



TECHNICAL DATA

QUICK RESPONSE FUSIBLE ELEMENT HSW SPRINKLERS VK308 AND HP VK320 (PART NOS. 13950 AND 13955)

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

1. DESCRIPTION

Viking Microfast® and MicrofastHP® Quick Response Fusible Element Horizontal Sidewall Sprinkler VK308 and HP Sprinkler VK320 are small thermosensitive solder link spray sprinklers available with various finishes and temperature ratings to meet design requirements. The special Polyester and Teflon® coatings can be used in decorative applications where colors are desired.

2. LISTINGS AND APPROVALS

cULus Listed: Category VNIV

FM Approved: Class 2020

Refer to Approval Chart 1 and Design Criteria on page 43j for cULus Listing requirements, and refer to Approval Chart 2 and Design Criteria on page 43k for FM Approval requirements that must be followed.

3. TECHNICAL DATA

Specifications:

Available since 2007.

Minimum Operating Pressure: 7 psi (0.5 bar)

Maximum Working Pressure: Sprinkler VK320 is rated for use with water working pressures ranging from the minimum 7 psi (0.5 bar) up to 250 psi (17 bar) for high-pressure systems. High-pressure (HP) sprinklers can be identified by locating "250" stamped on the deflector. Sprinkler VK308 is rated to a maximum 175 psi (12 bar) wwp.

Factory tested hydrostatically to 500 psi (34.5 bar)

Testing: U.S.A. Patent No. 4,831,870

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: 2-11/16" (68 mm)

Material Standards:

Frame Casting: Brass UNS-C84400

Deflector: Copper UNS-C19500

Fusible Element Assembly: Nickel Alloy

Trigger and Support: Stainless Steel UNS-S31600

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

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

Screw: Brass UNS-C36000

For Teflon® Coated Sprinklers: Belleville Spring-Exposed, Screw-Nickel Plated, Pip Cap-Teflon® Coated

For Polyester Coated Sprinklers: Belleville Spring-Exposed

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

Order Quick Response Fusible Link Horizontal Sidewall Sprinklers 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-Enloy® = F, White Polyester = M-/W, Black Polyester = M-/B, and Black Teflon® = N

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

For example, sprinkler VK308 with a Brass finish and a 165 °F/74 °C temperature rating = Part No. 13950AC

Available Finishes And Temperature Ratings:

Refer to Table 1

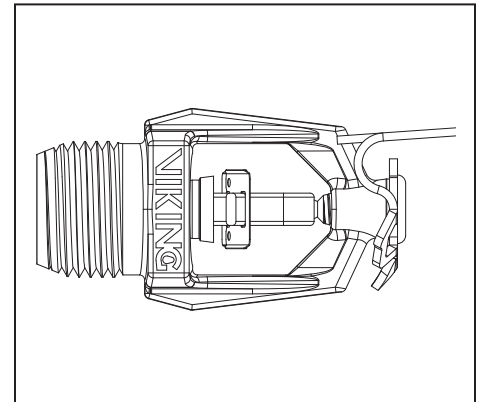
Accessories: (Also refer to the "Sprinkler Accessories" section of the Viking data book.)

Sprinkler Wrenches:

A. Standard Wrench: Part No. 10896W/B (available since 2000).

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

**A ½" ratchet is required (not available from Viking).



Sprinkler VK308

Viking Technical Data may be found on
The Viking Corporation's Web site at
<http://www.vikinggroupinc.com>.
The Web site may include a more recent
edition of this Technical Data Page.

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Sprinkler Cabinets:

- A. Six-head capacity: Part No. 01724A (available since 1971)
- B. Twelve-head capacity: Part No. 01725A (available since 1971)

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.

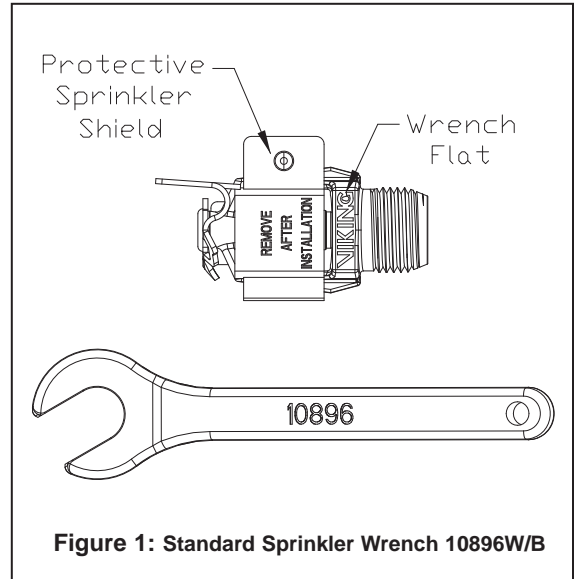


TABLE 1: AVAILABLE SPRINKLER TEMPERATURE RATINGS AND FINISHES

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-Enloy®, White Polyester³, Black Polyester³, and Black Teflon^{®3}

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 For automatic sprinklers, the coatings indicated are applied to the exposed exterior surfaces only. Note that the spring is exposed on sprinklers with Polyester and Teflon® coatings. For Teflon® coated open sprinklers only, the waterway is coated.

	<h2 style="margin:0;">TECHNICAL DATA</h2>	<h3 style="margin:0;">QUICK RESPONSE FUSIBLE ELEMENT HSW SPRINKLERS VK308 AND HP VK320 (PART NOS. 13950 AND 13955)</h3>
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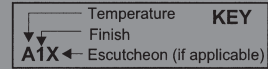
Approval Chart 1 (UL)														
Microfast® and MicrofastHP® Quick Response Fusible Element HSW Sprinklers VK308 and VK320														
Maximum 175 PSI (12 Bar) WWP For Light or Ordinary Hazard Occupancies Deflector must be located 4" to 12" (102 mm to 305 mm) below the ceiling.														
Base Part Number ¹	SIN	Maximum Pressure	Thread Size		Nominal K-Factor		Overall Length		Listings and Approvals ³ (Refer also to Design Criteria below.)					
			NPT	BSP	U.S.	metric ²	Inches	mm	cULus ⁴	NYC	LPCB	CE	⚙️	
13950	VK308	175 psi	1/2"	15 mm	5.6	80.6	2-11/16	68	A1Y, B1X	--	--	--	--	
Maximum 250 PSI WWP For Light or Ordinary Hazard Occupancies Deflector must be located 4" to 12" (102 mm to 305 mm) below the ceiling.														
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	BSP	U.S.	metric ²	Inches	mm	cULus ⁴	NYC	LPCB	CE	⚙️	
13955	VK320	250 psi	1/2"	15 mm	5.6	80.6	2-11/16	68	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-Enloy®, White Polyester ⁵ , Black Polyester ⁵ , and Black Teflon®				Approved Escutcheons X - Installed with standard surface-mounted escutcheons or the Viking Microfast® Model F-1 Adjustable Escutcheon, or recessed with the Viking Micromatic® Model E-1, E-2, or G-1 Recessed Escutcheon Y - Installed with standard surface-mounted escutcheons or the Viking Microfast® Model F-1 Adjustable 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 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.														

DESIGN CRITERIA - UL
(Also refer to Approval Chart 1 above.)
<p>cULus Listing Requirements:</p> <p>Quick Response Horizontal Sidewall Sprinklers VK308 and VK320 are cULus Listed as indicated in the Approval Chart for installation in accordance with the latest edition of NFPA 13 for sidewall standard spray sprinklers.</p> <ul style="list-style-type: none"> • Designed for use in Light or Ordinary Hazard occupancies. • 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). • Refer to the Approval Chart for allowable deflector distance below the ceiling. Align with the leading edge of the deflector parallel to the ceiling. • 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. Minimum distance from end walls is 4 in. (102 mm). • The sprinkler installation and obstruction rules contained in NFPA 13 for sidewall standard spray sprinklers must be followed.
<p>IMPORTANT: Always refer to Bulletin Form No. F_091699 - Care and Handling of Sprinklers. Also refer to page QR1-3 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.</p>

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<h3 style="margin: 0;">Approval Chart 2 (FM)</h3> <p style="margin: 0;">Microfast® Quick Response Fusible Element HSW Sprinkler VK308 Maximum 175 PSI (12 Bar) WWP</p>										
Base Part Number ¹	SIN	Maximum Pressure	Thread Size		Nominal K-Factor		Overall Length		FM Approvals ³ (Refer also to Design Criteria below.)	
			NPT	BSP	U.S.	metric ²	Inches	mm		
13950	VK308	175 psi	1/2"	15 mm	5.6	80.6	2-11/16	68	A1Y, B1X	
<p style="text-align: center;">Approved Temperature Ratings</p> A - 165 °F (74 °C), 205 °F (96 °C), 280 °F (138 °C) B - 165 °F (74 °C) and 205 °F (96 °C)			<p style="text-align: center;">Approved Finishes</p> 1 - Brass			<p style="text-align: center;">Approved Escutcheons</p> X - Installed with standard surface-mounted escutcheons or the Viking Microfast® Model F-1 Adjustable Escutcheon, or recessed with the Viking Micromatic® Model E-1, E-2, or G-1 Recessed Escutcheon Y - Installed with standard surface-mounted escutcheons or the Viking Microfast® Model F-1 Adjustable Escutcheon				
<p>Footnotes</p> 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 FM Approvals available at the time of printing. Other approvals may be in process.										



<h3 style="margin: 0;">DESIGN CRITERIA - FM</h3> <p style="margin: 0;">(Also refer to Approval Chart 2 above.)</p>
<p>FM Approval Requirements:</p> <p>Sprinkler VK308 is FM Approved as a quick response Non-Storage sidewall sprinkler 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.</p> <p>NOTE: The FM installation guidelines may differ from cULus and/or NFPA criteria.</p>
<p>IMPORTANT: Always refer to Bulletin Form No. F_091699 - Care and Handling of Sprinklers. Also refer to page QR1-3 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, FM Global, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.</p>

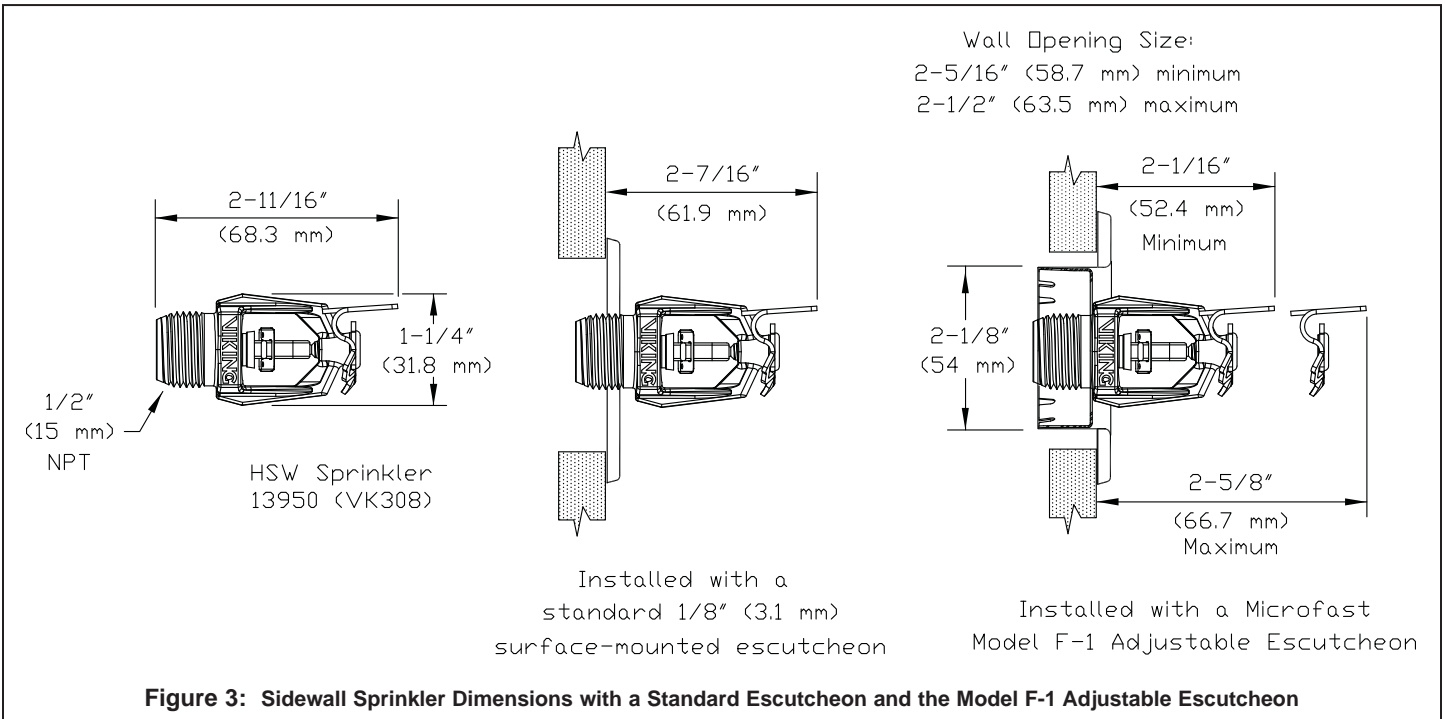
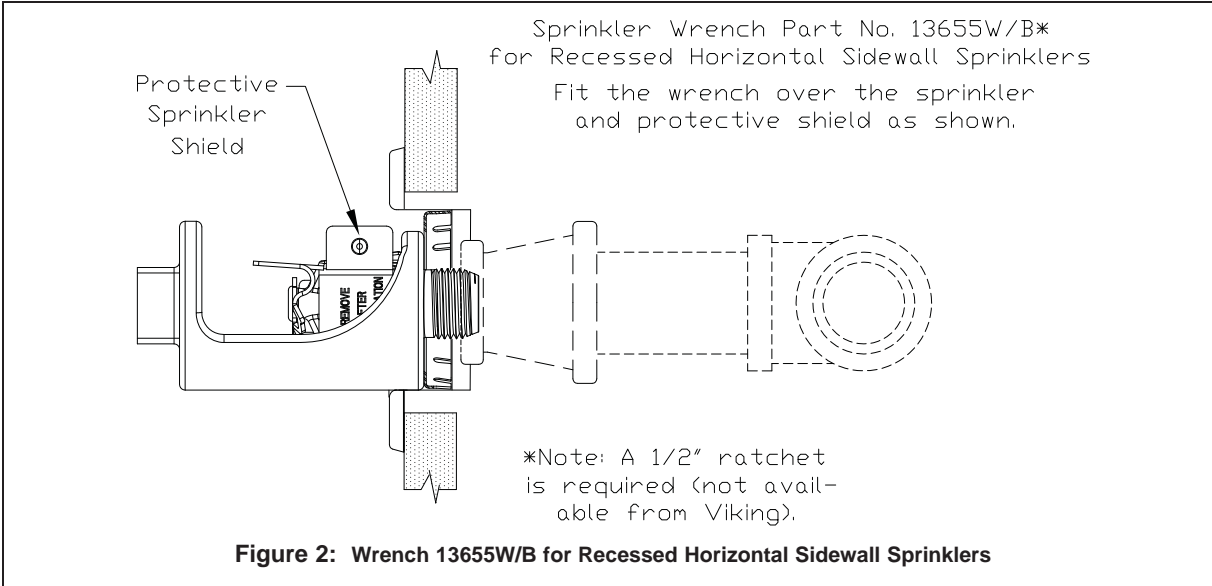


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