



## TECHNICAL DATA

### MICROFAST® QUICK RESPONSE PENDENT SPRINKLER VK329 (K2.8)

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 Pendent Sprinkler VK329 is a small thermosensitive glass bulb spray sprinkler available with various finishes and temperature ratings to meet design requirements. The special Polyester and Polytetrafluoroethylene (PTFE) coatings can be used in decorative applications where colors are desired. In addition, these coatings have been investigated for installation in corrosive atmospheres and are listed/approved as corrosion resistant as indicated in the Approval Charts. (Note: FM Global has no approval classification for PTFE and Polyester coatings as corrosion resistant.)



### 2. LISTINGS AND APPROVALS



**cULus Listed:** Category VNIV



**FM Approved:** Class Series 2000

Refer to Approval Chart 1 and Design Criteria cULus Listing requirements, and refer to Approval Chart 2 and Design Criteria for FM Approval 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 BSP  
 Nominal K-Factor: 2.8 U.S. (40.3 metric\*\*)  
 Glass-bulb fluid temperature rated to -65 °F (-55 °C)  
 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 or QM Brass  
 Deflector: Brass UNS-C26000  
 Bushing: Brass UNS-C36000  
 Bulb: Glass, nominal 3 mm diameter  
 Belleville Spring Sealing Assembly: Nickel Alloy, coated on both sides with PTFE Tape  
 Screw: Brass UNS-C36000  
 Pip Cap and Insert Assembly: Copper UNS-C11000 and Stainless Steel UNS-S30400  
For PTFE Coated Sprinklers: Belleville Spring-Exposed, Screw-Nickel Plated, Pip Cap-PTFE Coated  
For Polyester Coated Sprinklers: Belleville Spring-Exposed

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

Order Quick Response Upright and Pendent 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 = F, White Polyester = M-/W, Black Polyester = M-/B, and Black PTFE = N  
 Temperature Suffix: 135 °F (57 °C) = A, 155 °F (68 °C) = B, 175 °F (79 °C) = D, 200 °F (93 °C) = E, 286 °F (141 °C) = G  
 For example, sprinkler VK329 with a Brass finish and a 155 °F (68 °C) temperature rating = Part No. 12981AB

**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 Pendent Sprinklers: Part No. 16036W/B\*\* (available since 2011)
- C. 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.

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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 liquid in the glass bulb expands, causing the glass to shatter, releasing the pip cap and sealing spring assembly. 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**

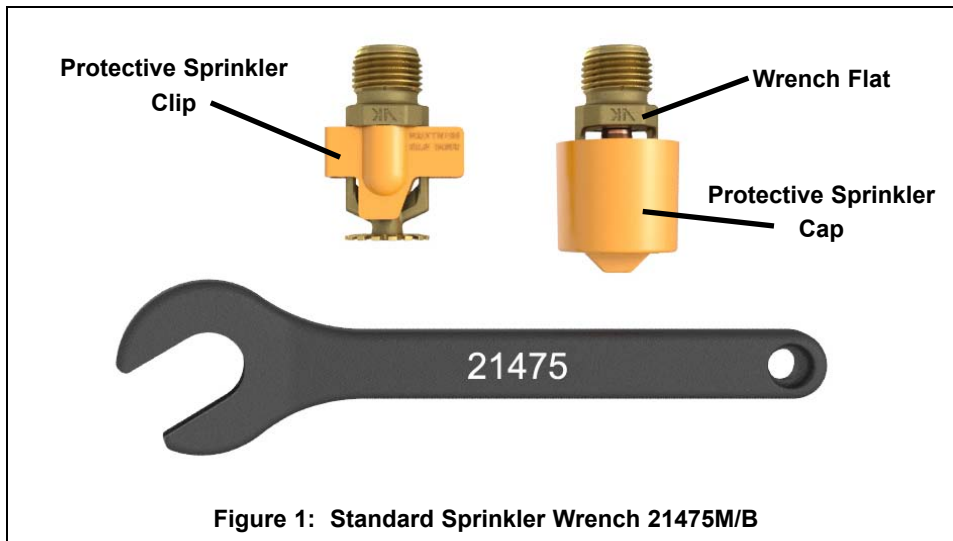
Refer to NFPA 25 for Inspection, Testing and Maintenance requirements.

**7. AVAILABILITY**

The Viking Microfast® Quick Response Pendent Sprinkler VK329 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.



**Figure 1: Standard Sprinkler Wrench 21475M/B**



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**MICROFAST® QUICK  
RESPONSE PENDENT  
SPRINKLER VK329 (K2.8)**

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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>	Bulb Color
Ordinary	135 °F (57 °C)	100 °F (38 °C)	Orange
Ordinary	155 °F (68 °C)	100 °F (38 °C)	Red
Intermediate	175 °F (79 °C)	150 °F (65 °C)	Yellow
Intermediate	200 °F (93 °C)	150 °F (65 °C)	Green
High	286 °F (141 °C)	225 °F (107 °C)	Blue

**Sprinkler Finishes:** Brass, Chrome, White Polyester, Black Polyester, and Black PTFE

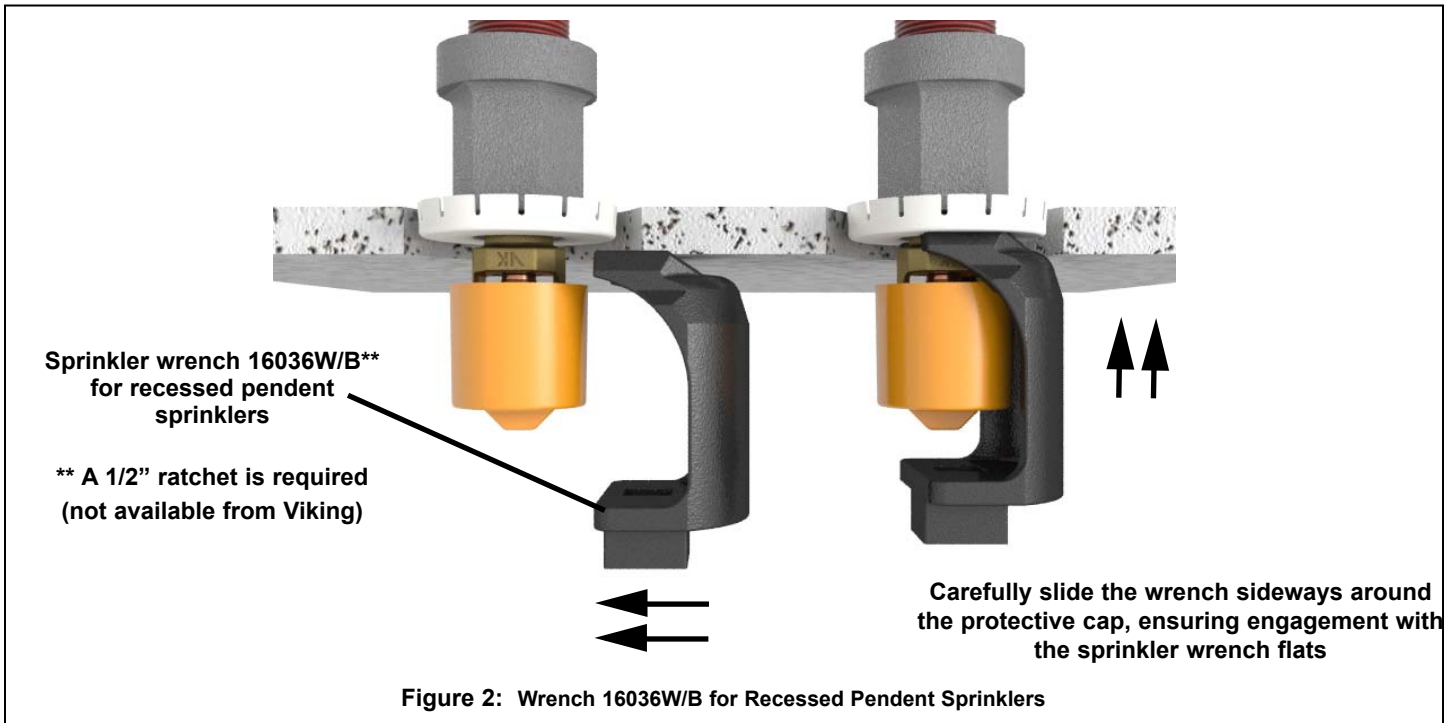
**Corrosion-Resistant Coatings<sup>3</sup>:** White Polyester, Black Polyester, and Black PTFE.

**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 Charts. 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 automatic sprinklers, the coatings indicated are applied to the exposed exterior surfaces only. Note that the spring is exposed on sprinklers with Polyester and PTFE coatings.





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### Approval Chart 1 (UL) The Viking Microfast® Quick Response Pendent Sprinkler VK329 Maximum 175 PSI (12 Bar) WWP

KEY	
Temperature	→
Finish	↙
Escutcheon (if applicable)	←

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	BSP	U.S.	metric <sup>2</sup>	Inches	mm	cULus <sup>4</sup>	VdS	LPCB	CE
12981	VK329	Pendent	1/2"	15 mm	2.8	40.3	2-1/4	58	A1Z, B1Y	--	--	--
<b>NOTICE - Product Below - Limited Availability (Contact Local Viking Office)</b>												
06718B	VK329	Pendent	1/2"	15 mm	2.8	40.3	2-3/16	56	A1Z, B1Y	--	--	--

Approved Temperature Ratings	Approved Finishes	Approved Escutcheons
A - 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), 286 °F (141 °C) B - 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), and 200 °F (93 °C)	1 - Brass, Chrome, White Polyester <sup>5,6</sup> , Black Polyester <sup>5,6</sup> , and Black PTFE	Y - Standard surface-mounted escutcheon or the Viking Microfast® Model F-1 Adjustable Escutcheon, or recessed with the Viking Micromatic® Model E-1, E-2, or E3 Recessed Escutcheon Z - Standard surface-mounted escutcheon or the Viking Microfast® Model F-1 Adjustable Escutcheon

#### Footnotes

- Base part number shown. For complete part number, refer to Viking's current price schedule.
- 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.
- This table shows the listings and approvals available at the time of printing. Other approvals may be in process.
- Listed by Underwriters Laboratories Inc. for use in the U.S. and Canada.
- cULus Listed as corrosion-resistant.
- 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.)

#### cULus Listing Requirements:

The Viking Microfast® Quick Response Pendent Sprinkler VK329 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.
- 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, 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 2 (FM) The Viking Microfast® Quick Response Pendent Sprinkler VK329 Maximum 175 PSI (12 Bar) WWP

KEY	
—	Temperature
↓	Finish
←	Escutcheon (if applicable)

Base Part Number <sup>1</sup>	SIN	Sprinkler Style	Thread Size		Nominal K-Factor		Overall Length		FM Approvals <sup>3</sup> (Refer also to Design Criteria.)
			NPT	BSP	U.S.	metric <sup>2</sup>	Inches	mm	
12981	VK329	Pendent	1/2"	15 mm	2.8	40.3	2-1/4	58	A1Z
<b>NOTICE - Product Below - Limited Availability (Contact Local Viking Office)</b>									
16718B	VK329	Pendent	1/2"	15 mm	2.8	40.3	2-3/16	56	A1Z

<p style="text-align: center;"><b>Approved Temperature Ratings</b></p> <p>A - 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), 286 °F (141 °C)</p>	<p style="text-align: center;"><b>Approved Finishes</b></p> <p>1 - Brass and Chrome</p>	<p style="text-align: center;"><b>Approved Escutcheons</b></p> <p>Z - Standard surface-mounted escutcheon or the Viking Microfast® Model F-1 Adjustable Escutcheon</p>
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#### Footnotes

- <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 FM Approvals available at the time of printing. Other approvals may be in process.
- <sup>4</sup> Other colors are available on request with the same Approvals as the standard colors.

### DESIGN CRITERIA - FM

(Also refer to Approval Chart 2 above.)

#### **FM Approval Requirements:**

The Viking Microfast® Quick Response Pendent Sprinkler VK329 is FM Approved as quick response **Non-storage** upright and pendent 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.**

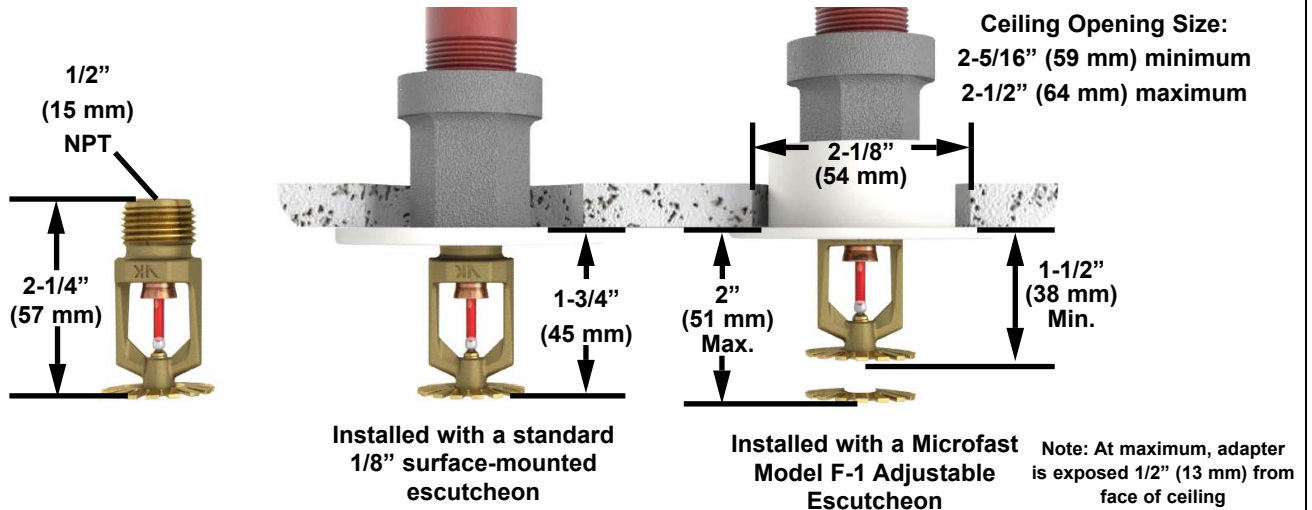
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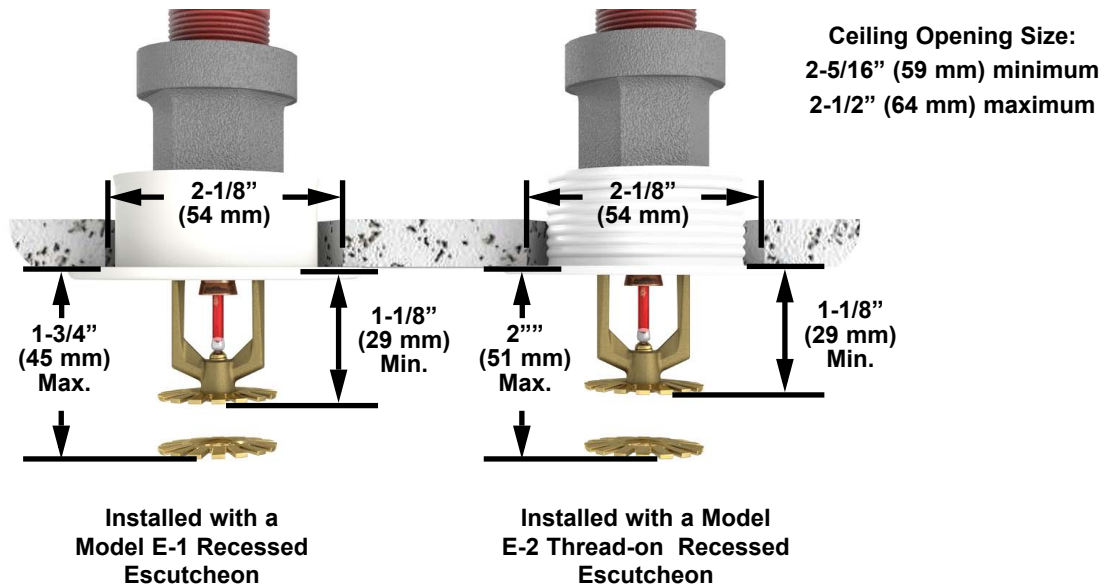
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**Figure 3: Sprinkler Dimensions with a Standard Escutcheon and the Model F-1 Adjustable Escutcheon**



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