

Victaulic® Series 798 Double Pneumatic 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 Connections

- Female NPT Inlet

Valve Configurations

- Series 769N FireLock NXT™ Preaction Valve
- Series 769 FireLock™ Preaction Valve
- Series 758 FireLock™ Preaction Valve

Operational 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

NOTES

- Air pressure loss in both the pilot line and system line are required to activate the Series 798.
- The Series 798 DPA does not require an electric release panel and provides additional coverage in areas with limited or unreliable electric power.

2.0 CERTIFICATION/LISTINGS



NOTE

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

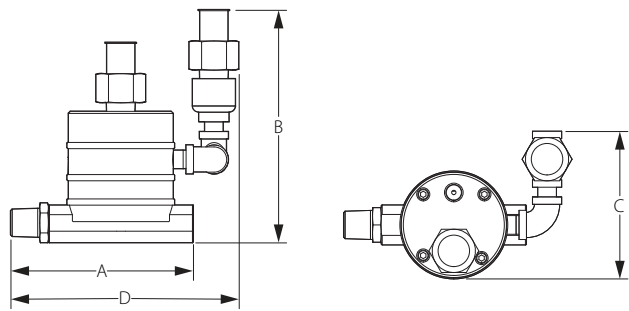
ALWAYS REFER TO ANY NOTIFICATIONS AT THE END OF THIS DOCUMENT REGARDING PRODUCT INSTALLATION, MAINTENANCE OR SUPPORT.

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 and Stainless Steel conforming to UNS C30000
- Eyelets:** Brass conforming to UNS C36000
- O-ring:** Buna N
- Diaphragms:** EPDM

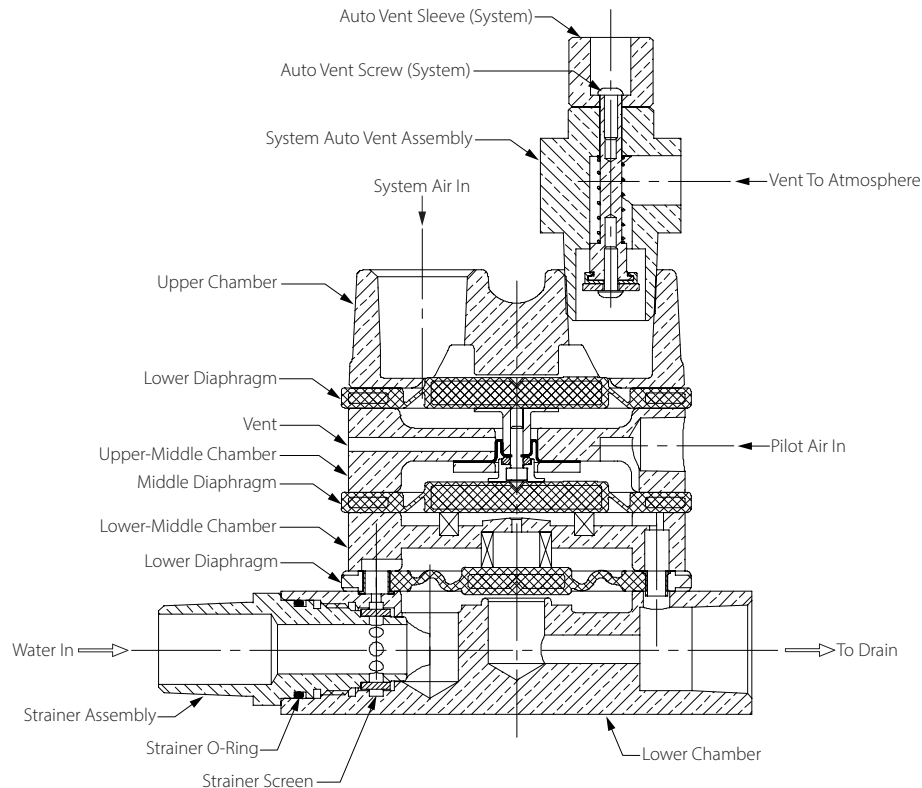
4.0 DIMENSIONS

Series 798 Double Pneumatic Actuator



Size		Dimensions				Weight
Nominal	Actual Outside Diameter	A	B	C	D	Approximate (Each)
inches	inches	inches	inches	inches	inches	lb
DN	mm	mm	mm	mm	mm	kg
1/2	0.840	5.30	6.70	4.30	6.60	2.5
DN15	21.3	135	170	109	168	1.1

5.0 PERFORMANCE



*Illustration is exaggerated for clarity
Pilot Auto Vent Assembly not shown for clarity of other components*

The Series 798 Double Pneumatic Actuator is used to trigger operation of Victaulic Series 769N, 769, or 758 Actuated Valves with Double-Interlocked Pneumatic/Pneumatic Release Preaction Trim.

Diaphragms separate the Series 798 into four chambers. The upper and upper-middle chambers control activation, while the lower and lower-middle chambers act as the water control valve.

During charging, the sprinkler system and pilot air pressures feed into the upper and upper-middle chambers of the Series 798. Pulling up on the two auto vents of the Series 798 sets the air pressure in these chambers.

System pressure in the upper chamber exerts closing pressure on the upper-middle diaphragm through a piston. At the same time, pilot air pressure on the upper-middle chamber exerts closing pressure on the middle diaphragm. These forces close the water path of the lower-middle chamber.

When the charge line of the preaction actuated valve is open, water enters the lower chamber of the Series 798; this water flows to the lower-middle chamber through the inlet. The lower-middle diaphragm assembly traps water in the lower-middle chamber. Pilot air pressure in the upper-middle chamber, along with system air pressure in the upper chamber, holds the lower-middle diaphragm assembly closed.

Since the area of the lower diaphragm is greater than the area of the lower chamber, the lower chamber seals; therefore, no water flows to the actuator's outlet, and the water supply pressure creates a seal.

When pilot air pressure decays to 7 psi/48 kPa/0.4 Bar, the auto vent's compression spring exerts a force greater than the air pressure in the upper-middle chamber. The auto vent opens, and all air pressure in the upper-middle chamber evacuates. During this condition, the Series 798 will not activate, since air pressure in the upper chamber maintains a closing force on the water seal of the lower-middle chamber.

Likewise, if system air pressure decays to 7 psi/48 kPa/0.4 Bar, the auto vent's compression spring exerts a force greater than the air pressure in the upper chamber. The auto vent opens, and all air pressure in the upper chamber evacuates. During this condition, the Series 798 will not activate, since air pressure in the upper-middle chamber maintains a closing force on the water seal of the lower-middle chamber.

When air pressure in both the pilot line and the system decays to 7 psi/48 kPa/0.4 Bar, the auto vents operate. During this condition, the closing force on the lower-middle chamber's water seal is removed, and the lower-middle chamber's water pressure releases. This allows the lower diaphragm to lift and water to flow from the inlet to the outlet of the Series 798. This water flow releases water pressure from the preaction actuated valve. The preaction actuated valve's clapper opens and allows water to flow into the sprinkler system.

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

- [30.22: Series 7C7 Air Maintenance/Compressor Assembly](#)
- [30.23: FireLock™ Fire-Pac Series 745](#)
- [30.35: Series 757 FireLock™ Devices Air Maintenance Trim Assembly](#)
- [30.36: FireLock™ Devices Series 757P Air Maintenance Trim Assembly](#)
- [31.82: Victaulic® FireLock NXT™ Preaction Trim Series 769N](#)
- [I-769N.Preaction: Victaulic® Series 769N FireLock NXT™ Actuated Valve with Preaction Trim](#)
- [I-769N.Preaction/DPA: FireLock™ Series 769N Preaction Valve with Series 798 DPA Installation Instructions](#)

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.