

Victaulic Vortex™ Hybrid Fire Extinguishing System

Series 950 Releasing Manifold System



1.0 PRODUCT DESCRIPTION

Maximum Rated Pressure

- 3000 psig/207 bar

Temperature Rating

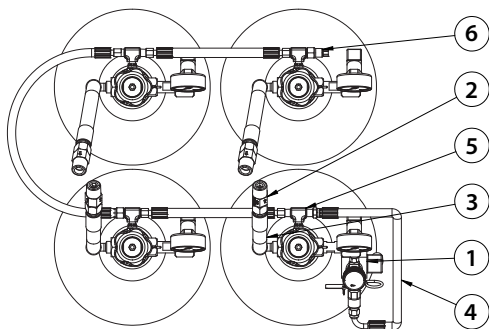
- **Operating Temperature:** 40°F – 130°F/4°C – 54°C
- **Storage Temperature:** 4°F – 130°F/-10°C – 54°C

Function

- The Victaulic Vortex Hybrid Fire Extinguishing System Nitrogen Cylinder Manifold System is comprised of a multicylinder assembly, interconnected hoses, a common manifold, release solenoid(s) and cylinder racking. The manifold system is connected to a Victaulic Vortex Panel, which contains the automatic regulating valve (ARV) that maintains constant flow of nitrogen as the cylinders decrease in pressure during system discharge.
- A release signal from the listed or approved agent-releasing fire alarm control panel (FACP) or agent-releasing module is routed through the Victaulic Vortex Panel. The signal is then sent to the primary solenoid release assembly. The primary solenoid release assembly allows pressure from the primary cylinder into the connected pilot line, which provides a conduit for the pressure to enter the upper chambers of the remaining cylinder valves. When the upper chamber becomes pressurized, the cylinder valve opens (as indicated by the upward movement of the valve position indicator located on top of the cylinder valves). The open cylinder valves allow nitrogen gas to pressurize the manifold. The Victaulic Vortex system may be designed to begin discharge upon pressure being detected at the input to the panel, or upon application of a 24VDC release signal to the panel. When nitrogen flow starts, a downstream pressure transducer senses pressure within the system piping. The pressure transducer provides a continuous signal to the ARV during actuation to maintain constant system pressure.

Configurations

Primary Pilot Kit for 80-Liter Cylinders



Item	Description
1	Primary Solenoid Release Assembly
2	Discharge Hose Restricting Valve
3	Discharge Hose, DOT 80L, Right Angle, 13 ½" Overall Length
4	¼" Primary Pilot Hose, Right Angle, 17.7" Overall Length
5	¼" BSPP Pilot Line Tee Nipple
6	¼" End-of-Pilot-Line Bleed Valve with Crush Washer

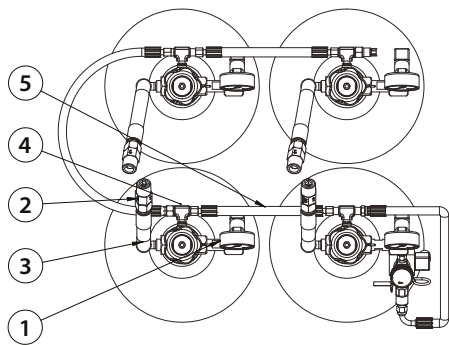
NOTE

- Manifold not shown for clarity of components

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

1.0 PRODUCT DESCRIPTION (CONTINUED)

Secondary Pilot Kit for 80-Liter Cylinders

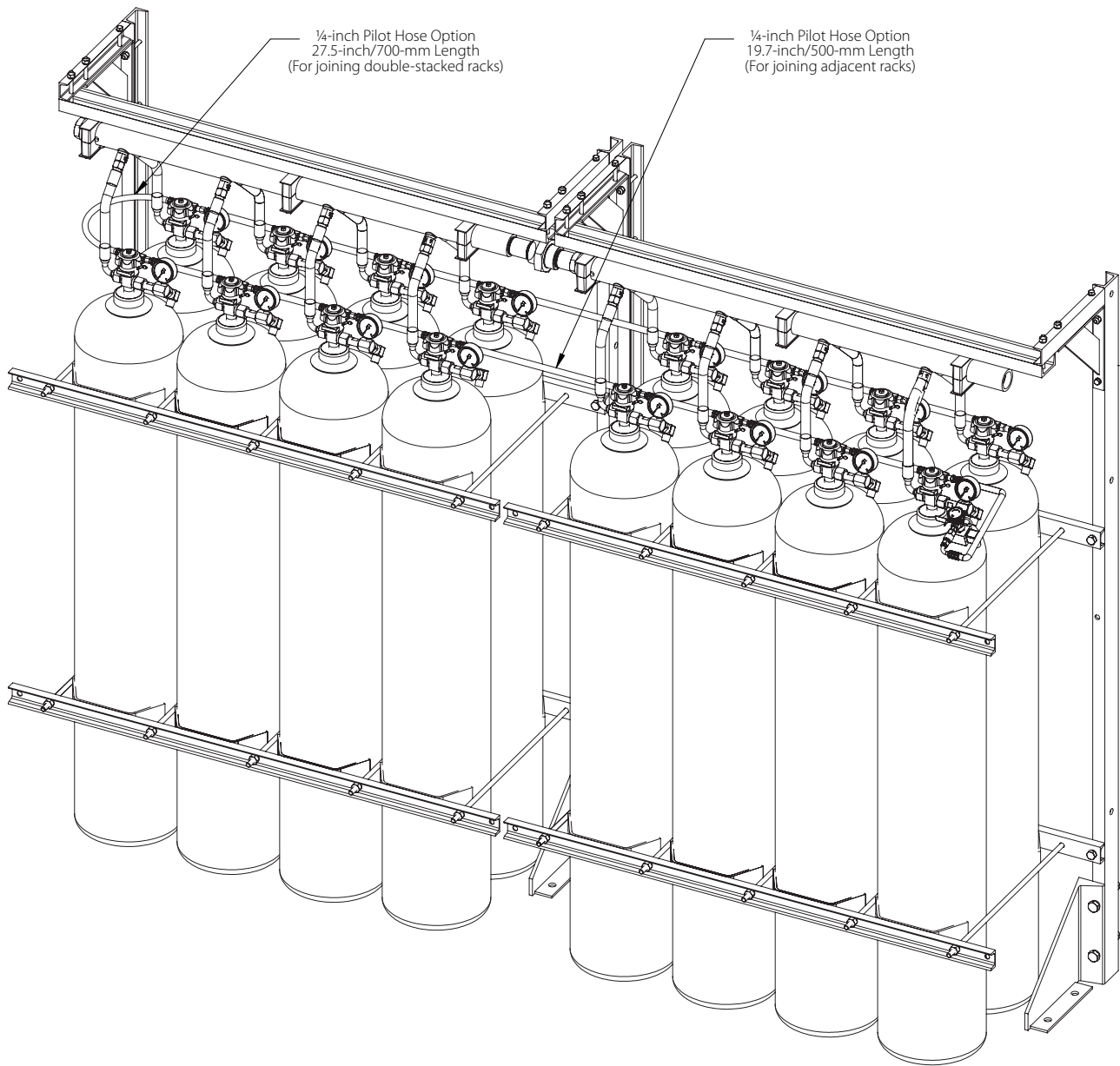


Item	Description
1	Secondary Gauge Assembly with Pressure Switch
2	Discharge Hose Restricting Valve
3	Discharge Hose, DOT 80L, Right Angle, 13 1/2" Overall Length
4	1/4" BSPP Pilot Line Tee Nipple
5	1/4" Pilot Hose for Adjacent Cylinders, 11.8" Overall Length

NOTE

- Manifold not shown for clarity of components

Pilot Hose Options



2.0 CERTIFICATION/LISTINGS



CE 0786, EN 12094-4, PI 0589

3.0 SPECIFICATIONS – MATERIAL

Primary Solenoid Release Assembly

Adapter: Brass

Solenoid Valve

Body: Brass

Tube and Internal Parts: Stainless Steel

Seals and Gaskets: NBR

Molded Coil: Resin

Pressure Switch: Zinc Plated Steel

Pressure Gauge: Brass

Discharge Hose Restricting Valve: Brass

Fittings: Zinc Plated Steel

Secondary Gauge Assembly

Adapter: Brass

Pressure Switch: Zinc Plated Steel

Pressure Gauge: Brass

Discharge Hose Restricting Valve: Brass

Discharge Hose

Fittings: Zinc Plated Steel

Hose: Reinforced Rubber

Primary Pilot Hose

Fittings: Zinc Plated Steel

Hose: Reinforced Rubber

Pilot Hose

Fittings: Zinc Plated Steel

Hose: Reinforced Rubber

Pilot Line Tee Nipple: Zinc Plated Steel

End-of-Line Bleed Valve: Brass

Manifold: Carbon Steel with Autophoretic Coating

Cylinder Rack: Carbon Structural Steel with Red Ral 3000 Paint Coating

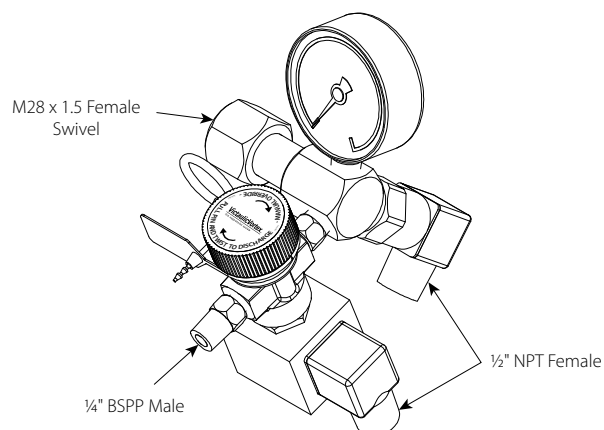
NOTE

- Minimum recommended work clearance in front of racking is 48".

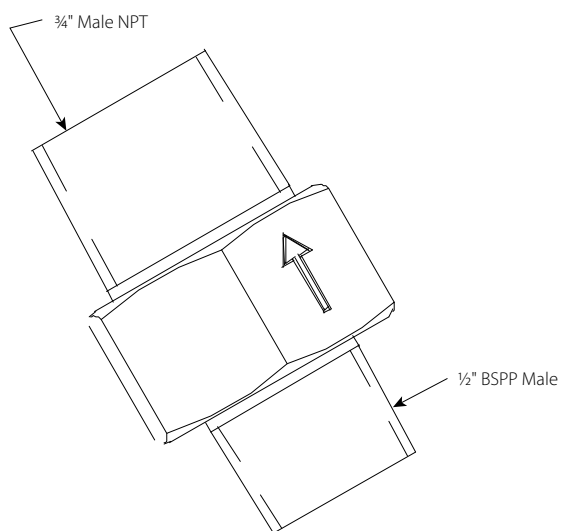
4.0 DIMENSIONS

Primary Pilot Kit for 80-Liter Cylinders

Primary Solenoid Release Assembly



Discharge Hose Restricting Valve



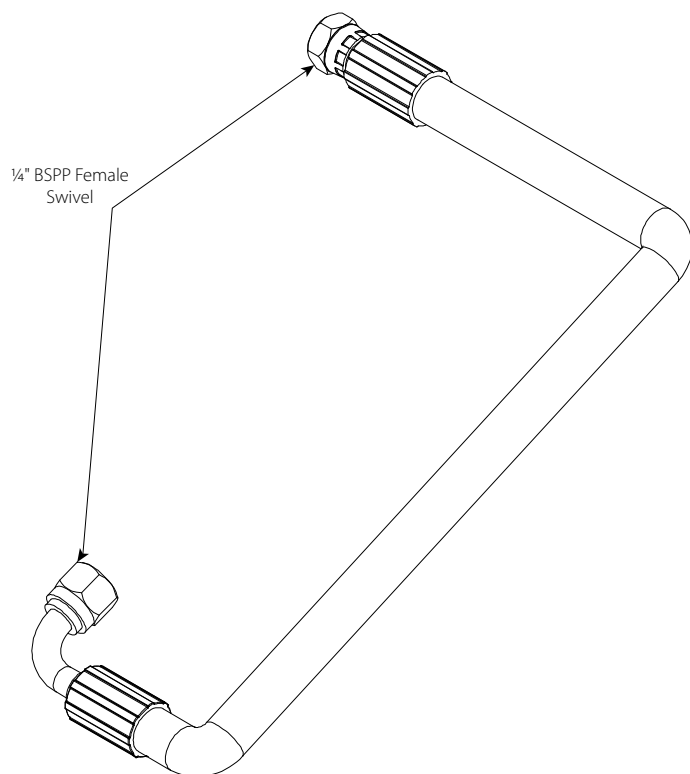
Discharge Hose, DOT 80L, Right Angle, 13" Overall Length



4.0 DIMENSIONS (CONTINUED)

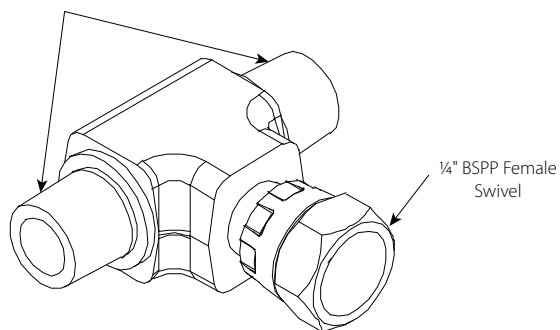
Primary Pilot Kit for 80-Liter Cylinders

1/4" Primary Pilot Hose, Right Angle, 17.7" Overall Length

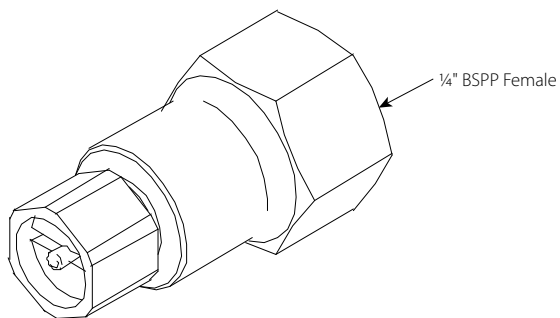


1/4" BSPP Pilot Line Tee Nipple

1/4" BSPP Male



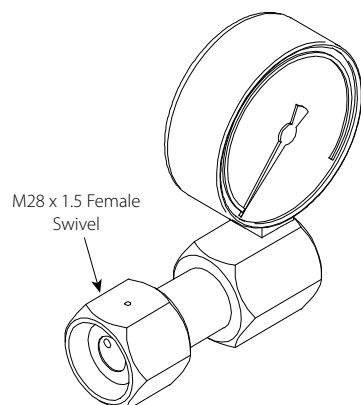
1/4" End-of-Pilot-Line Bleed Valve with Crush Washer



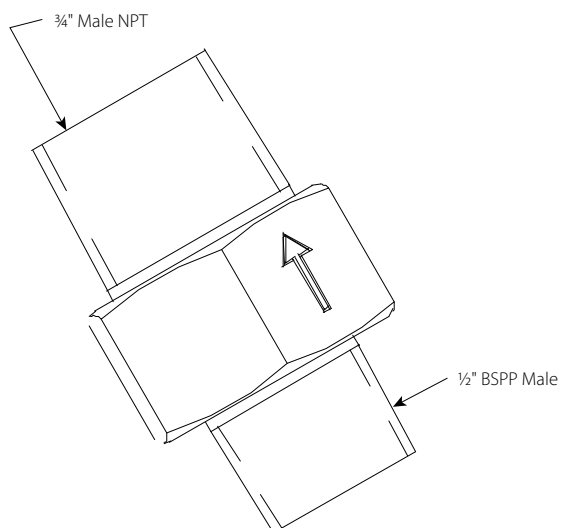
4.0 DIMENSIONS (CONTINUED)

Secondary Pilot Kit for 80-Liter Cylinders

Secondary Gauge Assembly



Discharge Hose Restricting Valve



Discharge Hose, DOT 80L, Right Angle, 13 1/2" Overall Length

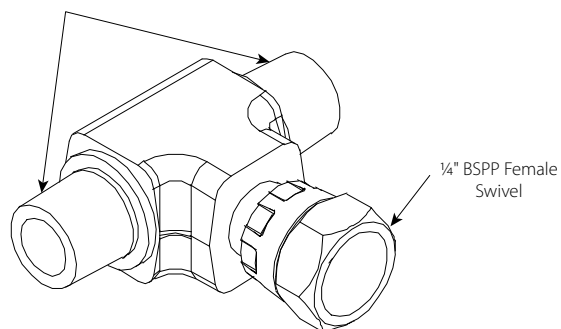


4.0 DIMENSIONS (CONTINUED)

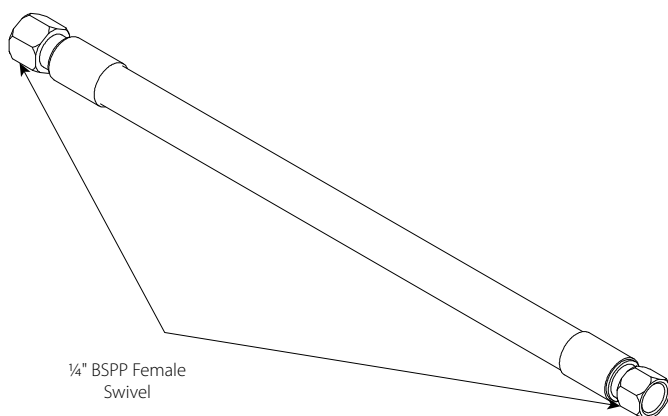
Secondary Pilot Kit for 80-Liter Cylinders

¼" BSPP Pilot Line Tee Nipple

¼" BSPP Male



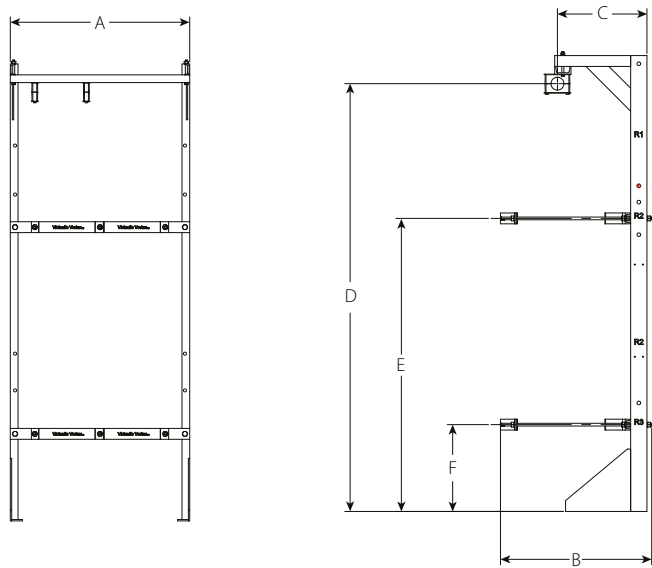
¼" Pilot Hose for Adjacent Cylinders, 11.8" Overall Length



4.0 DIMENSIONS (CONTINUED)

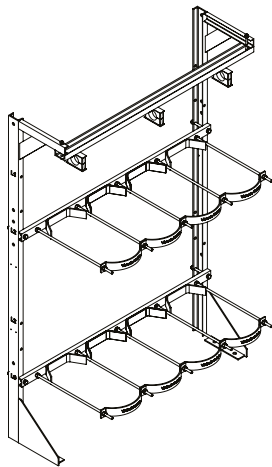
Series 950 Cylinder Rack Assembly Options

Tank Configuration – Single Row



A inches mm	B inches mm	C inches mm	D inches mm	E inches mm	F inches mm	No. of Cylinders
33.0 838	16.4 417	16.5 419	78.8 2002	54.0 1372	16.0 406	1 – 2

Tank Configuration – Double Row

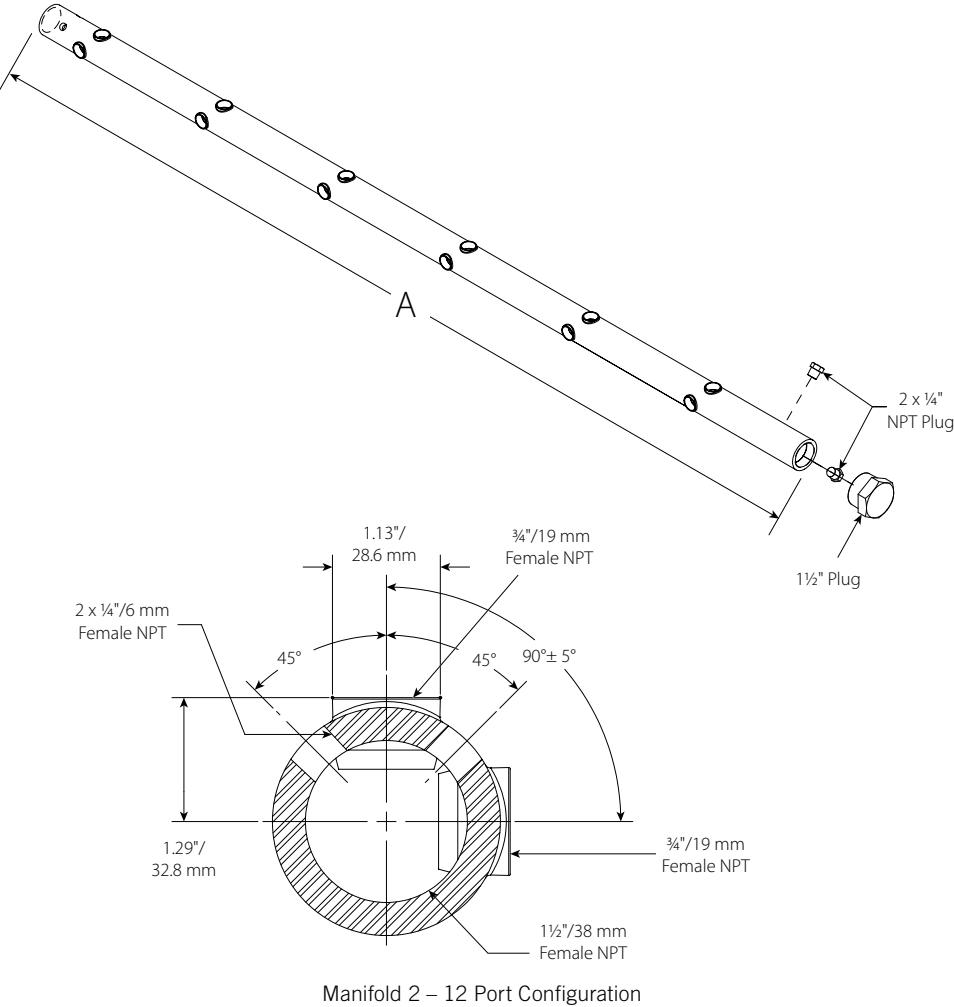


A inches mm	B inches mm	C inches mm	D inches mm	E inches mm	F inches mm	No. of Cylinders
33.0 838	27.9 709	16.5 419	78.8 2002	54.0 1372	16.0 406	3 – 4
57.0 1448	27.9 709	16.5 419	78.8 2002	54.0 1372	16.0 406	5 – 8
81.0 2057	27.9 709	16.5 419	78.8 2002	54.0 1372	16.0 406	9 – 12

4.0 DIMENSIONS (CONTINUED)

Manifold Configurations for Double Row Assembly

A inches mm	No. of Cylinders
24.0 610	1 – 4
50.0 1270	5 – 8
74.0 1880	9 – 12



5.0 PERFORMANCE

Discharge Hose Restricting Valve Cv:

- Forward Flow: 3.34
- Reverse Flow: 0.028

Pressure Switch Setting:

- Factory set point for the pressure switch is 2100 psig/145 Bar +/- 100 psi/7 Bar

Primary Solenoid Release Assembly

- One (1) primary solenoid release assembly can release up to 24 cylinders.

Electrical Specifications

Primary Solenoid Release

- Coil Resistance = 43 Ohms
- Coil Current @ 24 VDC = 560 mA
- Minimum Activation Voltage = 22 VDC
- Not Polarity Sensitive





Pressure Switch (Low-Pressure Supervisory)


- 250 VDC @ 250 mA

Coil Position Monitor Switch

- 250 VDC @ 500 mA

6.0 NOTIFICATIONS



 **WARNING**

- Always refer to the applicable Victaulic Vortex Hybrid Fire Extinguishing System General Design, Installation, and Maintenance Manual before specifying or installing any Victaulic Vortex™ products.
- Wear safety glasses, hardhat, and foot protection during installation and maintenance of a Victaulic Vortex Hybrid Fire Extinguishing System.
- It is the customer's responsibility to verify hybrid emitter material compatibility and that the proper size hybrid emitter and water flow control cartridge are specified in the system design.

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

7.0 REFERENCE MATERIALS

- [70.03: Victaulic Vortex™ Hybrid Fire Extinguishing System Series 951 Panels Submittal](#)
- [70.04: Victaulic Vortex™ Hybrid Fire Extinguishing System Series 950 Cylinder Assemblies Submittal](#)
- [70.05: Victaulic Vortex™ Hybrid Fire Extinguishing System Series 950 Water Tanks Submittal](#)
- [70.12: Victaulic Vortex™ Hybrid Fire Extinguishing System Series 953 and Series 954 Hybrid Emitters Submittal](#)
- [70.16: Victaulic Vortex™ Hybrid Fire Extinguishing System Flow Cartridge and Strainer Kit Submittal](#)

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, 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 our website at www.victaulic.com.

Warranty

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

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