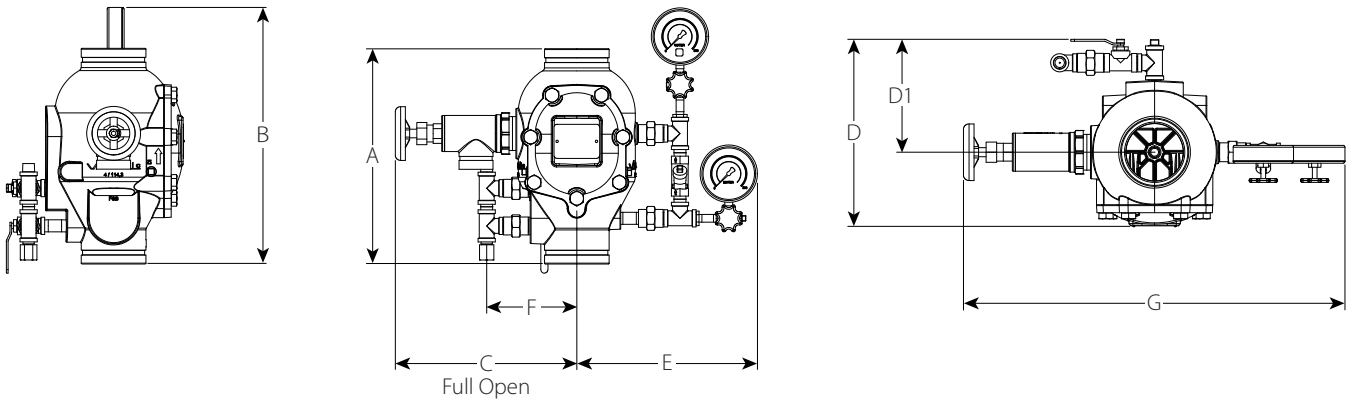
4.0 DIMENSIONS

Standard Trim Dimensions: cULus, FM, CCC Version

Standard trim and trim for use with excess pressure pump (without drain connection kit and water supply main control valve options).



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								Approx Weight Each	
Nominal inches mm	**Actual Outside Diameter** inches mm	**A** inches mm	**B** inches mm	**C** inches mm	**D** inches mm	**D1** inches mm	**E** inches mm	**F** inches mm	**G** inches mm	**Without Trim** lbs. kg	**With Trim** lbs. kg
1 ½ DN40	1.900 48.3	9.00 229	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 14.0
2 DN50	2.875 60.3	9.00 229	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
2 ½	2.875 73.0	12.50 318	15.00 381	11.25 286	11.75 298	7.50 191	11.75 298	7.50 191	23.00 548	34.4 15.6	52.0 23.6
 DN65	3.000 76.1	12.50 318	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	12.50 318	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	15.00 381	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
 165.1mm	6.625 168.3	16.00 406	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
6 DN150	6.500 165.1	16.00 406	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	95.0 43.1
8 DN200	8.625 219.1	17.50 445	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

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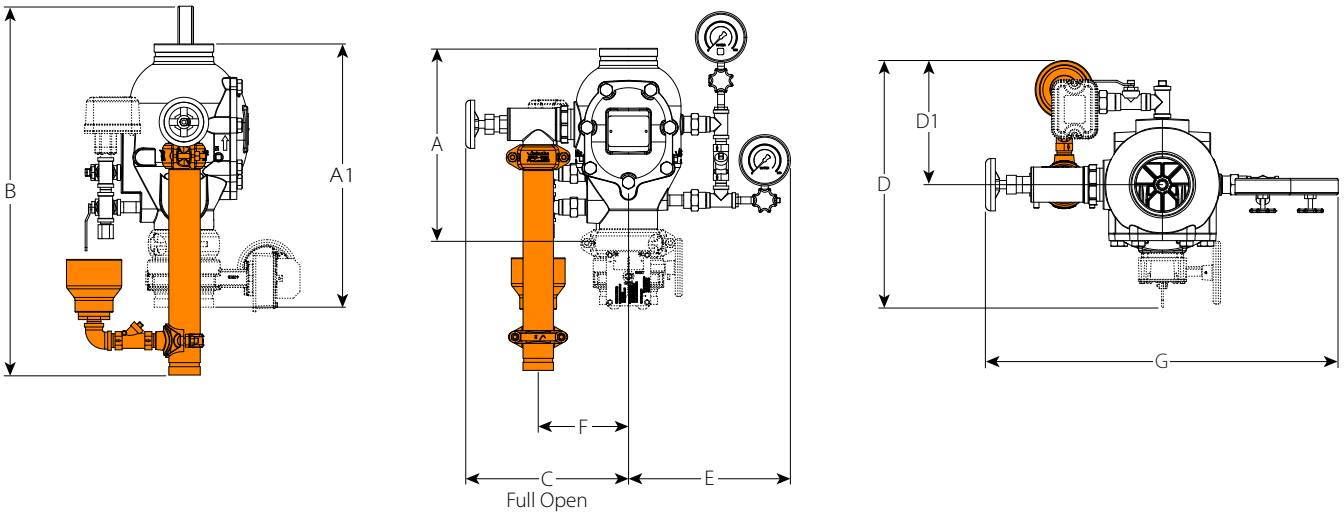
4.0 DIMENSIONS

Standard Trim Dimensions: cULus, FM, CCC Version

Standard trim and trim for use with excess pressure pump (with drain connection kit and water supply main control valve options).

A 4-inch/114.3 mm Series 751 *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 option (shaded in orange) is shown for reference and takeout dimensions.

Size		Dimensions									Approx Weight Each	
Nominal inches mm	Actual Outside Diameter inches mm	A inches mm	A1 inches mm	B inches mm	C inches mm	D inches mm	D1 inches mm	E inches mm	F inches mm	G inches mm	Without Trim lbs. kg	With Trim lbs. kg
1 ½ DN40	1.900 48.3	9.00 229	16.25 413	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	2.875 60.3	9.00 229	13.75 349	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	12.50 318	16.50 419	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	12.50 318	16.50 419	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	12.50 318	16.50 419	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	15.00 381	19.75 502	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
165.1mm	6.625 168.3	16.00 406	22.13 562	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	6.500 165.1	16.00 406	22.13 562	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	8.625 219.1	17.50 445	23.00 584	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

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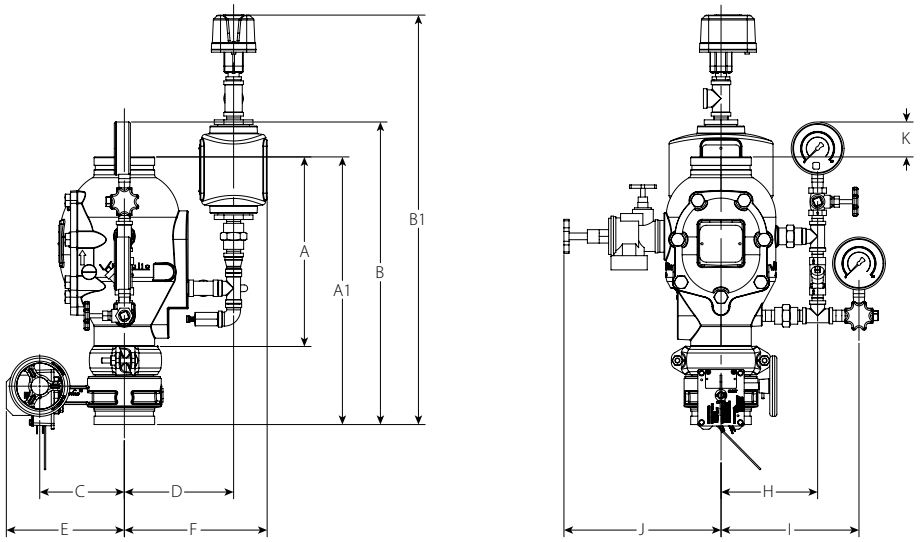
4.0 DIMENSIONS (CONTINUED)

European Trim Dimensions: VdS, CE, LPCB, FM, EAC version



Size		Dimensions												Weight
Nominal inches mm	Actual Outside Diameter inches mm	A[2] inches mm	A1 inches mm	B inches mm	B1 inches mm	C inches mm	D inches mm	E inches mm	F inches mm	H inches mm	I inches mm	J inches mm	K inches mm	Approx. Each lbs. kg
3 DN80	3.500 88.9	12.50 318	16.50 419	17.13 435	28.75 730	5.50 140	7.63 194	7.50 191	10.13 257	6.63 168	9.75 248	10.88 276	0.63 16	75.8 34.4
4 DN100	4.500 114.3	15.00 381	19.88 505	22.50 572	30.50 775	6.25 159	8.13 206	8.75 222	10.63 270	7.13 181	10.25 260	11.63 295	2.50 64	100.4 45.5
6 DN150	6.625 168.3	16.00 406	22.13 562	24.63 625	32.13 816	8.13 206	9.38 238	10.75 273	11.88 302	7.50 191	10.63 270	12.00 305	2.50 64	132.5 60.1
8 DN200	8.625 219.1	17.50 445	23.00 584	23.25 591	30.13 765	9.38 238	8.50 216	12.00 305	11.00 279	9.25 235	12.13 308	13.38 340	0.25 6	199.7 90.6

[2] The “A” dimension is the measurement from the top of the valve body to the bottom of the valve body (takeout dimension).

NOTE

- Overall height “B” is greatest height if optional retard chamber is not installed.

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5.0 PERFORMANCE

Standard Trim: cULus, FM, CCC Version

Frictional Resistance

The chart below expresses the frictional resistance of Series 751 *FireLock* Alarm Check Valve in equivalent feet of straight pipe.

Nominal Size inches mm	**Actual Outside Diameter** inches mm	**Equivalent Length of Pipe** feet meters
1 ½ DN40	1.900 48.3	3.00 0.910
2 DN50	2.875 60.3	9.00 2.740
2 ½	2.875 73.0	8.00 2.438
	3.000 76.1	8.00 2.438
DN65		
3 DN80	3.500 88.9	17.00 5.182
4 DN100	4.500 114.3	21.00 6.401
6 DN150	6.625 168.3	22.00 6.706
	6.500 165.1	22.00 6.706
8 DN200	8.625 219.1	50.00 15.240

European Trim: VdS, CE, LPCB, FM, EAC version

Frictional Resistance

The chart below expresses the frictional resistance of Series 751 *FireLock* Alarm Check Valve in equivalent meters of straight pipe.

Nominal Size DN inches	**Actual Outside Diameter** mm inches	**Equivalent Length of Pipe** meters feet
DN80 3	88.9 3.500	5.182 17.00
DN100 4	114.3 4.500	6.401 21.00
DN150 6	168.3 6.625	6.706 22.00
DN200 8	219.1 8.625	15.240 50.00

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5.0 PERFORMANCE (CONTINUED)

Maximum Working Pressure

Standard Trim:

Size		cULus	FM	CCC
Nominal inches DN	**Actual Outside Diameter** inches DN	psi kPa bar	psi kPa bar	psi kPa bar
1 ½ DN40	1.900 48.3	300 2068 21	300 2068 21	-
2 DN50	2.375 60.3	300 2068 21	300 2068 21	-
2 ½	2.875 73.0	300 2068 21	300 2068 21	-
DN65	3.000 76.1	300 2068 21	300 2068 21	-
3 DN80	3.500 88.9	300 2068 21	300 2068 21	232 1600 16
4 DN100	4.500 114.3	300 2068 21	300 2068 21	232 1600 16
6 DN150	6.625 168.3	300 2068 21	300 2068 21	232 1600 16
	6.500 165.1	300 2068 21	300 2068 21	232 1600 16
8 DN200	8.625 219.1	232 1600 16	232 1600 16	232 1600 16

European Trim:

Size		FM	EAC	VdS	LPCB	CE
Nominal inches DN	**Actual Outside Diameter** inches DN	psi kPa bar	psi kPa bar	psi kPa bar	psi kPa bar	psi kPa bar
3 DN80	3.500 88.9	232 1600 16	232 1600 16	232 1600 16	232 1600 16	232 1600 16
4 DN100	4.500 114.3	232 1600 16	232 1600 16	232 1600 16	232 1600 16	232 1600 16
6 DN150	6.625 168.3	232 1600 16	232 1600 16	232 1600 16	232 1600 16	232 1600 16
	6.500 165.1	232 1600 16	232 1600 16	232 1600 16	232 1600 16	232 1600 16
8 DN200	8.625 219.1	232 1600 16	232 1600 16	232 1600 16	232 1600 16	232 1600 16

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6.0 NOTIFICATIONS

⚠ 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.

- **These products 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.**
- **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.**
- **It is the system designer's responsibility to verify suitability of materials for use with the intended fluid media within the piping system and external environment.**
- **The material specifier shall evaluate the effect of chemical composition, pH level, operating temperature, chloride level, oxygen level, and flow rate on materials to confirm system life will be acceptable for the intended service.**

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.

7.0 REFERENCES

10.64: Style 009N Firelock EZ™ Rigid Coupling

10.81: Firelock™ Butterfly Valve with Weatherproof Actuator Series 705 Submittal

I-751: Firelock™ Alarm Check Valve Series 751 Installation, Maintenance, and Testing Manual

I-751-NXT.KIT: Firelock™ European Fire Protection Valves Series 751,764,768 and 769 Alarm Kit Trim Instructions (Europe Only)

I-751.PST: Firelock™ Alarm Check Valve Series 751 Installation Poster

I-751.VDS: Firelock™ European Alarm Check Valve Stations Series 751 Installation, Maintenance, and Testing Manual

I-751-VDS-ADD: Firelock™ European Alarm Check Valve Station (VDS) Series 751 Wall Chart for Placing the System in Service

I-751.VDS-KIT: Firelock™ European Alarm Check Valve Stations Series 751 Kit Installation Instructions

I-760: Firelock™ Water Motor Alarm Series 760 Installation Manual

User Responsibility for Product Selection and Suitability
Each user bears final responsibility for making a determination as to the suitability of Victaulic products for a particular end-use application, in accordance with industry standards and project specifications, and the applicable building codes and related regulations as well as Victaulic performance, maintenance, safety, and warning instructions. Nothing in this or any other document, nor any verbal recommendation, advice, or opinion from any Victaulic employee, shall be deemed to alter, vary, supersede, or waive any provision of Victaulic Company's standard conditions of sale, installation guide, or this disclaimer.

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

Installation
Reference should always be made to the Victaulic installation handbook or installation instructions of the product you are installing. Handbooks are included with each shipment of Victaulic products, providing complete installation and assembly data, and are available in PDF format on WeChat.

Warranty
Refer to the Warranty section of the current Price List or contact Victaulic for details.

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