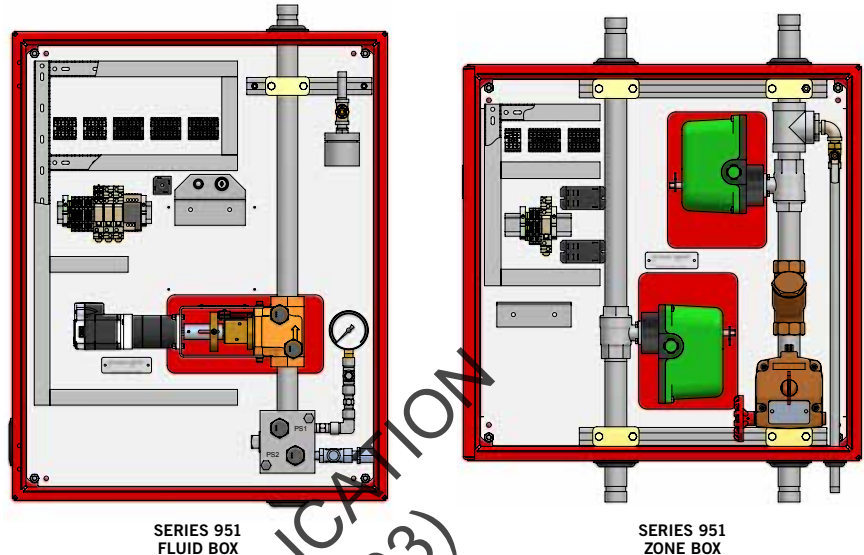


# Victaulic Vortex™ Fire Suppression System



**SERIES 951 FLUID AND SERIES 951 ZONE CONTROL BOXES FOR USE WITH VICTAULIC VORTEX 1000 AND VICTAULIC VORTEX 1500 FIRE SUPPRESSION SYSTEMS**



## PRODUCT DESCRIPTION

In the zoned configuration, a single Victaulic Vortex System is capable of providing fire suppression for multiple hazards. A zoned system uses a single Series 951 Fluid Box and any number of Series 951 Zone Boxes to direct the flow of nitrogen and water to the appropriate hazard. The system requires a single nitrogen source that is sized for the largest hazard. The water supply can be local to each Zone Box or shared as a common resource for the entire system.

The Series 951 Fluid Box contains an Automated Regulating Valve (ARV) that is coupled with a pressure transducer to maintain a fixed system pressure as the supply pressure decays. The inlet for the Fluid Box is connected to a single nitrogen source while the outlet is connected to a common header that provides each Zone Box with a nitrogen supply.

Each Series 951 Zone Box contains an automated ball valve to control the on/off flow of nitrogen to the hazard. The nitrogen connection inlet for the Zone Box is connected to a common regulated nitrogen source created by the outlet from the Fluid Box. The outlet of the Zone Box feeds the emitter array. The Zone Box also contains either a ball valve or solenoid (flow-rate dependent) to control the on/off flow of water to the hazard. The water inlet to the Zone Box is connected to an independent or shared source while the outlet is connected to the system emitter array. The water piping in each box contains a serviceable "Y type" strainer and supervised isolation valve to provide ease of maintenance.

The Victaulic Vortex zoned system requires the use of an addressable FM Approved agent release panel to control the system's operation. Delay and soak timer features will be applied to control the operation of each box. The electrical interface for the system is comprised of clearly labeled, color-coded, push-to-connect terminal blocks that simplify system installation.

All necessary plumbing protrusions are factory made to provide supply connections from the side or bottom of the enclosure. The drain and nitrogen supply connection will be threaded and require proper pipe schedules to be used. The inlet or outlet piping and water supply will be grooved to accept Victaulic couplings and is sized to 1 1/2" / 38 mm, 1 1/2" / 38 mm or 2" / 50 mm depending upon system design.

### JOB/OWNER

System No. \_\_\_\_\_

Location \_\_\_\_\_

### CONTRACTOR

Submitted By \_\_\_\_\_

Date \_\_\_\_\_

### ENGINEER

Spec Sect \_\_\_\_\_ Para \_\_\_\_\_

Approved \_\_\_\_\_

Date \_\_\_\_\_

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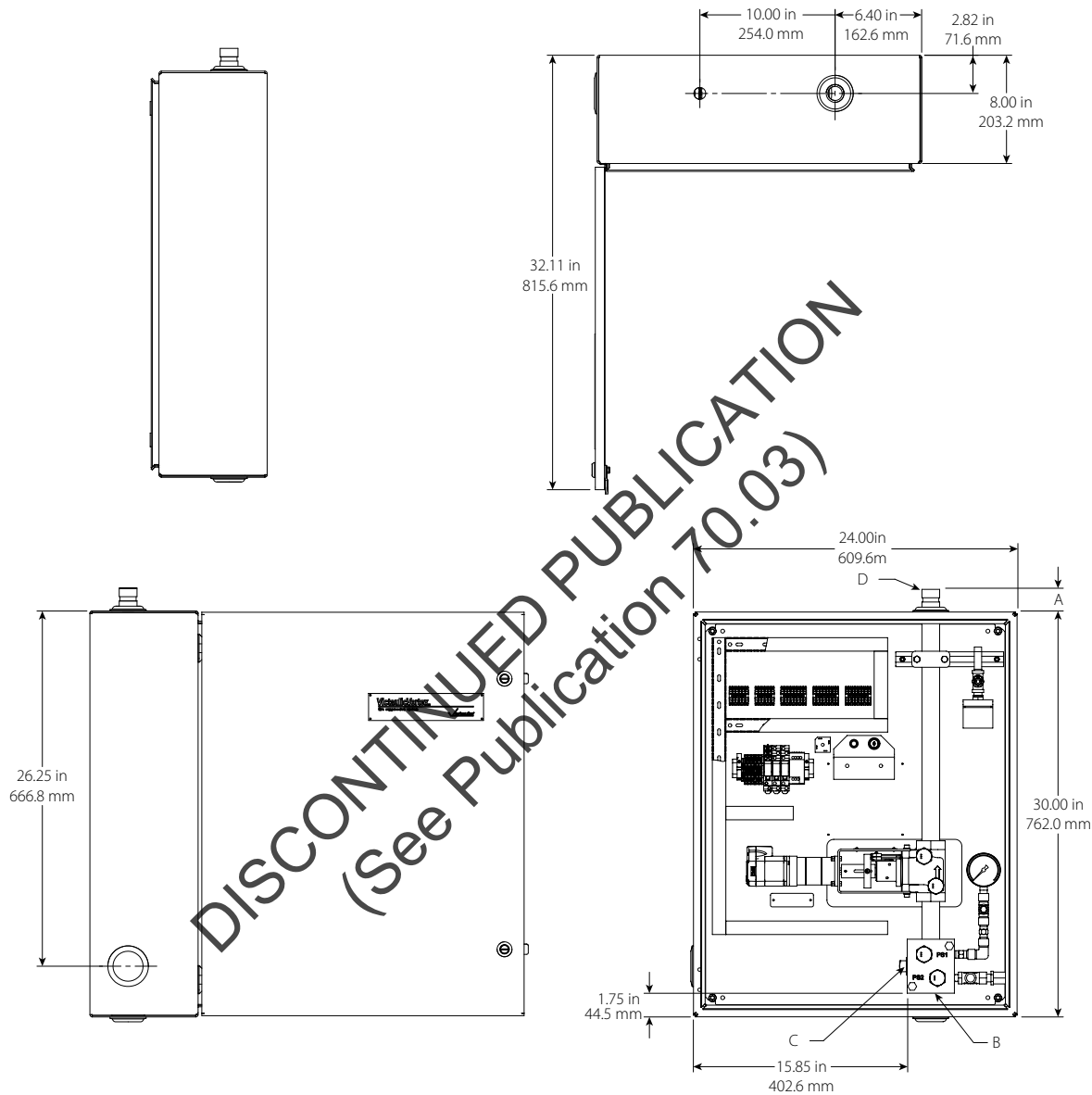
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**Victaulic Vortex™**  
**Fire Suppression System**

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**DIMENSIONS**  
**FLUID BOX**

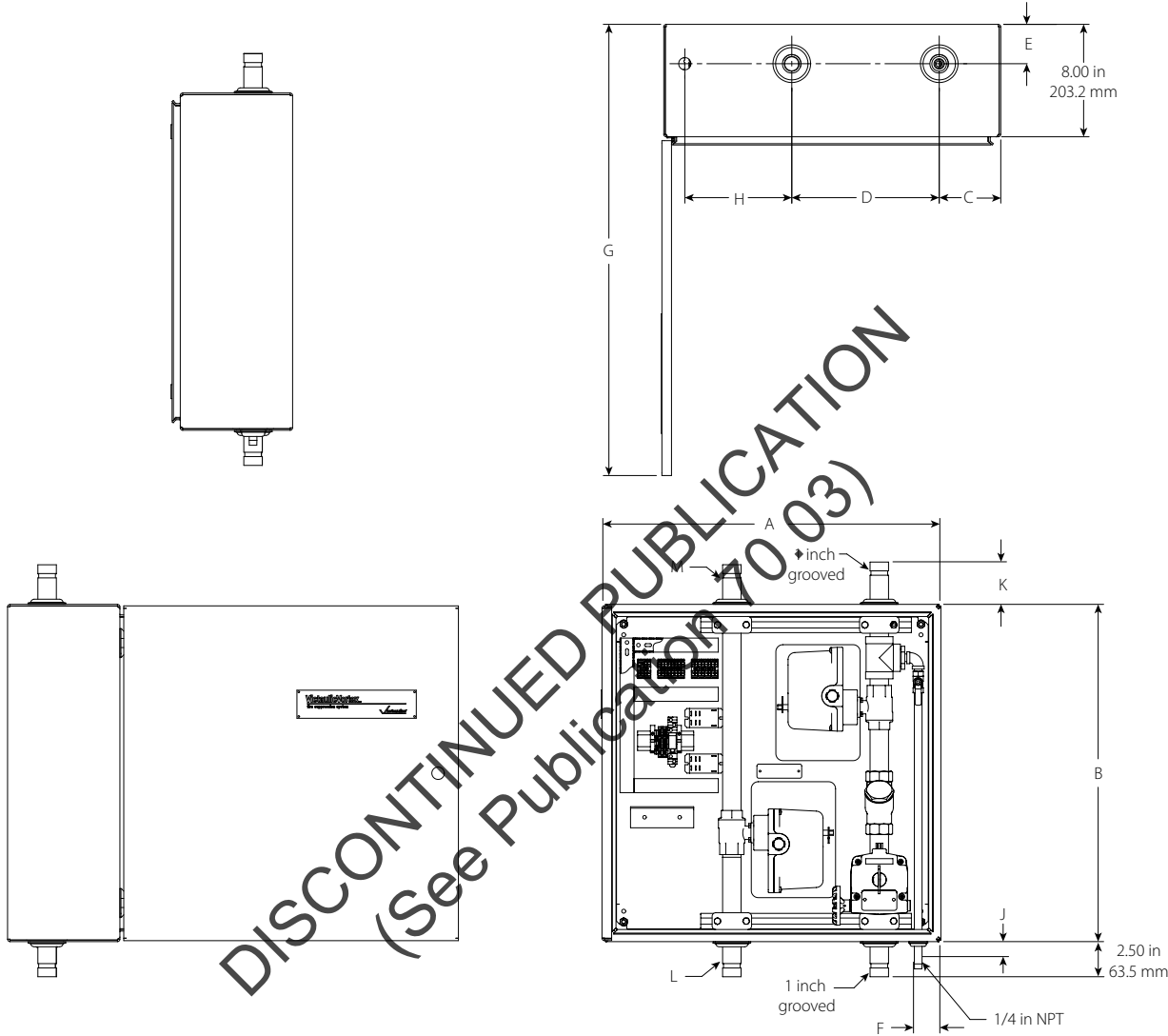


Description	A	B	C	D	Aprox. Weight lbs/kg
Fluid Control Box, Dry Contact, 1-inch Assembly	1.68" 42.7 mm	1" NPT	1" NPT	1" grooved	130 59
Fluid Control Box, Dry Contact, 1 ½-inch Assembly	2.20" 56.0 mm	1 ½" NPT	1 ½" NPT	1 ½" grooved	140 64

# **Victaulic Vortex™** **Fire Suppression System**

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## **DIMENSIONS** **ZONE BOX**



Description	Dimensions – inches/mm										L	M	Aprox. Weight lbs/kg
	A	B	C	D	E	F	G	H	J	K			
Zone Control Box, Dry Contact, Solenoid Valve Release, 1-inch Assembly	24.00 609.6	24.00 609.6	4.38 111.3	10.50 266.7	2.80 71.1	1.88 47.6	32.11 815.6	7.62 193.5	1.07 27.1	2.79 71.0	1" grooved	1" grooved	130 59
Zone Control Box, Dry Contact, Ball Valve Release, 1-inch Assembly	24.00 609.6	24.00 609.6	4.38 111.3	10.50 266.7	2.80 71.1	1.88 47.6	32.11 815.6	7.62 193.5	1.18 29.8	3.01 76.5	1" grooved	1" grooved	140 64
Zone Control Box, Dry Contact, Solenoid Valve Release, 1 ½-inch Assembly	30.00 762.0	30.00 762.0	6.00 152.4	13.00 330.2	3.55 90.2	3.49 88.6	38.11 968.0	9.50 241.3	1.53 38.7	2.66 67.6	1 ½" grooved	1 ½" grooved	140 64
Zone Control Box, Dry Contact, Ball Valve Release, 1 ½-inch Assembly	30.00 762.0	30.00 762.0	6.00 152.4	13.00 330.2	3.55 90.2	3.49 88.6	38.11 968.0	9.50 241.3	1.18 29.8	3.01 76.5	1 ½" grooved	1 ½" grooved	150 68
Zone Control Box, Dry Contact, Ball Valve Release, 2-inch Assembly	30.00 762.0	30.00 762.0	6.00 152.4	13.00 330.2	3.55 90.2	3.49 88.6	38.11 968.0	9.50 241.3	1.44 36.4	1.61 40.9	2" grooved	2" grooved	150 68

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## Victaulic Vortex™ Fire Suppression System

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### MATERIAL SPECIFICATIONS FLUID AND ZONE BOXES

**Cabinet Specifications:** Carbon steel, 14 gauge

**Finish:** Cabinet, polyester powdered coated red

**Back panel:** Zinc plated for corrosion resistance

#### Automatic Regulating Valve:

**Body:** UNS C954000 aluminum bronze

**Seal:** Ultra-high molecular weight polyethylene

**Stem and Seal Retainer:** UNS 416 stainless steel

**Stem Adapter:** UNS C36000 brass or UNS C95400 aluminum bronze

**Manifold Blocks:** Low carbon steel

**Strainer:** Brass with UNS 302000 stainless steel screen

### PERFORMANCE DATA FLUID BOX

#### Pressure Inputs:

**Nitrogen:** 3000 psi/20684 kPa

#### Pressure Outputs:

**Nitrogen:** 150 psi/1034 kPa

**Temperature ratings:** 40°F/4°C to 130°F/55°C

### ELECTRICAL SPECIFICATIONS FLUID BOX

**Title:** Connected in the middle of the release signal from FACP and the solenoid at the primary head

**Operation Voltage:** 24VDC continuous power supply (23-27VDC), polarity sensitive

**Alarm Current:** 2 Amps

**Standby Current:** 125mA

**Supervisory Connections:** 500mA @30 VDC resistive load

#### Pressure Transducer:

**Operation Voltage:** 24VDC, polarity sensitive

**Output:** 4-20mA (0-50 psi/0-335 kPa, 0-100 psi/0-689 kPa, 0-300 psi/0-2068 kPa)

**Connections:** 18 AWG shielded twisted pair

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### CONNECTIONS FLUID BOX

#### DC Power – TB1

- 23-27 VDC operation voltage
- Supervised by system fault contact

#### Transducer – TB2

- Polarity sensitive
- Uses supply power from TB1
- Shield connection terminated at panel only
- Operation and wiring supervised by system fault contact

#### Supervisory – TB3

- System fault connection (24V, transducer, PLC fault)
- Provides the means to signal a system fault to another device
- Manifold charge
- 500mA @ 30VDC resistive dry contacts
- Non-latching

#### Release Input – TB4

- Termination point from release panel
- Two connections, Release + and Release -

#### Solenoid Output – TB5

- Out to primary head
- Optional second head connection
- 22-27 VDC operation voltage
- 13 Watts

### CONTROLS AND INDICATORS FLUID BOX

#### Multifunction Key Switch

- Disables ARV from operating (Primary release circuit shall include a separate disable switch)
- Resets valve after discharge
- Key removal in normal, ready condition
- Closes system fault contact

#### Red Indicator Light

- Visual indicator that system is in the not ready condition
- Active when system fault contact is closed
- Light is off in normal condition

#### Pressure Gauge

- Provides visual indication of manifold pressure
- 0-4000 psi/0-27579 kPa
- Reference only gauge

### PERFORMANCE DATA ZONE BOX

#### Pressure Inputs:

**Nitrogen:** 150 psi/1034 kPa

**Water:** 300 psi/2068 kPa

#### Pressure Outputs:

**Nitrogen:** 150 psi/1207 kPa

**Water:** 300 psi/2068 kPa

**Temperature Ratings:** 40°F/4°C to 130°F/55°C

## Victaulic Vortex™ Fire Suppression System

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VORTEX 1000 AND VICTAULIC VORTEX 1500 FIRE SUPPRESSION SYSTEMS

### ELECTRICAL SPECIFICATIONS ZONE BOX

**Operation Voltage:** 24VDC continuous power supply (23-27VDC), polarity sensitive

**Alarm Current:** 2 Amps

**Standby Current:** 22mA

**Supervisory Connections:** 500mA @30 VDC resistive load

### CONNECTIONS ZONE BOX

#### DC Power – TB1

- 23-27 VDC Operation Voltage
- Supervised By System Fault Contact

#### Release – TB2

- Nitrogen valve, 350 ohm
- Water valve, 350 ohm

#### Supervisory – TB3

- System fault connection, 24V
- Provides the means to signal a system fault to another device
- Water isolation valve
- 500mA @ 30VDC resistive dry contacts

### INSTALLATION

Reference should always be made to the applicable I-VORTEX Victaulic Field Installation Handbook for the product you are installing. Handbooks are included with each shipment of Victaulic products for complete installation and assembly data.

### 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](http://www.victaulic.com)

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