

Victaulic® Series 776 Low Pressure Actuator



1.0 PRODUCT DESCRIPTION

Pressure Class

- Up to 300 psi/2068 kPa/20 Bar of water pressure

Water Supply Connections

- Male or Female NPT Inlet
- Female NPT Outlet

Air Connection

- Female NPT Inlet

Valve Configurations

- Series 768N FireLock NXT™ Dry System Check Valve
- Series 769N FireLock NXT™ Deluge System Check Valve
- Series 769N FireLock NXT™ Preaction System Check Valve
- Series 756 FireLock™ Dry System Check Valve
- Series 758 FireLock™ Actuated System Valve

Operational Air Pressures

- Normal range: 13-18 psi/90-124 kPa/0.9-1.2 Bar
- Set pressure: 10 psi/69 kPa/0.6 Bar
- Trip pressure: 7 psi/48 kPa/0.4 Bar

NOTE

- If a Series 746 Dry Accelerator is in use, normal range may differ.

2.0 CERTIFICATION/LISTINGS



NOTE

- Product approvals for some agencies may be tied to the overall product listed above.

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

3.0 SPECIFICATIONS – MATERIAL

Lower Chamber: UNS C83600 Bronze

Middle and Upper Chambers: Brass conforming to UNS C36000

Internal Components: Brass conforming to UNS C36000

Seals: EPDM

Fasteners: 300 series stainless steel

Springs: Stainless steel

Strainer: Brass conforming to UNS C36000

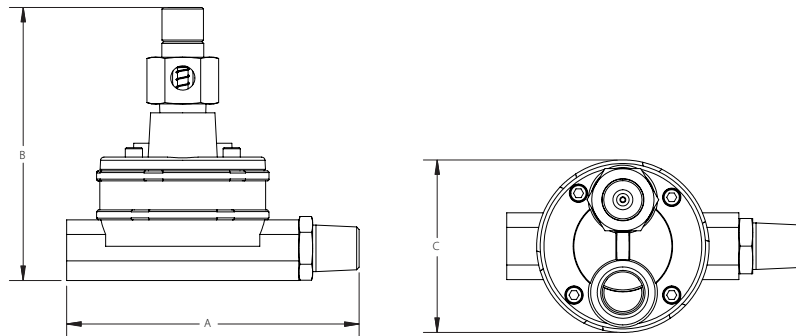
Eyelets: Brass conforming to UNS C36000

O-ring: Nitrile

Diaphragms: EPDM

4.0 DIMENSIONS

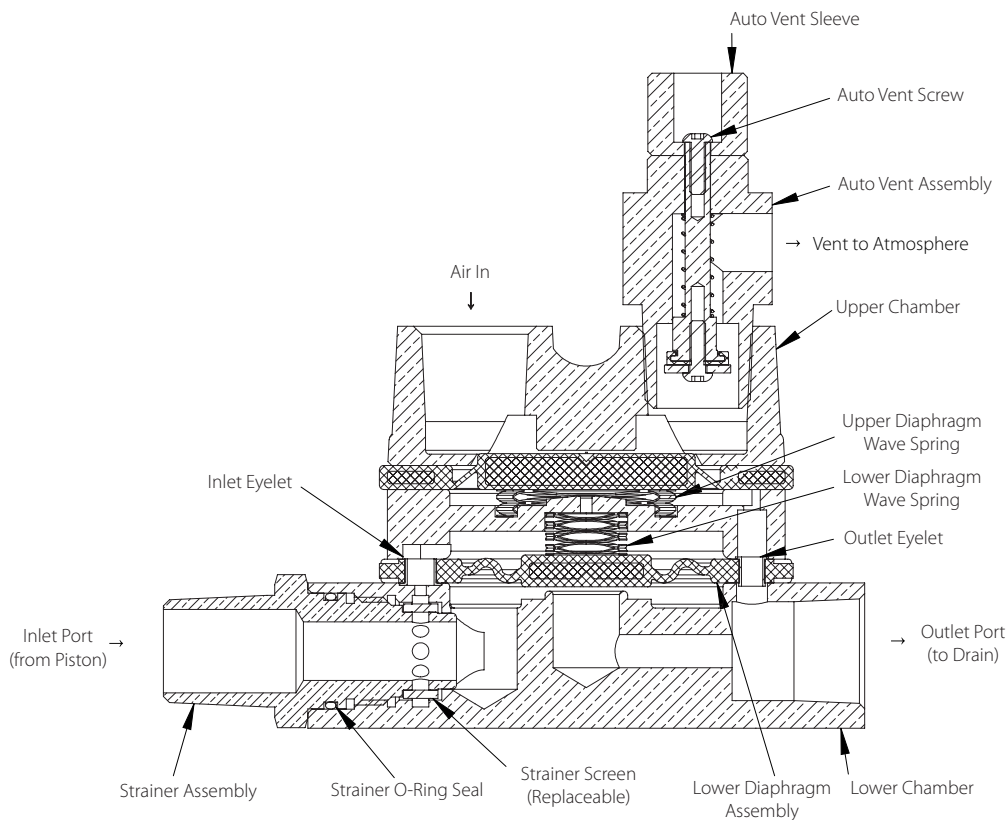
Series 776 Low Pressure Actuator



Size		Dimensions			Weight
Nominal inches DN	Actual Outside Diameter inches mm	A inches mm	B inches mm	C inches mm	Approximate (Each) lb kg
1/2 DN15	0.840 21.3	5.29 134	5.00 126	3.13 80	4.6 2.1

5.0 PERFORMANCE

Series 776



The Series 776 Low Pressure Actuator comes standard on the trim of pneumatically-released Victaulic Series 768/768N Dry, 769/769N Deluge, and 769/769N Preaction Actuated Valves and acts as the trigger for these systems.

Diaphragms separate the Series 776 into three chambers. The upper air chamber controls the activation, while the middle and lower chambers act as the water valve.

During charging, the system feeds air into the upper chamber of the Series 776. Pulling up on the auto vent's knob, which is located on top of the Series 776, manually sets the upper chamber. Air pressure in the upper chamber holds the auto vent closed, while it exerts force on the water seal of the middle chamber.

When the charge line of the main valve's trim is opened, water enters the lower chamber of the Series 776. Water entering the Series 776 flows to the middle chamber through the inlet eyelet. This water is trapped in the middle chamber by the upper diaphragm assembly, which is held closed by the system air pressure in the upper chamber.


Since the area of the lower diaphragm, which is exposed to the middle chamber's water pressure, is greater than the area of the lower chamber, the lower chamber seals off. No water flows to the outlet of the Series 776 and the supply water pressure creates the water seal.






When system air pressure decays to 7 psi/48 kPa/ 0.4 Bar, the force exerted by the compression spring in the auto vent is greater than the force exerted by the air in the upper chamber. The auto vent opens and the air pressure in the upper chamber evacuates. The upper diaphragm then releases the water pressure in the middle chamber of the Series 776, which allows the lower diaphragm to lift and water to flow from the inlet to the outlet. This water flow releases water pressure from the main valve. The main valve's clapper opens and allows water to flow into the sprinkler system.

Auto Vent

After the main valve operates, water will enter the air line portion of the trim; this is connected to the upper chamber of the Series 776 and controls its actuation. Should the upper chamber become pressurized, the Series 776 could close prematurely. The ball check in the valve trim prevents most of this water from entering the Series 776; however, in case of ball check malfunction, the auto vent acts as an anti-flood device. When the auto vent opens, the system is configured such that fluid entering the upper chamber of the Series 776 is allowed to flow through the auto vent faster than it can enter the upper chamber. Therefore, it is not possible to develop pressure in the upper chamber without manual intervention.

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.
- Confirm that any equipment, branch lines, or sections of piping that may have been isolated for/during testing or due to valve closures/positioning are identified, 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) 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 REFERENCE MATERIALS

- [31.22: Series 7C7 Air Maintenance/Compressor Assembly](#)
- [30.23: FireLock™ Fire-Pac Series 745](#)
- [30.35: Series 757 FireLock® Devices Air Maintenance Trim Assembly](#)
- [30.64: Series 746-LPA FireLock™ Dry Accelerator](#)
- [31.80: Victaulic® FireLock NXT™ Dry Valve Series 768N](#)
- [31.81: Victaulic® FireLock NXT™ Deluge Valve Series 769N](#)
- [31.82: Victaulic® FireLock NXT™ Preaction Trim Series 769N](#)
- [I-768N: Series 768N FireLock NXT™ Dry Valve](#)
- [I-769N.Deluge: Series 769N FireLock NXT™ Deluge Valve](#)
- [I-769N.Preaction: Victaulic® Series 769N FireLock NXT™ Actuated Valve with Preaction Trim](#)
- [10.01: Regulatory Approval Reference Guide](#)

User Responsibility for Product Selection and Suitability

Each user bears final responsibility for determining the suitability of Victaulic products for their end-use application, in accordance with industry standards, project specifications, and Victaulic's published performance, maintenance, and safety data, as well as all warnings and installation 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, warranty, installation instructions, or this disclaimer.

Installation

Always refer to and follow the [Victaulic Installation Handbook](#) or installation instructions for 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 our website at victaulic.com.

Warranty

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

Intellectual Property Rights

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Note

All products bearing a Victaulic trademark are manufactured by Victaulic or to Victaulic specifications. All products are to be installed only in accordance with the applicable Victaulic installation instructions. Victaulic reserves the right to change product specifications, designs and standard equipment without notice and without incurring obligations.