



TECHNICAL DATA

MICROFAST® QUICK RESPONSE FUSIBLE ELEMENT HSW SPRINKLER VK307 (K5.6)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

Visit the Viking website for the latest edition of this technical data page www.vikinggroupinc.com.

1. DESCRIPTION

The Viking Microfast® Quick Response Fusible Element Horizontal Sidewall Sprinkler VK307 is a small thermosensitive solder link spray sprinkler available with various finishes and temperature ratings to meet design requirements. The special Polyester and Electroless Nickel PTFE (ENT) coatings can be used in decorative applications where colors are desired. In addition, the Electroless Nickel PTFE (ENT) coating has been investigated for installation in corrosive environments and is Listed/Approved as indicated in the Approval Chart(s).

2. LISTINGS AND APPROVALS

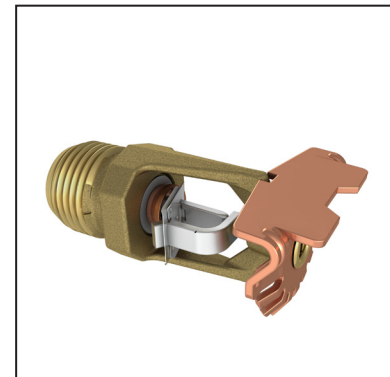


cULus Listed: Category VNIV



FM Approved: Class 2020

Refer to the Approval Chart(s) and Design criteria for listing/approval requirements that must be followed.



WARNING: Cancer and Reproductive Harm-
www.P65Warnings.ca.gov

3. TECHNICAL DATA

Specifications:

Minimum Operating Pressure: 7 psi (0.5 bar)

Maximum Working Pressure: 175 psi (12 bar).

Factory tested hydrostatically to 500 psi (34.5 bar)

Deflector (Sprinkler 13949): U.S.A. Patent No. 4,296,816

Thread Size: 1/2" (15 mm) NPT

Nominal K-Factor: 5.6 U.S. (80.6 metric*)

*Metric K-factor measurement shown is when pressure is measured in Bar. When pressure is measured in kPa, divide the metric K-factor shown by 10.0.

Overall Length: Refer to the Approval Charts

Material Standards:

Frame Casting: Brass UNS-C84400

Deflector: Copper UNS-C19500

Fusible Element Assembly: Nickel Alloy

Trigger and Support: Stainless Steel UNS-S31600

Belleville Spring Sealing Assembly: Nickel Alloy, coated on both sides with PTFE Tape

Seat and Insert Assembly: Copper UNS-C11000 and Stainless Steel UNS-S30400

Screw: Brass UNS-C36000

For ENT Coated Sprinklers: Belleville Spring-Exposed, Screw and Pip Cap-ENT Coated

For Polyester Coated Sprinklers: Belleville Spring-Exposed

Ordering Information: (Also refer to the current Viking price list.)

Order Quick Response Horizontal Sidewall Fusible Element Sprinkler VK307 by first adding the appropriate suffix for the sprinkler finish and then the appropriate suffix for the temperature rating to the sprinkler base part number.

Finish Suffix: Brass = A, Chrome = F, White Polyester = M-/W, Black Polyester = M-/B, and ENT = JN

Temperature Suffix: 165 °F / 74 °C = C, 205 °F / 96 °C = E, and 280 °F / 138 °C = G

For example, sprinkler VK307 with a Brass finish and a 165 °F / 74 °C temperature rating = Part No. 13947AC

Available Finishes And Temperature Ratings: Refer to Table 1.

Accessories: (Also refer to the Viking website.)

Sprinkler Wrenches:

A. Standard Wrench: Part No. 21475M/B (available since 2017).

B. Wrench for recessed sprinklers with protective shields: Part No. 13655W/B** (available since 2003)

**A 1/2" ratchet is required (not available from Viking).

Sprinkler Cabinets:

A. Six-head capacity: Part No. 01724A (available since 1971)

B. Twelve-head capacity: Part No. 01725A (available since 1971)



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4. INSTALLATION

Refer to appropriate NFPA Installation Standards.

5. OPERATION

During fire conditions, the heat-sensitive fusible element assembly disengages, releasing the seat and spring assemblies to open the waterway. Water flowing through the sprinkler orifice strikes the sprinkler deflector, forming a uniform spray pattern to extinguish or control the fire.

6. INSPECTIONS, TESTS AND MAINTENANCE

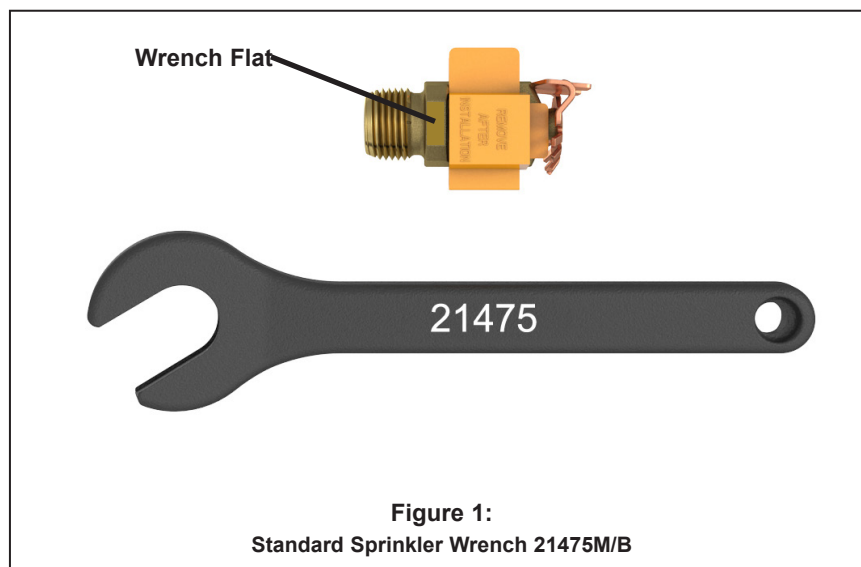
Refer to NFPA 25 for Inspection, Testing and Maintenance requirements.

7. AVAILABILITY

Viking Quick Response Horizontal Sidewall Sprinklers are available through a network of domestic and international distributors. See The Viking Corporation web site for the closest distributor or contact The Viking Corporation.

8. GUARANTEE

For details of warranty, refer to Viking's current list price schedule or contact Viking directly.





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ELEMENT HSW SPRINKLER
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TABLE 1: AVAILABLE SPRINKLER TEMPERATURE RATINGS AND FINISHES

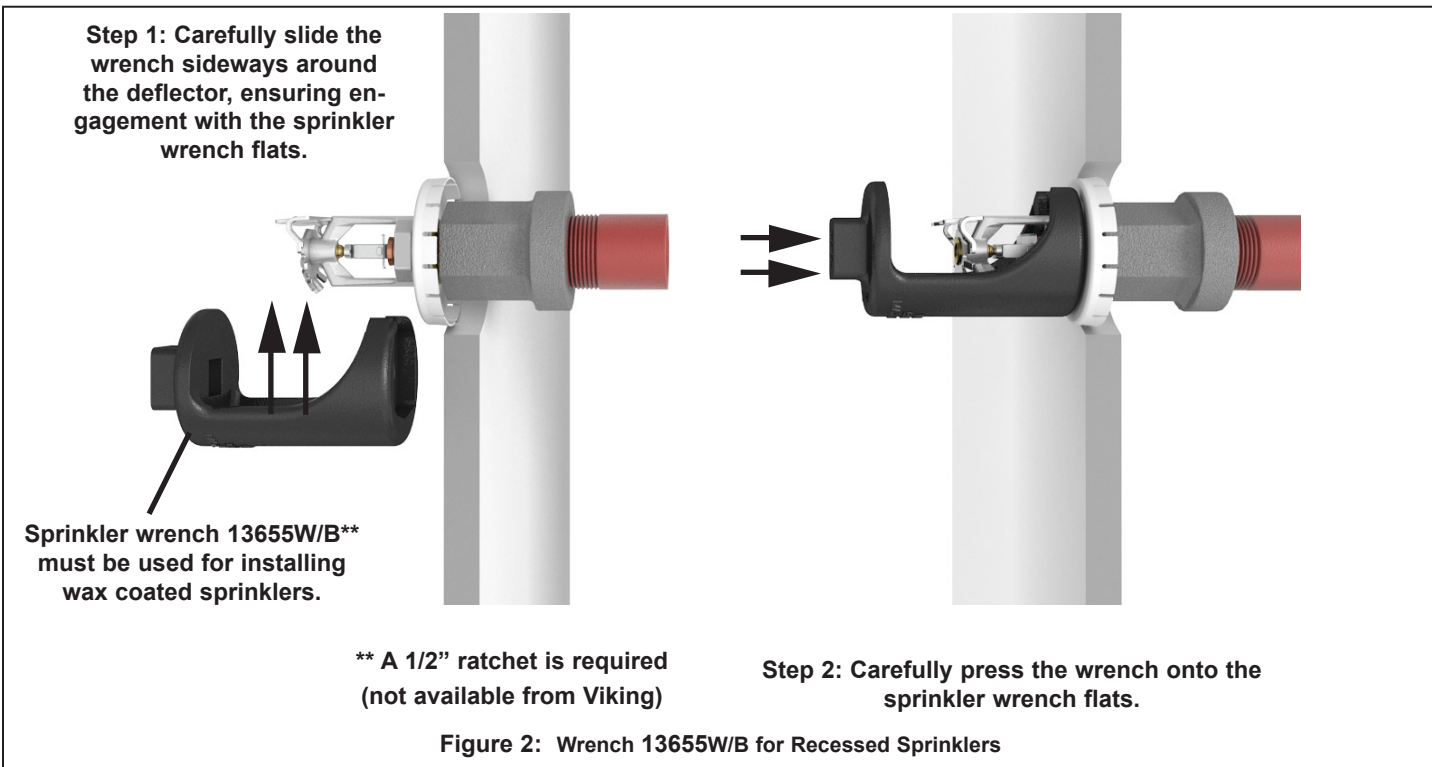
Sprinkler Temperature Classification	Sprinkler Nominal Temperature Rating ¹	Maximum Ambient Ceiling Temperature ²	Frame Paint Color
Ordinary	165 °F (74 °C)	100 °F (38 °C)	None
Intermediate	205 °F (96 °C)	150 °F (65 °C)	White
High	280 °F (138 °C)	225 °F (107 °C)	Blue

Sprinkler Finishes: Brass, Chrome, White Polyester⁵, Black Polyester⁵, and ENT^{3,4}

Corrosion Resistant Sprinkler Coatings: ENT^{3,4,5}

Footnotes

- ¹ Decorative sprinklers may not be color coded. The temperature rating is stamped on the deflector.
- ² Based on NFPA-13. Other limits may apply, depending on fire loading, sprinkler location, and other requirements of the Authority Having Jurisdiction. Refer to specific installation standards.
- ³ The corrosion-resistant coatings have passed the standard corrosion tests required by the approving agencies as indicated in the Approval Chart. These tests cannot and do not represent all possible corrosive environments. Prior to installation, verify through the end-user that the coatings are compatible with or suitable for the proposed environment. For ENT automatic sprinklers, the waterway is coated. Note that the spring is exposed on sprinklers with ENT coatings.
- ⁴ cULus Listed as corrosion resistant.
- ⁵ For automatic sprinklers, the coatings indicated are applied to the exposed exterior surfaces only. Note that the spring is exposed on springers with Polyester.



	<h2 style="margin: 0;">TECHNICAL DATA</h2>	<h3 style="margin: 0;">MICROFAST® QUICK RESPONSE FUSIBLE ELEMENT HSW SPRINKLER VK307 (K5.6)</h3>
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<h3 style="margin: 0;">Approval Chart 1 (UL)</h3> <p style="margin: 0;">Quick Response Fusible Element Horizontal Sidewall Sprinkler VK307 Maximum 175 PSI WWP For Light Hazard Occupancies Only.</p>	<table border="1" style="border-collapse: collapse;"> <tr> <td style="padding: 2px;">—</td> <td>Temperature</td> <td rowspan="3" style="text-align: center; vertical-align: middle;">KEY</td> </tr> <tr> <td style="padding: 2px;">—</td> <td>Finish</td> </tr> <tr> <td style="padding: 2px;">A1X ←</td> <td>Escutcheon (if applicable)</td> </tr> </table>	—	Temperature	KEY	—	Finish	A1X ←	Escutcheon (if applicable)
—	Temperature	KEY						
—	Finish							
A1X ←	Escutcheon (if applicable)							

Base Part Number ¹	SIN	Maximum Pressure	Thread Size		Nominal K-Factor		Overall Length		Listings and Approvals ³ (Refer also to Design Criteria below.)
			NPT	BSPT	U.S.	metric ²	Inches	mm	cULus ⁴
Deflectors must be located 4" to 6" (102 mm to 152 mm) below the ceiling.									
13947	VK307	175 psi	1/2"	15 mm	5.6	80.6	2-1/2	64	A1Y, B1X, A2Y, B2W
Deflectors must be located 6" to 12" (152 mm to 305 mm) below the ceiling.									
13947	VK307	175 psi	1/2"	15 mm	5.6	80.6	2-1/2	64	A1Y, A2Y
NOTICE - Product Below - Limited Availability (Contact Local Viking Office)									
Deflectors must be located 4" to 6" (102 mm to 152 mm) below the ceiling.									
13948	VK307	175 psi	1/2"	15 mm	5.6	80.6	2-1/2	64	A1Y, B1X
Deflectors must be located 6" to 12" (152 mm to 305 mm) below the ceiling.									
13948	VK307	175 psi	1/2"	15 mm	5.6	80.6	2-1/2	64	A1Y
Approved Temperature Ratings			Approved Finishes				Approved Escutcheons		
A - 165 °F (74 °C), 205 °F (96 °C), 280 °F (138 °C) B - 165 °F (74 °C) and 205 °F (96 °C)			1 - Brass, Chrome, White Polyester ⁵ , and Black Polyester ⁵ 2 - ENT ⁶				W -Installed with standard surface-mounted escutcheons or Recessed with the Viking Micromatic Model E-1 X -Installed with standard surface-mounted escutcheons or recessed with the Viking Micromatic® Model E-1 or E-2 Recessed Escutcheon Y -Installed with standard surface-mounted escutcheons only		

Footnotes

¹ Base part number shown. For complete part number, refer to Viking's current price schedule.

² Metric K-factor measurement shown is when pressure is measured in Bar. When pressure is measured in kPa, divide the metric K-factor shown by 10.0.

³ This table shows the listings and approvals available at the time of printing. Other approvals may be in process.

⁴ Listed by Underwriters Laboratories Inc. for use in the U.S. and Canada.

⁵ Other colors are available on request with the same Listings and Approvals as the standard colors.

⁶ cULus Listed as corrosion resistant.

DESIGN CRITERIA - UL

(Also refer to Approval Chart 1 above.)

cULus Listing Requirements:

Quick Response Horizontal Sprinkler VK307 is cULus Listed as indicated in the Approval Chart for installation in accordance with the latest edition of NFPA 13 for sidewall standard spray sprinklers.

- Sprinkler VK307 is limited to Light Hazard occupancies only.
- Locate Sprinkler VK307 with the deflector 6" to 12" (152 mm to 305 mm) below the ceiling.
- Protection areas and maximum spacing shall be in accordance with the tables provided in NFPA 13.
- Minimum spacing allowed is 6 ft. (1.8 m).
- Align the top of the deflector parallel with the ceiling.
- Locate no less than 4" (102 mm) from end walls.
- Maximum distance from end walls shall be no more than one-half of the allowable distance between sprinklers. The distance shall be measured perpendicular to the wall.
- The sprinkler installation and obstruction rules contained in NFPA 13 for sidewall standard spray sprinklers must be followed.

IMPORTANT: Always refer to Bulletin Form No. F_091699 - Care and Handling of Sprinklers. Also refer to Form No. F_080614 for general care, installation, and maintenance information. Viking sprinklers are to be installed in accordance with the latest edition of Viking technical data, the appropriate standards of NFPA, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.



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Approval Chart 1 (FM)

Quick Response Fusible Element Horizontal Sidewall Sprinkler VK307
 Maximum 175 PSI WWP

KEY	
Temperature	↓
Finish	←
Escutcheon (if applicable)	A1X

Base Part Number ¹	SIN	Maximum Pressure	Thread Size		Nominal K-Factor		Overall Length		FM Approvals ³ (Refer also to Design Criteria below.)
			NPT	BSPT	U.S.	metric ²	Inches	mm	
13947	VK307	175 psi	1/2"	15 mm	5.6	80.6	2-1/2	64	A1Y, B1X
NOTICE - Product Below - Limited Availability (Contact Local Viking Office)									
13948	VK307	175 psi	1/2"	15 mm	5.6	80.6	2-1/2	64	A1Y, B1X
Approved Temperature Ratings A - 165 °F (74 °C), 205 °F (96 °C), 280 °F (138 °C) B - 165 °F (74 °C) and 205 °F (96 °C)			Approved Finishes 1 - Brass, Chrome, and ENT				Approved Escutcheons X - Installed with standard surface-mounted escutcheons or recessed with the Viking Micromatic® Model E-1 or E-2 Recessed Escutcheons, or G-1 Recessed Escutcheon Y - Installed with standard surface-mounted escutcheons or the G-1 Recessed Escutcheon Z - Installed with standard surface-mounted escutcheons W - Standard surface-mounted escutcheons or recessed with the Viking Model E-1 Recessed Escutcheon.		
Footnotes									
¹ Base part number shown. For complete part number, refer to Viking's current price schedule. ² Metric K-factor measurement shown is when pressure is measured in Bar. When pressure is measured in kPa, divide the metric K-factor shown by 10.0. ³ This table shows the FM Approvals available at the time of printing. Other approvals may be in process.									

DESIGN CRITERIA - FM

(Also refer to Approval Chart 2 above.)

FM Approval Requirements:

Horizontal Sidewall Sprinkler VK307 is FM Approved as quick response **Non-storage** sidewall sprinklers as indicated in the FM Approval Guide. For specific application and installation requirements, reference the latest applicable FM Loss Prevention Data Sheets (including Data Sheet 2-0). FM Global Loss Prevention Data Sheets contain guidelines relating to, but not limited to: minimum water supply requirements, hydraulic design, ceiling slope and obstructions, minimum and maximum allowable spacing, and deflector distance below the ceiling.

NOTE: The FM installation guidelines may differ from cULus and/or NFPA criteria.

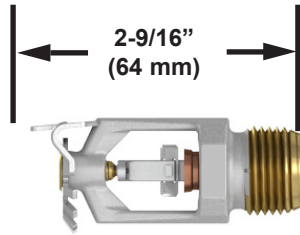
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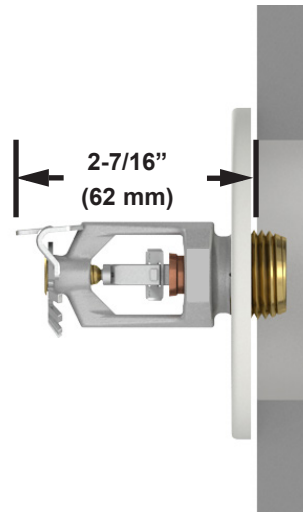
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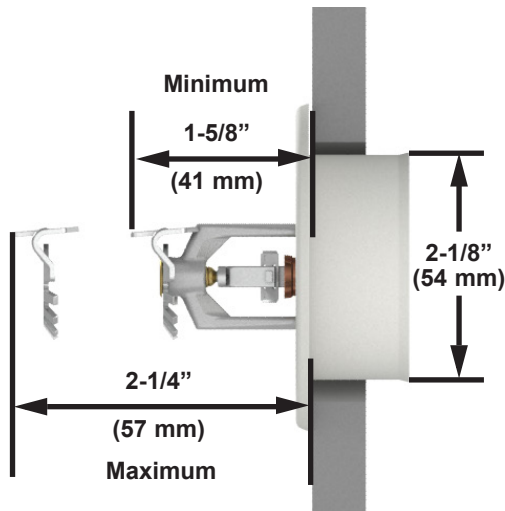


Wall Opening Size:
 2-5/16" (59 mm) minimum
 2-1/2" (64 mm) maximum



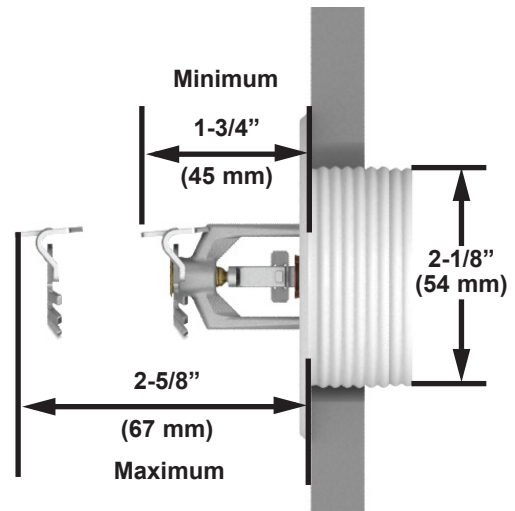
**Installed with a Standard
 1/8" Surface-Mounted
 Escutcheon**

Figure 3: Sidewall Sprinkler Dimensions with a Standard Escutcheon



Wall Opening Size:
 2-5/16" (59 mm) minimum
 2-1/2" (64 mm) maximum

**Installed with the
 Micromatic Model E-1
 Recessed Escutcheon**



**Installed with the
 Threaded Model E-2
 Recessed Escutcheon**

Figure 4: Sidewall Sprinkler Dimensions with the Model E-1 and E-2 Recessed Escutcheons



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