



## TECHNICAL DATA

### MICROFAST® QUICK RESPONSE FUSIBLE ELEMENT PENDENT SPRINKLER VK332 (K4.2)

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](http://www.vikinggroupinc.com).

### 1. DESCRIPTION

The Viking Microfast® Quick Response Fusible Element Pendent Sprinkler VK332 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 ENT coating has been investigated for installation in corrosive environments and is listed/approved as indicated in the Approval Charts.

### 2. LISTINGS AND APPROVALS

 **cULus Listed:** Category VNIV

Refer to Approval Chart and Design Criteria cULus Listing requirements that must be followed.

### 3. TECHNICAL DATA

#### Specifications:

Minimum Operating Pressure: 7 psi (0.5 bar)  
 Rated to 175 psi (12 bar) water working pressure  
 Factory tested hydrostatically to 500 psi (34.5 bar)  
 Thread size: 1/2" NPT, 15 mm BSPT  
 Nominal K-Factor: 4.2 U.S. (58 metric\*\*)  
 Overall Length: 2-1/4" (58 mm)

\*cULus Listing, FM Approval, and NFPA 13 installs require a minimum of 7 psi (0.5 bar). The minimum operating pressure for LPCB and CE Approvals ONLY is 5 psi (0.35 bar).

#### Material Standards:

Frame Casting: Brass UNS-C84400  
 Deflector: Brass UNS-C26000  
 Bushing: Brass UNS-C36000  
 Fusible Element Assembly: Nickel Alloy  
 Trigger and Support: Stainless Steel UNS-S31603  
 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 Polyester Coated Sprinklers: Belleville Spring-Exposed

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

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

Order Viking Microfast® Quick Response Fusible Element Pendent Sprinkler VK332 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)

For example, sprinkler VK332 with a 1/2" NPT thread, Brass finish and a 165 °F (74 °C) temperature rating = Part No. 13961AB

**Available Finishes And Temperature Ratings:** Refer to Table 1.

**Accessories:** (Also refer to the Viking website.)

#### Sprinkler Wrenches (See Figure 1:

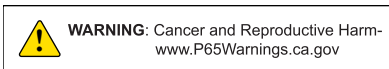
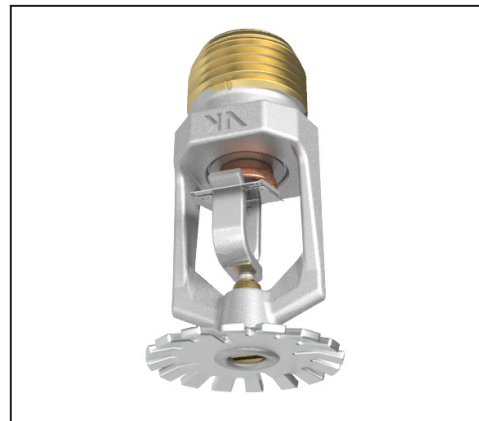
- Standard Wrench: Part No. 21475M/B (available since 2000).
- Wrench for Recessed Pendent Sprinklers: Part No. 13655W/B\*\* (available since 2006)
- Optional Protective Sprinkler Cap Remover/Escutcheon Installer Tool\*\*\* Part No. 15915 (available since 2010)

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

\*\*\*Allows use from the floor by attaching a length of 1" diameter CPVC tubing to the tool. Ideal for sprinkler cabinets. Refer to Bulletin F\_051808.

#### Sprinkler Cabinets:

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

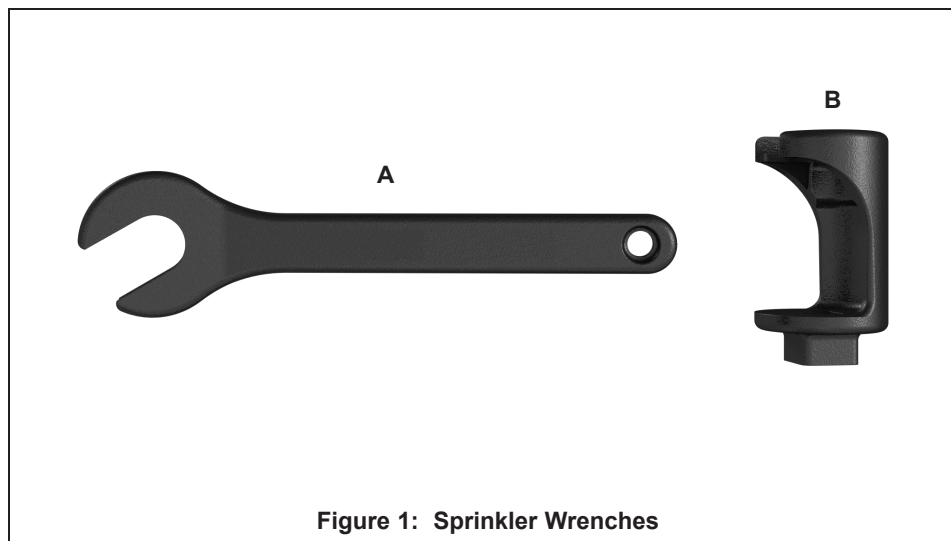
Refer to NFPA 25 for Inspection, Testing and Maintenance requirements.

**7. AVAILABILITY**

The Viking Microfast® Quick Response Pendent Sprinkler VK332 is 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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**TABLE 1: AVAILABLE SPRINKLER TEMPERATURE RATINGS AND FINISHES**

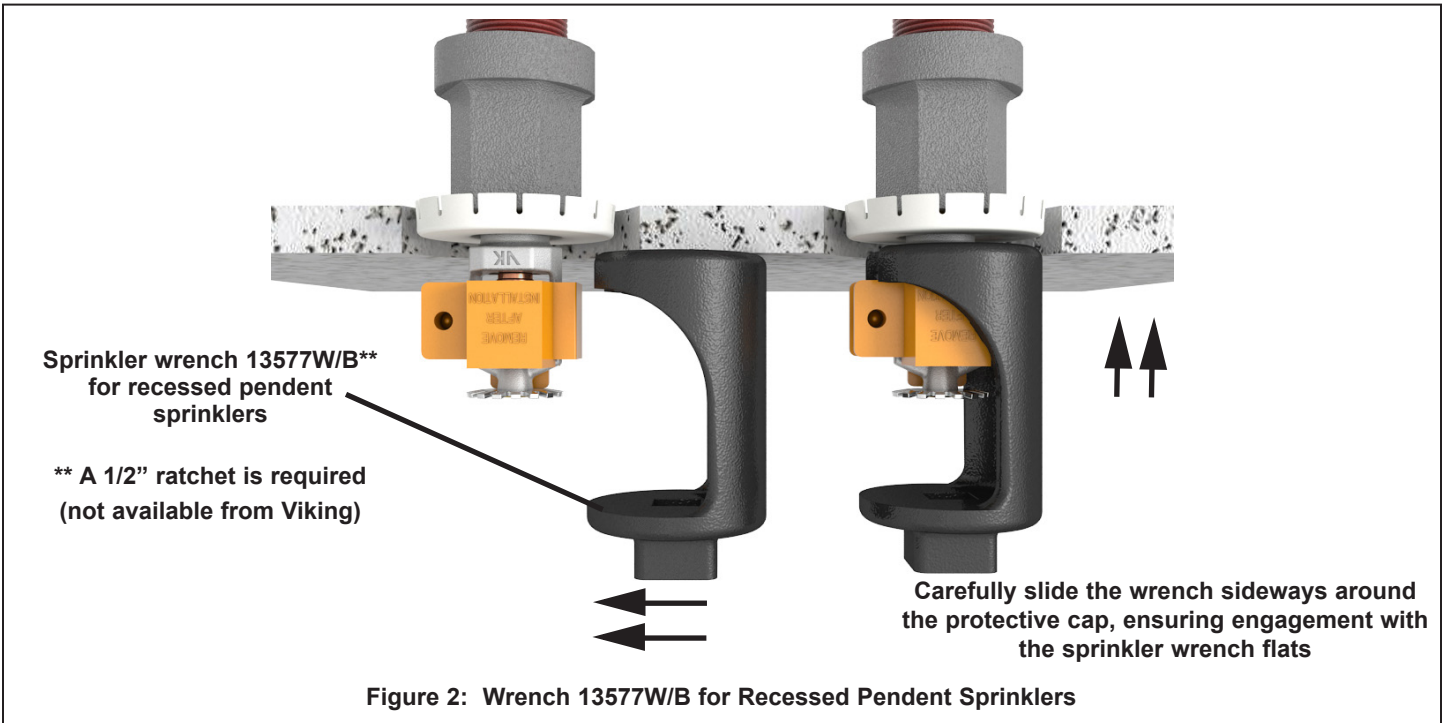
Sprinkler Temperature Classification	Sprinkler Nominal Temperature Rating <sup>1</sup>	Maximum Ambient Ceiling Temperature <sup>2</sup>	Frame Paint Color
Ordinary	165 °F (74 °C)	100 °F (38 °C)	None
Intermediate	205 °F (96 °C)	150 °F (65 °C)	White
High	280 °F (138 °C)	225 °F (107 °C)	Blue

**Sprinkler Finishes:** Brass, Chrome, White Polyester<sup>4</sup>, Black Polyester<sup>4</sup> and ENT<sup>3</sup>

**Corrosion Resistant Sprinkler Coatings:** ENT<sup>3</sup>

**Footnotes**

- <sup>1</sup> The sprinkler temperature rating is stamped on the deflector.
- <sup>2</sup> 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.
- <sup>3</sup> The corrosion resistant coatings have passed the standard corrosion test required by the approving agencies indicated in the Approval Chart(s). 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. Note that the spring is exposed on sprinklers with ENT coatings. For ENT coated automatic sprinklers, the waterway is coated.
- <sup>4</sup> For automatic sprinklers, the coatings indicated are applied to the exposed exterior surfaces only. Note that the spring is exposed on sprinklers with Polyester coatings.





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<b>Approval Chart (UL)</b> The Viking Microfast® Quick Response Pendent Sprinkler VK332 Maximum 175 PSI (12 Bar) WWP									
Base Part Number <sup>1</sup>	SIN	Sprinkler Style	Thread Size		Nominal K-Factor		Overall Length		Listings and Approvals <sup>3</sup> (Refer also to Design Criteria.)
			NPT	BSPT	U.S.	metric <sup>2</sup>	Inches	mm	cULus <sup>4</sup>
13961 <sup>6</sup>	VK332	Pendent	1/2"	15 mm	4.2	58	2-1/4	58	A1X, B1Y
21272	VK332	Pendent	1/2"	15 mm	4.2	58	2-1/4	58	A1X, B1Y, A2X, B2Z
<b>Approved Temperature Ratings</b> A - 165 °F (74 °C), 205 °F (96 °C), and 280 °F (138 °C) B - 165 °F (74 °C) and 205 °F (96 °C)			<b>Approved Finishes</b> 1 - Brass, Chrome, White Polyester <sup>5</sup> , and Black Polyester <sup>5</sup> 2 - ENT <sup>7</sup>			<b>Approved Escutcheons</b> X - Standard surface-mounted escutcheon Y - Standard surface-mounted escutcheon or recessed with the Viking Micromatic® Model E-1, E-2, or E-3 Recessed Escutcheon Z - Standard surface-mounted escutcheon or recessed with the Viking Micromatic® Model E-1 Recessed Escutcheon			
<b>Footnotes</b>									
<sup>1</sup> Base part number shown. For complete part number, refer to Viking's current price schedule. <sup>2</sup> 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. <sup>3</sup> This table shows the listings and approvals available at the time of printing. Other approvals may be in process. <sup>4</sup> Listed by Underwriters Laboratories Inc. for use in the U.S. and Canada. <sup>5</sup> Other colors are available on request with the same Listings and Approvals as the standard colors. <sup>6</sup> The sprinkler orifice is bushed. <sup>7</sup> cULus Listed as corrosion resistant.									

KEY	
Temperature	→
Finish	↓
A1X ← Escutcheon (if applicable)	←

### DESIGN CRITERIA - UL

(Also refer to Approval Chart above.)

#### cULus Listing Requirements:

Quick Response Fusible Element Pendent Sprinkler VK332 is cULus Listed as indicated in the Approval Chart for installation in accordance with the latest edition of NFPA 13 for standard spray sprinklers.

- Small orifice sprinklers are limited to Light Hazard where allowed by the installation standards being applied, with hydraulically calculated wet systems only. Exception: 4.2K sprinklers may be installed on hydraulically calculated dry pipe systems where piping is corrosion resistant or internally galvanized.
- The sprinkler installation rules contained in NFPA 13 for standard spray pendent sprinklers must be followed.

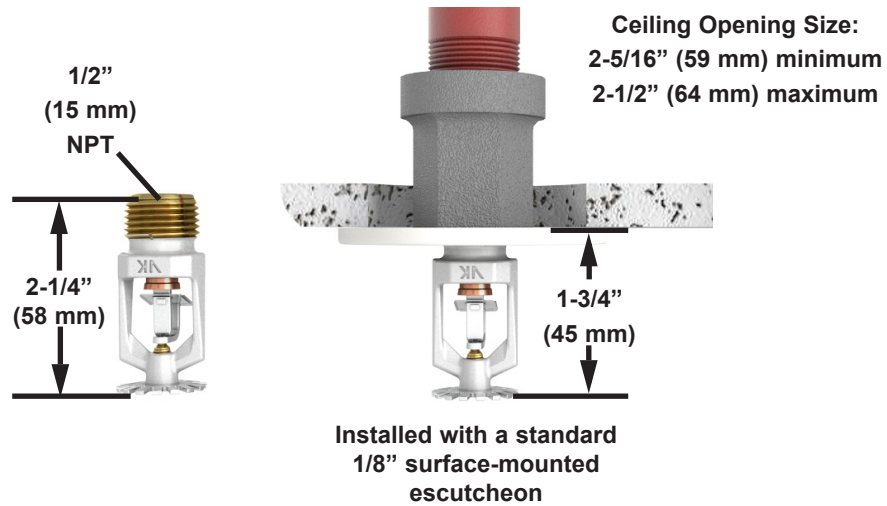
**IMPORTANT: Always refer to Bulletin Form No. F\_091699 - Care and Handling of Sprinklers. Also refer to Form No. F\_080614 for general care, installation, and maintenance information. Viking sprinklers are to be installed in accordance with the latest edition of Viking technical data, the appropriate standards of NFPA, FM Global, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.**



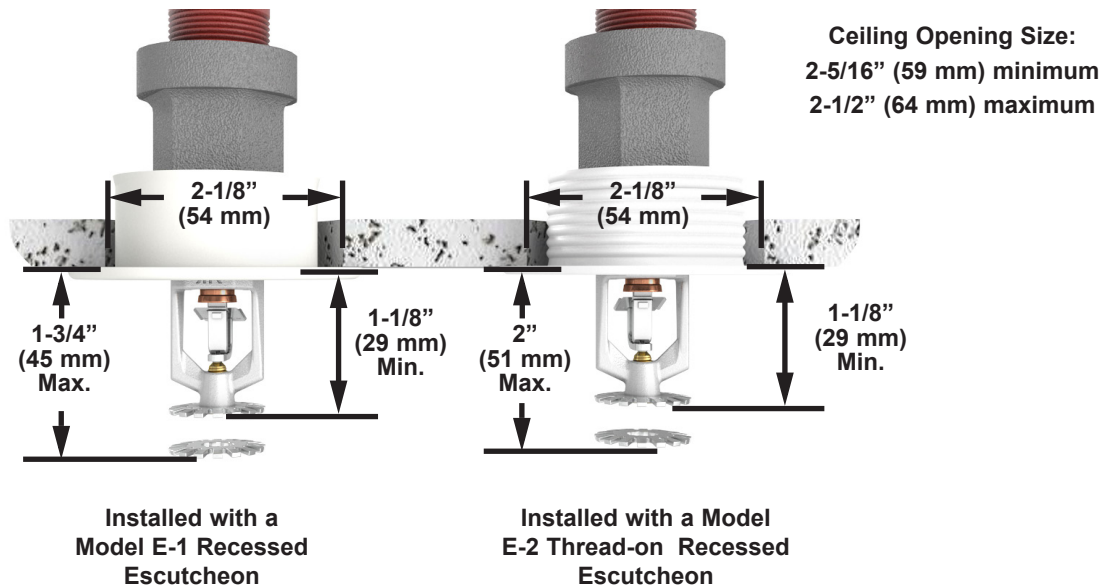
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**Figure 3: Sprinkler Dimensions with a Standard Escutcheon**



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