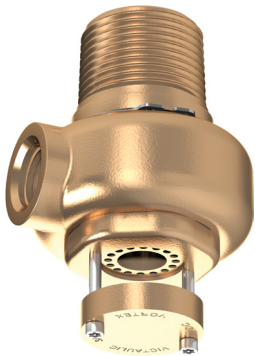


# Victaulic Vortex™ 1500 Hybrid Fire Extinguishing System

## Series 953 and Series 954 Hybrid Emitters



Standard Emitter



Escutcheon Emitter



PVDF Emitter

### 1.0 PRODUCT DESCRIPTION

- The Victaulic Vortex™ Hybrid Fire Extinguishing System provides a homogeneous suspension of inert gas mixed with ultra-fine droplets of water to protect various hazards with two extinguishment mechanisms that are occurring simultaneously: flame temperature cooling and diluting of the ambient oxygen level.
- The Series 953 and 954 Hybrid Emitters are Victaulic patented devices designed to deliver the hybrid media.
- The water and nitrogen are mixed at the hybrid emitter and distributed as hybrid media.
- The hybrid emitter atomizes the water to  $<10\mu\text{m}$ .

**Water Flow:** Set by flow cartridge

**Orientation:** Pendent or sidewall

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

## 2.0 CERTIFICATION/LISTINGS

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Product designed and manufactured under the Victaulic Quality Management System, as certified by LPCB in accordance with ISO-9001:2015.

The Series 953 standard emitter, ½" size, is used within FM Approved Victaulic Vortex 1000 systems, designed and installed in accordance with the Victaulic Vortex 1000 Design, Installation, Operation, and Maintenance Manual and the applicable FM Global Property Loss Prevention Data Sheets.

The Series 953 non-metallic emitter, ¼" size, is used within FM Approved Victaulic Vortex 2000 systems, designed and installed in accordance with the Victaulic Vortex 2000 Design, Installation, Operation, and Maintenance Manual and the applicable FM Global Property Loss Prevention Data Sheets.

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## 3.0 SPECIFICATIONS – MATERIAL

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### Body (Foil, Water Jacket): (specify choice)

Plain Brass

Stainless steel

Polyvinylidene Fluoride (PVDF) Plastic

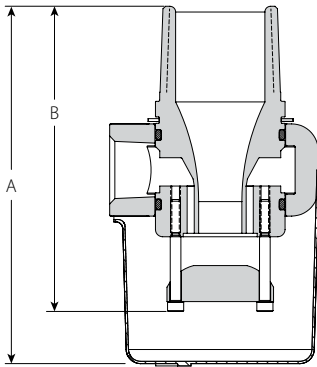
Contact Victaulic for coatings other than standard options noted.

**O-Ring:** Buna, Viton

**Pins:** Stainless Steel

## 4.0 DIMENSIONS

### Series 953 Standard Emitter



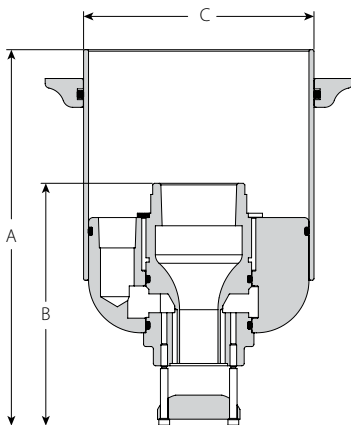
Size inches mm	Escutcheon Y/N	Nitrogen Orifice inches mm	Water Orifice (x16) inches mm	Nitrogen Inlet NPT	Water Inlet NPT	A inches mm	B inches mm	Minimum distance foil to ceiling inches mm	Maximum Ceiling Height feet meters
5/8	None	0.63 16.0	0.06 1.5	3/4" NPT Male	1/4" NPT Female	3.23 82.0	2.86 72.6	4.3 109	24.5 7.5
1/2	None	0.50 12.7	0.06 1.5	3/4" NPT Male	1/4" NPT Female	3.21 81.5	2.86 72.6	4.3 109	24.5 7.5
3/8	None	0.38 9.7	0.06 1.5	3/4" NPT Male	1/4" NPT Female	3.10 78.7	2.65 67.3	4.3 109	16.0 4.9
1/4	None	0.25 6.4	0.06 1.5	3/4" NPT Male	1/4" NPT Female	3.21 81.5	2.67 67.8	4.3 109	12.0 3.7
1/8	None	0.13 3.3	0.03 0.8	3/8" NPT Female	1/8" NPT Female	2.00 50.8	1.87 47.5	4.3 109	12.0 3.7

**NOTE**

- Series 953 Standard Emitters are available in stainless and brass.

## 4.1 DIMENSIONS

### Series 953 Escutcheon Emitter



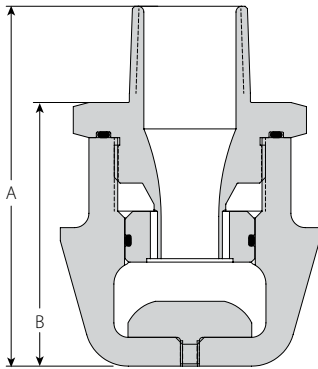
Size inches mm	Escutcheon Y/N	Nitrogen Orifice inches mm	Water Orifice (x16) inches mm	Nitrogen Inlet NPT	Water Inlet NPT	A inches mm	B inches mm	C inches mm	Minimum distance foil to ceiling inches mm	Maximum Ceiling Height feet meters
1/2	3" tube	0.50 12.7	0.06 1.5	1/4" NPT Female	1/4" NPT Female	4.68 118.9	3.00 76.2	3.00 76.2	4.3 109	24.5 7.5

**NOTE**

- Series 953 Escutcheon Emitters are available in stainless.

## 4.2 DIMENSIONS

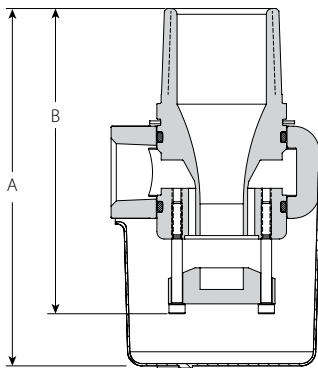
### Series 953 PVDF Emitter



Size inches mm	Escutcheon Y/N	Nitrogen Orifice inches mm	Water Orifice (x16) inches mm	Nitrogen Inlet NPT	Water Inlet NPT	A inches mm	B inches mm	Minimum distance foil to ceiling inches mm	Maximum Ceiling Height feet meters
½	None	0.50 12.7	0.06 1.5	¾" NPT Male	¼" NPT Female	3.12 79.2	2.29 58.2	4.3 109	24.5 7.5

## 4.3 DIMENSIONS

### Series 954 Standard Emitter



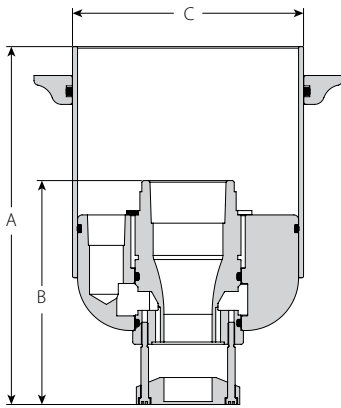
Size inches mm	Escutcheon Y/N	Nitrogen Orifice inches mm	Water Orifice (x16) inches mm	Nitrogen Inlet NPT	Water Inlet NPT	A inches mm	B inches mm	Minimum distance foil to ceiling inches mm	Maximum Ceiling Height feet meters
⅝	None	0.63 16.0	0.06 1.5	¾" NPT Male	¼" NPT Female	3.23 82.0	2.86 72.6	4.3 109	24.5 7.5
¾	None	0.38 9.7	0.06 1.5	¾" NPT Male	¼" NPT Female	3.10 78.7	2.65 67.3	4.3 109	16.0 4.9
¼	None	0.25 6.4	0.06 1.5	¾" NPT Male	¼" NPT Female	3.21 81.5	2.67 67.8	4.3 109	12.0 3.7
⅛	None	0.13 3.3	0.03 0.8	⅝" NPT Female	⅝" NPT Female	2.00 50.8	1.87 47.5	4.3 109	12.0 3.7

#### NOTES

- Brass emitters are available in ⅝", ⅜", ¼", ⅜" sizes. Stainless emitters are only available in ⅝" and ¼" sizes.
- Series 954 Standard Emitters are available in stainless and brass.

### 4.3 DIMENSIONS

#### Series 954 Escutcheon Emitter

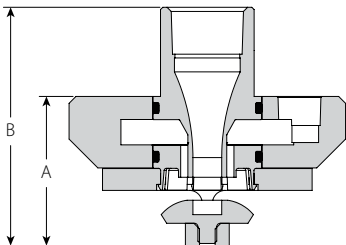


Size inches mm	Escutcheon Y/N	Nitrogen Orifice inches mm	Water Orifice (x16) inches mm	Nitrogen Inlet NPT	Water Inlet NPT	A inches mm	B inches mm	C inches mm	Minimum distance foil to ceiling inches mm	Maximum Ceiling Height feet meters
5/8	3" tube	0.63 16.0	0.06 1.5	3/4" NPT Female	1/4" NPT Female	4.68 118.9	3.00 76.2	3.00 76.2	4.3 109	24.5 7.5
3/8	3" tube	0.38 9.7	0.06 1.5	3/4" NPT Female	1/4" NPT Female	4.88 124.0	3.00 76.2	3.00 76.2	4.3 109	16.0 4.9
1/4	3" tube	0.25 6.4	0.06 1.5	3/4" NPT Female	1/4" NPT Female	4.75 120.7	3.00 76.2	3.00 76.2	4.3 109	12.0 3.7

**NOTE**

- Series 954 Escutcheon Emitters are available in stainless.

### 4.4 DIMENSIONS



#### Series 954 PVDF Emitter

Size inches mm	Escutcheon Y/N	Nitrogen Orifice inches mm	Water Orifice (x16) inches mm	Nitrogen Inlet NPT	Water Inlet NPT	A inches mm	B inches mm	Minimum distance foil to ceiling inches mm	Maximum Ceiling Height feet meters
5/8	None	0.63 16.0	0.06 1.5	3/4" NPT Female	1/4" NPT Female	1.88 47.8	3.00 76.2	4.3 109	24.5 7.5
1/4	None	0.25 6.4	0.06 1.5	3/8" NPT Female	1/8" NPT Female	1.30 33.0	2.07 52.6	4.3 109	12.0 3.7
1/8	None	0.13 3.3	0.03 0.8	3/8" NPT Female	1/8" NPT Female	1.29 32.8	2.06 52.3	4.3 109	12.0 3.7

## 5.0 PERFORMANCE

### Series 953 Emitters

Emitter Size Nominal Outlet Size	Emitter - Flow characteristic	
	Operating Pressure PSIG bar	Nitrogen Flow Rate SCFM Sm <sup>3</sup> /min
inches  5/8	15	165
	1.03	4.67
	25	230
	1.72	6.51
1/2	15	108
	1.03	3.06
	25	145
3/8	1.72	4.11
	25	82
	1.72	2.32
	40	110
1/4	2.76	3.11
	25	32
	1.72	0.91
1/8	40	40
	2.76	1.13
	40	14
	2.76	0.40

### Series 954 Emitter

Emitter Size Nominal Outlet Size	Emitter - Flow characteristic	
	Operating Pressure PSIG bar	Nitrogen Flow Rate SCFM Sm <sup>3</sup> /min
inches  5/8	15	165
	1.03	4.67
	25	230
	1.72	6.51
3/8	25	82
	1.72	2.32
	40	110
1/4	2.76	3.11
	25	32
	1.72	0.91
	40	40
1/8	2.76	1.13
	40	14
	2.76	0.40

## 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.
- 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](#)

[70.05: Victaulic Vortex™ Hybrid Fire Extinguishing System - Series 950 Water Tanks](#)

[70.06: Victaulic Vortex™ 1500 Fire Suppression System Submittal](#)

[70.07: Victaulic Vortex™ 1500 Fire Suppression System - Active Release Manifold Submittal](#)

[70.16: Victaulic Vortex™ Flow Cartridge and Y-Strainer 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, and the applicable building codes and related regulations 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.

### Warranty

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

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