

Victaulic® FireLock™ Series FL-SR/ST/CMSA Storage, Standard Response CMSA Upright Sprinklers K25.2 (36.8)



1.0 PRODUCT DESCRIPTION

STANDARD RESPONSE STORAGE SPRINKLER	
SIN	V4603
SPRINKLER TYPE	NFPA- CMSA/FM-Standard Response Storage
SPRINKLER RESPONSE	SR
ORIENTATION	Upright
K-FACTOR ¹	25.2 Imp./36.8 S.I.
CONNECTION	1" NPT/25 mm BST/IGS™ Grooved
MAX. WORKING PRESSURE	175 psi (1200 kPa)

AVAILABLE WRENCHES		
SPRINKLER	V46 Open End	3/16 Hex-Bit (V9)
UPRIGHT	■	■

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

Min. Operating Pressure: 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 CERTIFICATION/LISTINGS



STANDARD RESPONSE UPRIGHT APPROVALS/LISTINGS		
	NFPA	FM and/or CNBOP
SIN	V4603	
Nominal K Factor Imperial	25.2	
Nominal K Factor S.I. ²	36.3	
Sprinkler Type	Standard Response CMSA	Standard Response Storage
System Type	Wet/Dry	
	Approved Temperature Rating	
Temperature Rating	165°F/74°C 212°F/100°C 286°F/141°C	165°F/74°C 212°F/100°C 286°F/141°C
Maximum Area of Coverage	NFPA 13	100 ft ² /9.1 m ²
Minimum Area of Coverage	80 ft ² /7.4 m ²	80 ft ² /7.4 m ²
Maximum Slope Ceiling	NFPA 13	Datasheet 2-0 and 8-9
Maximum Spacing	NFPA 13	Datasheet 2-0
Minimum Spacing	8 ft/2.4 m	8 ft/2.4 m
Deflector to Ceiling Distance ³	NFPA 13	Datasheet 2-0 and 8-9
Minimum Element to Ceiling Distance	NFPA 13	Datasheet 8-9
Minimum Deflector to Top of Storage	3 ft/0.9 m	3 ft/0.9 m
Minimum Deflector Distance from Walls	NFPA 13	4 inches/100 mm
Obstruction Criteria	NFPA 13	Datasheet 2-0
Minimum Aisle Width	NFPA 13	Datasheet 2-0
Hose Stream Allowance and Duration	NFPA 13	Datasheet 8-9
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	N/A	Datasheet 8-24
Rubber Tire Storage	N/A	Datasheet 2-0 and 8-3
Rolled Paper Storage (Refer to the standard.)	N/A	Datasheet 8-21
Flammable Liquid Storage (Refer to the standard.)	N/A	Datasheet 7-29
Aerosol Storage (Refer to the standard.)	N/A	Datasheet 7-31
Automotive Components in Portable Racks (Control mode only, refer to the standard.)	N/A	N/A

² For K-Factor when pressure is measured in bar, multiply S.I. units by 10.0.

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

NOTES

- Reference the specific agency website listings for the most up-to-date certification information.
- V4603 sprinkler may also be used as a control mode specific application sprinkler (CMSA) in accordance the Alternative Sprinkler Systems Design chapter for NFPA 13 (Chapter 24 in the 2019 and 2022 ed.) based on testing completed at FM Global.

3.0 SPECIFICATIONS – MATERIAL

Deflector: Bronze

Load Screw: Stainless Steel

Pip Cap: Brass

Spring Seal: PTFE Coated Beryllium Nickel Alloy

Frame: Brass

Link: Nickel

Lever: Monel

Strut: Monel

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

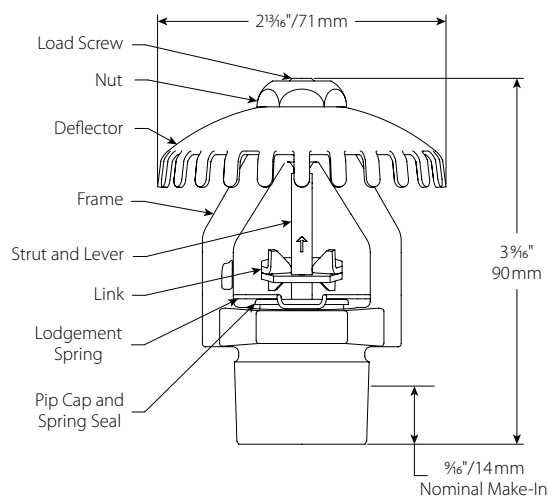
Installation Wrench: Ductile Iron

Sprinkler Frame Finishes: Plain Brass

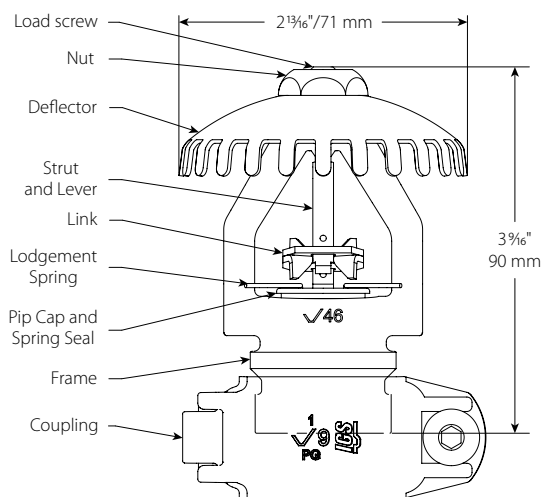
NOTE

- For cabinets and other accessories refer to separate sheet.

4.0 DIMENSIONS



**Threaded
V4603**



**Grooved
V4603**

5.0 PERFORMANCE

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

NFPA 13 Specific Application Criteria

Storage Type	Alternate Sprinkler Design Approach		
Sprinkler Type	Storage, CMSA	Storage, CMSA	Storage, CMSA
Temperature Rating	162°F/72°C, 212°F/100°C, 286°F/141°C	286°F/141°C	286°F/141°C
Response Type	Standard Response	Standard Response	Standard Response
System Type	WET	DRY	DRY
Maximum Area of Coverage	100 ft ² (9.3m ²)	100 ft ² (9.3m ²)	100 ft ² (9.3m ²)
Minimum Area of Coverage	80 sq. ft (7.4m ²)	80 sq. ft (7.4m ²)	80 sq. ft (7.4m ²)
Maximum Slope Ceiling	NFPA 13	NFPA 13	NFPA 13
Maximum Spacing	12 ft (3.0m)	10 ft (3.0m)	10 ft (3.0m)
Minimum Spacing	8 ft (2.4m)	8 ft (2.4m)	8 ft (2.4m)
Deflector to Top of Storage	Minimum 3' (900mm)	Minimum 3' (900mm)	Minimum 3ft (900mm)
Deflector to Ceiling Distance ³	NFPA 13	NFPA 13	NFPA 13
Maximum Ceiling Height	30 ft (9.1 m)	40 ft (12.2 m)	45 ft (13.7 m)
Maximum Storage Height	25 ft (7.6 m)	35 ft (10.7m)	40ft (12.2 m)
Storage Arrangement	Storage arrangements as outlined in Chapter 21 (2013, 2016 ed.) or Chapter 24 (2019, 2022, 2025 ed.) of NFPA 13 for CMSA upright Standard Coverage Sprinklers		
Commodity	Class I-IV commodities and Cartoned Unexpanded plastics	Class I-III commodities	
Sprinkler System Design	12 @ 20 psi	24 @ 15 psi	12 @ 50 psi
Obstruction Criteria	In accordance with Chapter 21 (2013, 2016 ed.) or Chapter 24 (2019, 2022, 2025 ed.) of NFPA 13 for Standard Coverage Sprinklers		
Minimum Aisle Width	N/A	N/A	N/A
Hose Stream Allowance and Duration	250 gpm with a 60 minute duration	500 gpm with a 120 minute duration	500 gpm with a 90 minute duration
Water Delivery Time	N/A	25 Second Water Delivery	20 Second Water Delivery

NOTE

- CMSA criteria is based on the original FM Approval for the V4603 sprinkler, which is included in Chapter 21 (2013, 2016 ed.) and Chapter 24 (2019, 2022, 2025 ed.) of NFPA 13. Additional design criteria for the Model V4603 sprinkler may be found in FM Global Property Loss Prevention Data Sheet 8-9. The Model V4603 sprinkler is described as a standard-response K25.2 upright storage sprinkler in FM Global Data Sheet 8-9.

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

[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.