

FireLock® V47, K16.8

Model V4702



Early Suppression Fast Response (ESFR) Pendent Sprinkler V4702

1.0 PRODUCT DESCRIPTION

Style: Pendent

Nominal Orifice Size: 3/4"/20 mm

Nominal Thread Size: 3/4" NPT/20 mm BSPT

K-Factor: 16.8 Imp./24.25 S.I.

Maximum Working Pressure: Up to 175 psi/1200 kPa/12 bar

Factory Hydrostatic Test: 100% @ 500 psi/3450 kPa/34 bar

Minimum Working Pressure: Application specific

Temperature Rating: See "Approved Temperature Ratings F°/C°" table in section 2.0

Application: See "Commodity Selection and Design Criteria Overview" table in section 2.0

Codes and Requirements: For coverage area and sprinkler placement, refer to NFPA 13, FM Datasheets, or any applicable local requirements

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

| | | | |
|--------------|--|----------|--|
| System No. | | Location | |
| Submitted By | | Date | |

| | | | |
|--------------|--|-----------|--|
| Spec Section | | Paragraph | |
| Approved | | Date | |



2.0 CERTIFICATION/LISTINGS



| APPROVALS/LISTINGS | Model |
|------------------------------------|---------|
| | V4702 |
| Orifice Size (inches) | 3/4 |
| Orifice Size (mm) | 20 |
| Nominal K Factor Imperial | 16.8 |
| Nominal K Factor S.I. ¹ | 24.25 |
| Response | Quick |
| Deflector Type | Pendent |
| Approved Temperature Ratings F°/C° | |
| cULus/FM | 155/68 |
| | 200/93 |

¹ For K-Factor when pressure is measured in Bar, multiply S.I. units by 10.

| COMMODITY SELECTION AND DESIGN CRITERIA OVERVIEW FOR MODEL V4702 | | |
|---|----------|--------------------------------|
| Storage Type | NFPA | FM |
| Open Frame (that is, no solid shelves) Single, Double, Multiple-Row, or Portable Rack Storage of Class I-IV and Group A or B Plastics | NFPA 13 | Refer to FM 2-0 and 8-9. |
| Solid Pile or Palletized Storage of Class I-IV and Group A or B Plastics | NFPA 13 | Refer to FM 2-0 and 8-9. |
| Idle Pallet Storage | NFPA 13 | Refer to FM 2-0, 8-9 and 8-24. |
| Rubber Tire Storage | NFPA 13 | Refer to FM 2-0 and 8-3. |
| Rolled Paper Storage (Refer to the standard.) | NFPA 13 | Refer to FM 2-0 and 8-21. |
| Flammable Liquid Storage (Refer to the standard.) | NFPA 30 | Refer to FM 2-0 and 7-29. |
| Aerosol Storage (Refer to the standard.) | NFPA 30B | Refer to FM 2-0 and 7-31. |

3.0 SPECIFICATIONS – MATERIAL

Frame: Die cast brass

Deflector: Brass

Bulb: Glass with glycerin solution

Bulb Nominal Diameter:

Quick Response: 3.0mm

Load Screw: Brass

Pip Cap: Brass

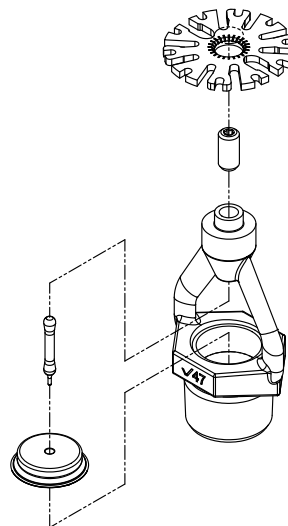
Seal: Teflon² tape

Spring: Beryllium nickel

Installation Wrench: V44, V47 Open End

Sprinkler Finishes: Plain Brass

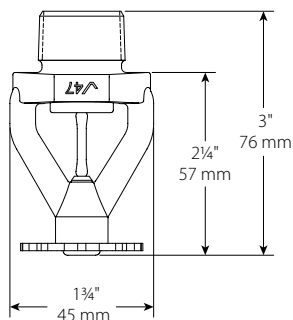
² Teflon is a registered trademark of Dupont Co.



Exaggerated for clarity

4.0 DIMENSIONS

Model V4702



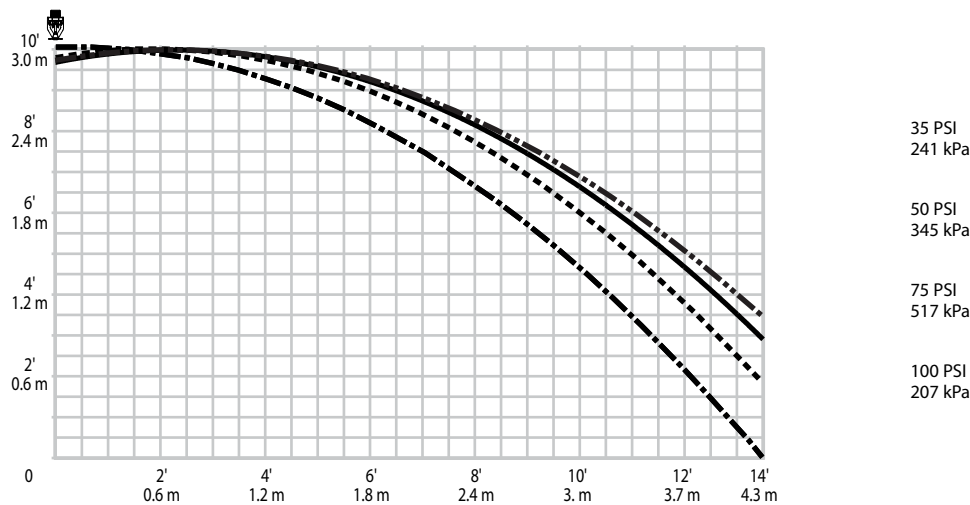
5.0 PERFORMANCE

| COMMODITY SELECTION AND DESIGN CRITERIA OVERVIEW FOR MODEL V4702 | | |
|--|--|--|
| Description | Specification | |
| | UL | FM |
| Sprinkler Type | ESFR | Quick Response Storage Sprinkler |
| Temperature Rating | 155°F/68°C and 200°F/93°C | 155°F/68°C and 200°F/93°C |
| K Factor/ S. I. | K16.8/S.I. 24.25 | K16.8/S.I. 24.25 |
| Thread Size | ¾" NPT/20 mm BSPT | ¾" NPT/20 mm BSPT |
| Sprinkler Position | Pendent | Pendent |
| System Type | Wet | Wet |
| Maximum Area of Coverage | 100ft²/9.1 m² | 100ft²/9.1 m² |
| Minimum Area of Coverage | 64 ft²/6 m² | 64 ft²/6 m² |
| Maximum Slope Ceiling | 2 in 12/10.5° | 2 in 12/10.5° |
| Maximum Spacing | 12ft/3.6m for up to 30ft/9.1m ceiling 10ft/3m for over 30ft/9.1m ceiling | 12ft/3.6m for up to 30ft/9.1m ceiling 10ft/3m for over 30ft/9.1m ceiling |
| Minimum Spacing | 8ft/2.4 m | 8ft/2.4 m |
| Deflector Distance from Walls | 4"/100 mm | 4"/100 mm |
| Deflector to Top of Storage | 3ft/0.9 m | 3ft/0.9 m |
| Deflector to Ceiling Distance | 2" – 14"/50 mm – 355 mm | 2" – 13"/50 mm – 330 mm |
| Maximum Ceiling Height | 40ft/12.2 m | 40ft/12.2 m |
| Maximum Storage Height | 35ft/10.7 m | 35ft/10.7 m |
| Storage Arrangement | Solid-piled, bin-box, palletized and open-frame rack (no solid shelves) | Solid-piled, bin-box, palletized and open-frame rack (no solid shelves) |
| Commodity | Class I-IV, Cartoned unexpanded plastics, cartoned expanded plastics, uncartoned unexpanded plastics, uncartoned expanded plastics | Class I-IV, Cartoned unexpanded plastics, cartoned expanded plastics, uncartoned unexpanded plastics, uncartoned expanded plastics |
| Sprinkler System Design | 12 A.S @ approved pressures | 12 A.S @ approved pressures |
| Minimum Aisle Width | 4 ft/1.2 m | 4 ft/1.2 m |
| Hose Stream allowance and Water Supply Duration | 250 gpm/946 Lpm | 250 gpm/946 Lpm |

5.1 PERFORMANCE

Distribution Patterns


Model V4702
K16.8 Pendent
Distribution Patterns - Trajectory






NOTES

- Data shown is approximate and can vary due to differences in installation.
- These graphs illustrate approximate trajectories, floor-wetting, and wall-wetting patterns for these specific Victaulic FireLock Automatic Sprinklers. They are provided as information for guidance in avoiding obstructions to sprinklers and should not be used as minimum sprinkler spacing rules for installation. **Refer to the appropriate NFPA National Fire Code or the Authority Having Jurisdiction for specific information regarding obstructions, spacing limitations and area of coverage requirements.** Failure to follow these guidelines could adversely affect the performance of the sprinkler and will void all Listings, Approvals and Warranties.
- All patterns are symmetrical to the centerline of the waterway.

6.0 NOTIFICATIONS

**WARNING**



- Always read and understand installation, care, and maintenance instructions, supplied with each box of sprinklers, before proceeding with installation of any sprinklers.
- Always wear safety glasses and foot protection.
- Depressurize and drain the piping system before attempting to install, remove, or adjust any Victaulic piping products.
- Installation rules, especially those governing obstruction, must be strictly followed.
- Painting, plating, or any re-coating of sprinklers (other than that supplied by Victaulic) is not allowed.

Failure to follow these instructions could result in serious personal injury and/or property damage.

The owner is responsible for maintaining the fire protection system and devices in proper operating condition. For minimum maintenance and inspection requirements, refer to the current National Fire Protection Association pamphlet that describes care and maintenance of sprinkler systems. In addition, the authority having jurisdiction may have additional maintenance, testing, and inspection requirements that must be followed.

If you need additional copies of this publication, or if you have any questions about the safe installation of this product, contact Victaulic World Headquarters: P.O. Box 31, Easton, Pennsylvania 18044-0031 USA, Telephone: 001-610-559-3300.

7.0 REFERENCE MATERIALS

Ratings

All glass bulbs are rated for temperatures from -67°F/-57°C up to those shown in table below.

| Sprinkler Temperature Classification | Victaulic Part Identification | Temperature – °F/°C | | Glass Bulb Color |
|--------------------------------------|-------------------------------|----------------------------|-------------------------------------|------------------|
| | | Nominal Temperature Rating | Maximum Ambient Temperature Allowed | |
| Ordinary | A | 135°F/57°C | 100°F/38°C | Orange |
| Ordinary | C | 155°F/68°C | 100°F/38°C | Red |
| Intermediate | E | 175°F/79°C | 150°F/65°C | Yellow |
| Intermediate | F | 200°F/93°C | 150°F/65°C | Green |
| High | J | 286°F/141°C | 225°F/107°C | Blue |
| – | M | Open | – | No Bulb |

Available Wrenches:

| Sprinkler Type | V44 Open End | V47 Open End |
|----------------|--------------|--------------|
| Pendent | ✓ | ✓ |

[10.01: Regulatory Approval Reference Guide](#)

[I-40: Victaulic FireLock Automatic Sprinklers Installation and Maintenance Guide](#)

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.

Intellectual Property Rights

No statement contained herein concerning a possible or suggested use of any material, product, service, or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Victaulic or any of its subsidiaries or affiliates covering such use or design, or as a recommendation for the use of such material, product, service, or design in the infringement of any patent or other intellectual property right. The terms "Patented" or "Patent Pending" refer to design or utility patents or patent applications for articles and/or methods of use in the United States and/or other countries.

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.

Trademarks

Victaulic and all other Victaulic marks are the trademarks or registered trademarks of Victaulic Company, and/or its affiliated entities, in the U.S. and/or other countries.