

Victaulic® FireLock™ Series FL-QR/ST/ESFR
Storage, Fast Response
ESFR Pendent Sprinklers K16.8 (24.25)



1.0 PRODUCT DESCRIPTION

ESFR PENDENT APPROVALS/LISTINGS	
SIN	V4702
SPRINKLER TYPE	NFPA-ESFR/FM-Quick Response Storage
SPRINKLER RESPONSE	QR
ORIENTATION	Pendent
K-FACTOR ¹	16.8 Imp./24.25 S.I.
CONNECTION	¾" NPT/ 20 mm BSPT/IGS™ Grooved
MAX. WORKING PRESSURE	175 psi (1200 kPa)

AVAILABLE WRENCHES		
SPRINKLER	V47 Open End	¾ Hex-Bit (V9)
Pendent	■	■

Factory Hydrostatic Test: 100% @ 500 psi/3447 kPa/34 bar

Min. Operating Pressure: UL/FM: 7 psi/48 kPa/.5 bar

¹ For K-Factor when pressure is measured in bar, multiply S.I. units by 10.0.

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



2.0 CERTIFICATIONS/LISTINGS



ESFR PENDENT APPROVALS/LISTINGS		
	NFPA (cULus/FM)	FM and/or CNBOP
SIN	V4702	
Nominal K Factor Imperial	16.8	
Nominal K Factor S.I. ²	24.2	
Sprinkler Type	ESFR	Quick Response Storage
System Type	Wet	
	Approved Temperature Rating	
Temperature Rating	155°F/68°C 200°F/93°C	155°F/68°C 200°F/93°C
Maximum Area of Coverage	100 ft ² /9.1 m ²	100 ft ² /9.1 m ²
Minimum Area of Coverage	64 ft ² /6 m ²	64 ft ² /6 m ²
Maximum Slope Ceiling	NFPA 13	Datasheet 2-0 and 8-9
Maximum Spacing	12 ft/3.6 m for up to 30 ft/9.1 m ceiling 10 ft/3.1 m for over 30 ft/9.1 m ceiling	12 ft/3.6 m for up to 30 ft/9.1 m ceiling 10 ft/3.1 m for over 30 ft/9.1 m ceiling
Minimum Spacing	8 ft/2.4 m	8 ft/2.4 m
Deflector to Ceiling Distance ³	NFPA 13	Datasheet 2-0
Minimum Deflector to Top of Storage	3 ft/0.9 m	3 ft/0.9 m
Minimum Deflector Distance from Walls	4"/100 mm	4"/100 mm
Sprinkler System Design	12 A.S @ Approved Pressures per NFPA 13 when more are required	12 A.S @ Approved Pressures per Datasheet 2-0 and 8-9 when more are required
Storage Type	Applicable Standards	
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	Datasheet 8-9
Solid Pile or Palletized Storage of Class I-IV and Group A or B Plastics	NFPA 13	Datasheet 8-9
Idle Pallet Storage	NFPA 13	Datasheet 8-24
Rubber Tire Storage	NFPA 13	Datasheet 8-3
Rolled Paper Storage (Refer to the standard.)	NFPA 13	Datasheet 8-21
Flammable Liquid Storage (Refer to the standard.)	NFPA 30	Datasheet 7-29
Aerosol Storage (Refer to the standard.)	NFPA 30B	Datasheet 7-31
Automotive Components in Portable Racks (Control mode only, refer to the standard.)	Refer to NFPA 13	N/A

² For K-Factor when pressure is measured in bar, multiply S.I. units by 10.

³ Distance is taken from the center of the thermal element for FM.

NOTE

- Reference the specific agency website listings for the most up-to-date certification information.

3.0 SPECIFICATIONS – MATERIAL

Deflector: Bronze

Bulb Nominal Diameter: 3.0 mm

Load Screw: Bronze

Pip Cap: Bronze

Spring Seal: PTFE Coated Beryllium Nickel Alloy

Frame: Brass

Coupling: Refer to Victaulic [Publication 10.65](#)

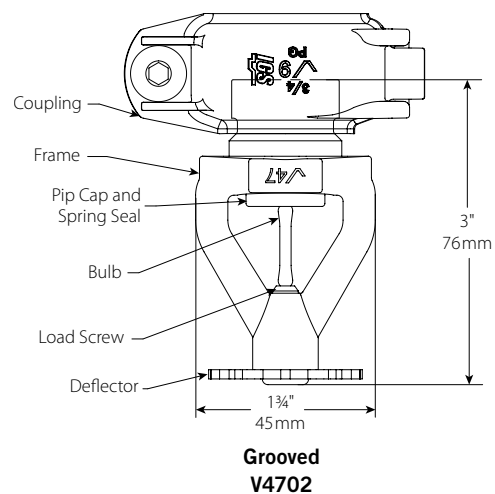
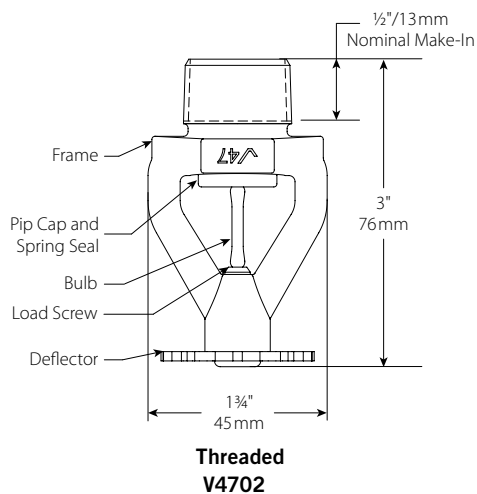
Installation Wrench: Ductile Iron

Sprinkler Frame Finishes: Plain Brass

NOTE

- For cabinets and other accessories refer to separate sheet.

4.0 DIMENSIONS



5.0 PERFORMANCE

Sprinkler systems are to be designed to and installed per NFPA, FM Datasheets, and any local standards.

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.
- 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

Ratings: All glass bulbs are rated for temperatures from -67°F/-55°C.

[10.65: Victaulic FireLock™ IGS™ Installation-Ready™ Style V9 Sprinkler Coupling](#)

[1-40: Victaulic FireLock™ Automatic Sprinklers Installation and Maintenance Instructions](#)

[I-V9: Style V9 Victaulic FireLock™ IGS™ Installation-Ready™ Sprinkler Coupling 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.