

FireLock® Alarm Check Valve



SEE VICTAULIC PUBLICATION 10.01 FOR DETAILS

**SERIES 759
GROOVED X GROOVED**

The Victaulic® Series 759 alarm check valve works as a check valve by preventing the reverse flow of water from the system piping to the water supply. The valve is trimmed with a water bypass line, which has an in-line swing check valve. The bypass line allows pressure surges to enter the system and to be trapped above the alarm check valve's clapper without the clapper lifting and causing false alarms.

When a significant flow of water occurs, such as from an open sprinkler, the alarm valve's clapper lifts and allows water to enter the system. Simultaneously, water enters an intermediate chamber, which allows the water to activate an alarm either through a water motor alarm or through a water pressure alarm. These alarms continue to sound until the flow of water is stopped.



FEATURES

The Victaulic Series 759 alarm check valve is made from high strength, low weight ductile iron, and offers easy access to all internal parts. All internal parts are replaceable without having to remove the valve from the installed position. The rubber clapper seal is easily replaceable.

The valve can be used in both constant and variable pressure systems when the optional retard chamber is included in the trim piping.

The 3 – 8/80 – 200mm valve is rated to 175 psi/1200 kPa and is tested hydrostatically to 350 psi/2400 kPa.

The Series 759 is available grooved x grooved (all sizes). Standard grooved dimensions conform to ANSI/AWWA C606. Also available in JIS standard sizes.

OPTIONS

Optional equipment includes a non-interruptible pressure switch, which allows the activation of an electric alarm panel or remote alarm. The valve can be used in both constant pressure and variable pressure installations with the optional retard chamber. The body is tapped for main drain and all available trim configurations. The trim includes an alarm test valve, which allows testing of the alarm system without reducing the system pressure. (Optional trim configuration is available for use with an excess pressure pump in Canada only.)

JOB OWNER

System No. _____
Location _____

CONTRACTOR

Submitted By _____
Date _____

ENGINEER

Spec Sect _____ Para _____
Approved _____
Date _____

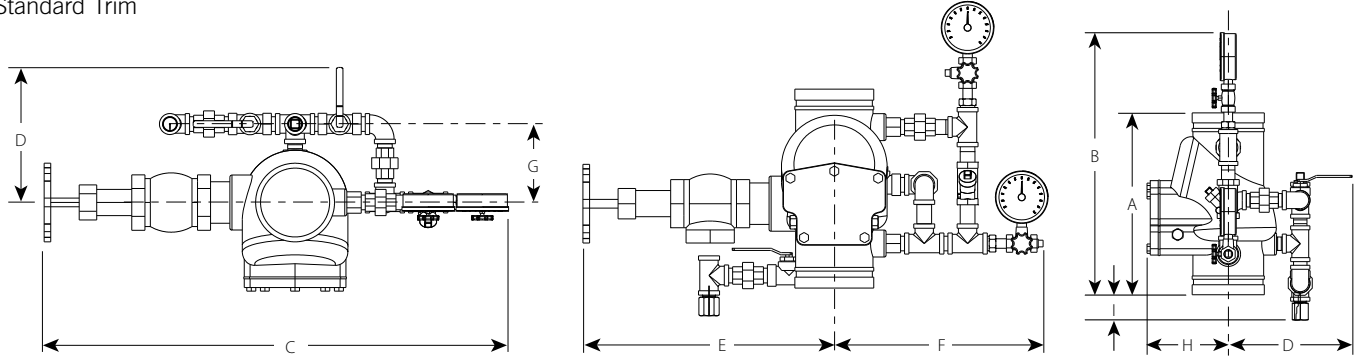
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GROOVED X GROOVED

DIMENSIONS

Standard Trim



Size		Dimensions – Inches/mm										Aprx. Weight Each Lbs./kg	
Nominal Size In./mm	Actual Outside Dia. In./mm	A	B	C	D	E	F	G	H	I	Without Trim	With Trim	

GROOVED X GROOVED

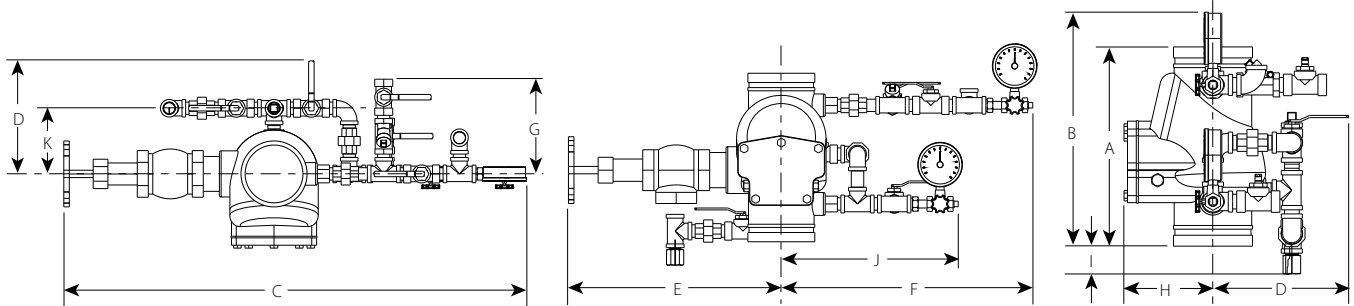
3 80	3.500 88.9	10.30 261.5	17.00 431.8	24.00 609.6	9.00 228.6	11.00 279.4	13.00 330.2	5.00 127.0	5.00 127.0	2.00 50.8	17.0 7.7	29.0 13.2
76.1 mm	3.000 76.1	10.50 266.7	17.00 431.8	24.00 609.6	9.00 228.6	11.00 279.4	13.00 330.2	5.00 127.0	5.00 127.0	2.00 50.8	17.0 7.7	29.0 13.2
4 100	4.500 114.3	11.37 288.5	17.00 431.8	27.00 685.8	9.00 228.6	15.00 381.0	12.00 304.8	5.00 127.0	6.00 152.4	2.00 50.8	30.0 13.6	40.0 18.1
6 150	6.625 168.3	14.10 358.1	19.00 482.6	30.00 762.0	10.00 254.0	16.00 406.4	14.00 355.6	6.00 152.4	7.00 177.8	1.00 25.4	63.0 28.6	73.0 34.0
165.1 mm	6.500 165.1	14.10 358.1	19.00 482.6	30.00 762.0	10.00 254.0	16.00 406.4	14.00 355.6	6.00 152.4	7.00 177.8	1.00 25.4	63.0 28.6	73.0 34.0
8 200	8.625 219.1	16.13 409.5	22.00 558.8	32.00 812.8	10.00 254.0	16.00 406.4	16.00 406.4	7.00 177.8	8.00 203.2	N/A	94.0 42.6	109.0 49.4

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DIMENSIONS

Excess Pump Trim
 (For Canada Only)



Size		Dimensions – Inches/mm											Aprx. Weight Each Lbs./kg	
Nominal Size In./mm	Actual Outside Dia. In./mm	A	B	C	D	E	F	G	H	I	J	K	Without Trim	With Trim

GROOVED X GROOVED

3 80	3.500 88.9	10.30 261.5	12.00 304.8	28.00 711.2	8.00 203.2	12.00 304.8	17.00 431.8	7.00 177.8	5.00 127.0	2.00 50.8	13.00 330.2	5.00 127.0	17.0 7.7	29.0 13.2
76.1 mm	3.000 76.1	10.50 266.7	12.00 304.8	28.00 711.2	8.00 203.2	12.00 304.8	17.00 431.8	7.00 177.8	5.00 127.0	2.00 50.8	13.00 330.2	5.00 127.0	17.0 7.7	29.0 13.2
4 100	4.500 114.3	11.37 288.5	14.00 355.6	32.00 812.8	9.00 228.6	15.00 381.0	17.00 431.8	7.00 177.8	6.00 152.4	2.00 50.8	12.00 304.8	5.00 127.0	30.0 13.6	40.0 18.1
6 150	6.625 168.3	14.10 358.1	16.00 406.4	36.00 914.4	10.00 254.0	16.00 406.4	20.00 508.0	9.00 228.6	7.00 177.8	1.00 25.4	14.00 355.6	6.00 152.4	63.0 28.6	73.0 34.0
165.1 mm	6.500 165.1	14.10 358.1	16.00 406.4	36.00 914.4	10.00 254.0	16.00 406.4	20.00 508.0	9.00 228.6	7.00 177.8	1.00 25.4	14.00 355.6	6.00 152.4	63.0 28.6	73.0 34.0
8 200	8.625 219.1	16.13 409.5	18.00 457.2	38.00 965.2	10.00 254.0	17.00 431.8	21.00 533.4	9.00 228.6	8.00 203.2	0.50 12.7	15.00 381.0	7.00 177.8	94.0 42.6	109.0 49.4

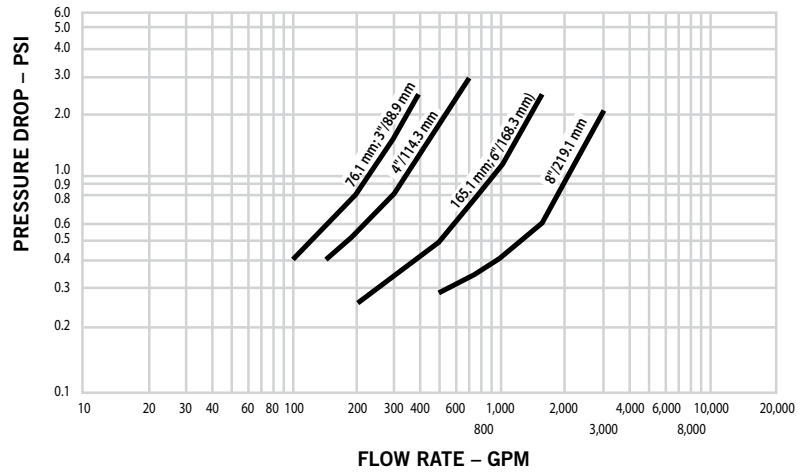
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PERFORMANCE

Hydraulic Friction Loss

The chart below expresses the flow of water at 65°F/18°C through a full open valve.



Frictional Resistance

The chart below expresses the frictional resistance of Victaulic Series 759 Alarm Check Valve in equivalent feet/meters of ANSI standard wall straight pipe.

Size		Equivalent Length of Pipe	
Nominal Size Inches mm	Actual Outside Dia. Inches mm	Feet	Meters
3	3.500	16	4.9
80	88.9		
76.1 mm	3.000	1.6	4.9
4	4.500	26	7.9
100	114.3		
6	6.625	32	9.8
150	168.3		
165.1 mm	6.500	32	9.8
	165.1		
8	8.625	27	8.2
200	219.1		

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OPERATION

The Series 759 Alarm Check Valve's construction includes a clapper, which has a replaceable rubber face. The clapper closure is assisted by a spring, which ensures proper contact of the clapper to the brass seat ring.

When installed, the alarm check valve traps pressure above the clapper and prevents the reverse flow of water. Minor pressure surges pass through the bypass loop without lifting the clapper from its seat. The swing check valve in the bypass line traps the pressure above the clapper; this can be observed in the pressure gauges. The system-side water pressure will always be equal to or greater than the supply-side water pressure in the absence of an open sprinkler.

When a sustained flow of water occurs, such as an activated sprinkler or an open inspector's test connection, the clapper lifts from its closed position; this allows water to enter the intermediate chamber through the holes in the seat ring. The water flows from the intermediate chamber to the alarm line and activates the system's alarms. These alarms continue to sound until the flow of water stops.

OPERATION WITH AN INSTALLED RETARD CHAMBER

When the Series 759 Alarm Check Valve is installed with the optional retard chamber, a surge of water, greater than what the bypass line can handle, will lift the clapper. When the clapper lifts, water will enter the intermediate chamber through the holes in the seat ring, and it will fill the retard chamber. The water then drains from the retard chamber through a restricted orifice.

A sustained flow of water, as in an open sprinkler, will lift the clapper. Water will flow into the intermediate chamber, and it will fill the retard chamber completely; these events activate the water motor alarm and/or the pressure switch for the electric alarm.

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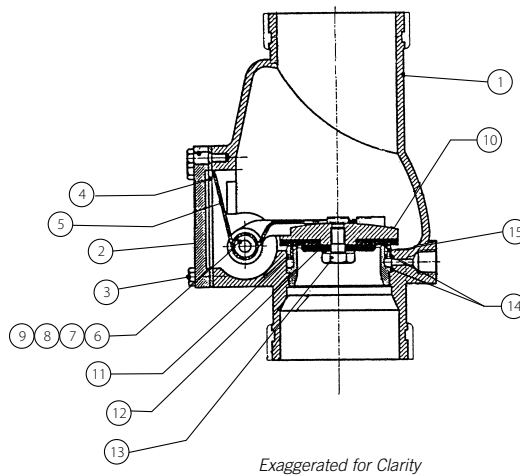
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MATERIAL SPECIFICATIONS

- Body:** Ductile iron conforming to ASTM A-395, grade 65-45-15.
- Clapper:** Brass
- Shaft:** Type 304 Stainless steel
- Clapper Seal:** EPDM, ASTM D2000
- Seat O-rings:** EPDM
- Springs:** Stainless steel (300 Series)

Bill of Materials

No.	Part Name	Quantity		
		3" Valve/ 80 mm	4" Valve/ 100 mm	6 & 8" Valves/ 150 & 200 mm
1	Valve Body	1	1	1
2	Cover Plate	1	1	1
3	Cover Plate Bolt	5	5	5
4	Cover Plate Gasket	1	1	1
5	Clapper Spring	2-Part	1-Part	2-Part
6	Shaft Retaining Plug	2	2	2
7	Clapper Arm Washer	2	2	2
8	Clapper Shaft	1	1	1
9	Spring Bushing	2	1	0
10	Clapper	1	1	1
11	Clapper Seal	1	1	1
12	Brass Clapper Retaining Ring	1	1	1
13	Bolt/Washer	1	1	1
14	Seat O-Ring	2	2	2
15	Seat Ring	1	1	1



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TRIM PACKAGES

Trim Packages Available:

- 1 Vertical trim for the Series 759 Alarm Check Valve.
- 2 Trim available for use with an excess pressure pump.

Trim packages include:

- 1 All required pipe and fittings.
- 2 All standard trim accessories.
- 3 All required gauges.

Optional accessories:

- **Series 752 Retard Chamber** – Required when the Series 759 Alarm Check Valve is installed in a variable pressure installation in order to reduce the possibility of false alarms.
- **Series 760 Water Motor Alarm** – The Series 759 Alarm Check Valve is designed to activate a mechanical alarm when a sustained flow of water (such as an open sprinkler head) causes the alarm check's clapper to lift from its seat.
- **Alarm Pressure Wwitch** – The Series 759 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.

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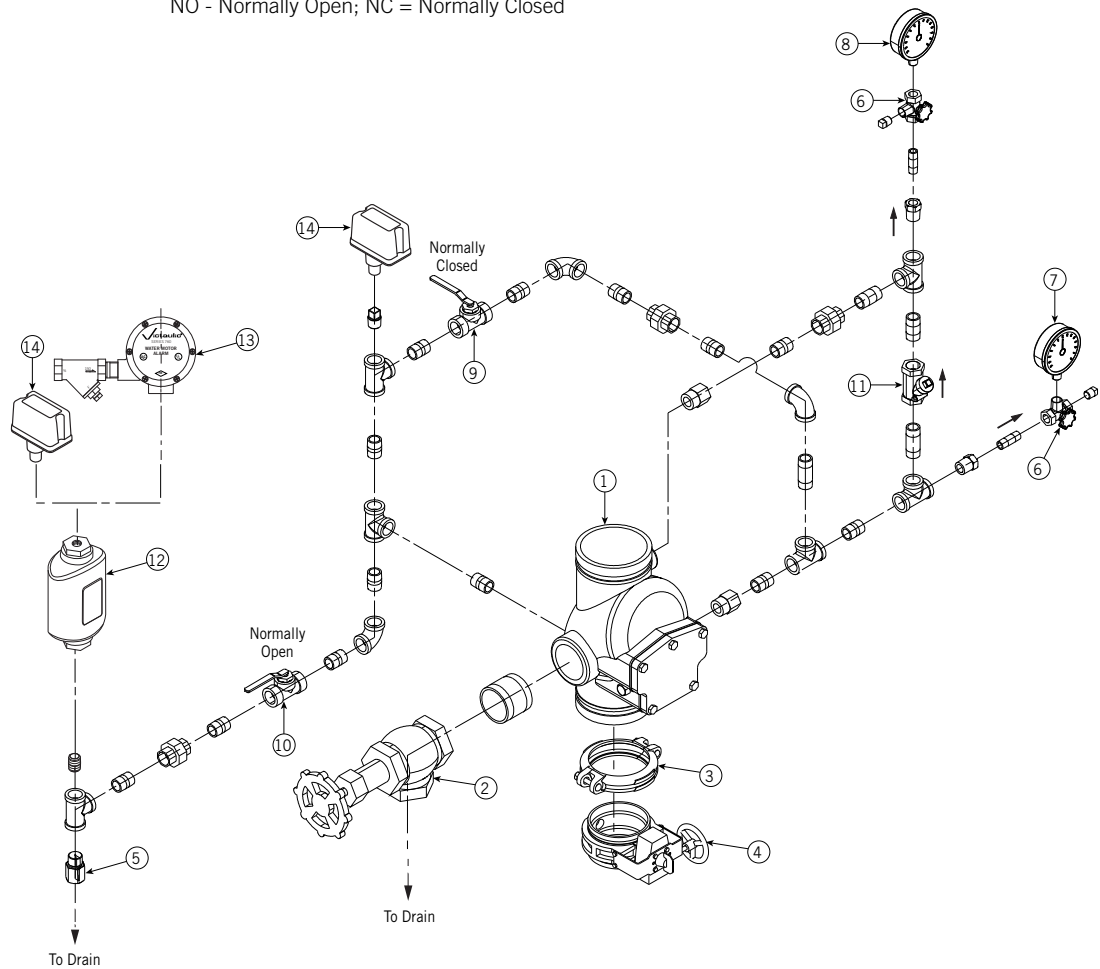
PARTS

With Vertical Trim
 Grooved x Grooved

Bill of Materials

- | | |
|-------------------------------------------------------------|-------------------------------------------------------|
| 1 Series 759 FireLock Alarm Check Valve | 8 System Pressure Gauge (0-300 psi/0-2068 kPa) |
| 2 System Main Drain Valve | 9 Alarm Test Ball Valve (NC) |
| 3 Style 005 FireLock Rigid Coupling (Optional) | 10 Alarm Line Ball Valve (NO) |
| 4 Series 705W Butterfly Valve (Optional) | 11 Bypass Swing Check Valve |
| 5 Alarm Line Drain Restrictor (1/8") | 12 Series 752 Retard Chamber (Optional) |
| 6 Gauge Valve | 13 Series 760 Water Motor Alarm (Optional) |
| 7 Water Supply Pressure Gauge (0-300 psi/0-2068 kPa) | 14 EPS-10 Alarm Pressure Switch (Optional) |

NO - Normally Open; NC = Normally Closed



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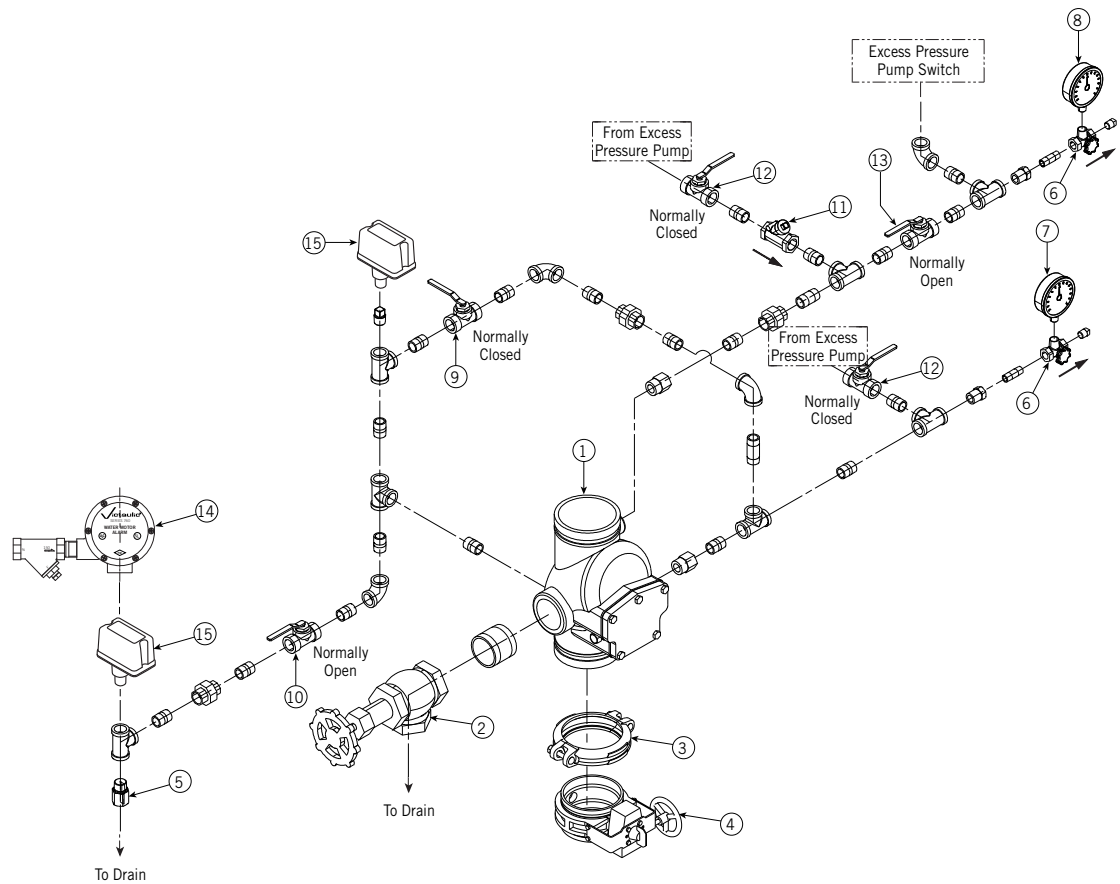
PARTS – FOR CANADA ONLY

Series 759 Trim for Use with
 Excess Pressure Pump
 Grooved x Grooved

Bill of Materials

- | | |
|-------------------------------------------------------------|-------------------------------------------------------|
| 1 Series 759 FireLock Alarm Check Valve | 8 System Pressure Gauge (0-300 psi/0-2068 kPa) |
| 2 System Main Drain Valve | 9 Alarm Test Ball Valve (NC) |
| 3 Style 005 FireLock Rigid Coupling (Optional) | 10 Alarm Line Ball Valve (NO) |
| 4 Series 705W Butterfly Valve (Optional) | 11 Bypass Swing Check Valve |
| 5 Alarm Line Drain Restrictor (1/16") | 12 Excess Pressure Pump Isolation Ball Valve |
| 6 Gauge Valve | 13 Pressure Switch Isolation Ball Valve |
| 7 Water Supply Pressure Gauge (0-300 psi/0-2068 kPa) | 14 Series 760 Water Motor Alarm (Optional) |
| | 15 EPS-10 Alarm Pressure Switch (Optional) |

NO - Normally Open; NC = Normally Closed



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WARNING 

 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 product literature or the 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>

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

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.



For complete contact information, visit www.victaulic.com

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