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, Polytetrafluoroethylene (PTFE) and Electroless Nickel PTFE (ENT) coatings can be used in decorative applications where colors are desired. In addition, these coatings have been investigated for installation in corrosive environments and are listed/approved as indicated in the Approval Charts.

2. LISTINGS AND APPROVALS

- **cULus Listed:** Category VNIV
- **FM Approved:** Class Series 2000

Refer to Approval Charts and Design Criteria for Listing and 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 BSPT
- 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
For ENT Coated Sprinklers: Belleville Spring-Exposed, Screw and Pip Cap ENT Plated

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, Black PTFE = N, and ENT = JN

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 (see Figure 1):
- A. Standard Wrench: Part No. 21475M/B
- B. Wrench for Recessed Pendent Sprinklers: Part No. 13655W/B** (available since 2006)
- C. Optional Protective Sprinkler Cap Remover/Escutcheon Installer Tool*** Part No. 15915 (available since 2010)

**A ½" 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:
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: Sprinkler Wrenches
## TABLE 1: AVAILABLE SPRINKLER TEMPERATURE RATINGS AND FINISHES

<table>
<thead>
<tr>
<th>Sprinkler Temperature Classification</th>
<th>Sprinkler Nominal Temperature Rating¹</th>
<th>Maximum Ambient Ceiling Temperature²</th>
<th>Bulb Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ordinary</td>
<td>135 °F (57 °C)</td>
<td>100 °F (38 °C)</td>
<td>Orange</td>
</tr>
<tr>
<td>Ordinary</td>
<td>155 °F (68 °C)</td>
<td>100 °F (38 °C)</td>
<td>Red</td>
</tr>
<tr>
<td>Intermediate</td>
<td>175 °F (79 °C)</td>
<td>150 °F (65 °C)</td>
<td>Yellow</td>
</tr>
<tr>
<td>Intermediate</td>
<td>200 °F (93 °C)</td>
<td>150 °F (65 °C)</td>
<td>Green</td>
</tr>
<tr>
<td>High</td>
<td>286 °F (141 °C)</td>
<td>225 °F (107 °C)</td>
<td>Blue</td>
</tr>
</tbody>
</table>

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

**Corrosion-Resistant Coatings:** White Polyester, Black Polyester, Black PTFE, and ENT³

### Footnotes

1. The sprinkler 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 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. For automatic sprinklers, the coatings indicated are applied to the exposed exterior surfaces only. Note that the spring is exposed on sprinklers with Polyester, PTFE and ENT coatings. For ENT coated automatic sprinklers, the waterway is coated.

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**Sprinkler wrench 13655W/B** for recessed pendent sprinklers

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

Carefully slide the wrench sideways around the protective cap, ensuring engagement with the sprinkler wrench flats.

**Figure 2: Wrench 13655W/B for Recessed Pendent Sprinklers**
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.

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

<table>
<thead>
<tr>
<th>Base Part Number</th>
<th>SIN</th>
<th>Sprinkler Style</th>
<th>Thread Size</th>
<th>Nominal K-Factor</th>
<th>Overall Length</th>
<th>FM Approvals¹ (Refer also to Design Criteria.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12981³</td>
<td>VK329</td>
<td>Pendant</td>
<td>1/2&quot;</td>
<td>15 mm</td>
<td>2.8</td>
<td>40.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>NPT</td>
<td></td>
<td>Inches</td>
<td>2-1/4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>BSPT</td>
<td></td>
<td>mm</td>
<td>58</td>
</tr>
<tr>
<td>20984</td>
<td>VK329</td>
<td>Pendant</td>
<td>1/2&quot;</td>
<td>15 mm</td>
<td>2.8</td>
<td>40.3</td>
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<td></td>
<td>BSPT</td>
<td></td>
<td>mm</td>
<td>58</td>
</tr>
</tbody>
</table>

**Approved Temperature Ratings**
A - 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), 286 °F (141 °C)
B - 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), 286 °F (141 °C)

**Approved Finishes**
1 - Brass and Chrome
2 - ENT⁶

**Approved Escutcheons**
Z - Standard surface-mounted 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.
⁴ Other colors are available on request with the same Approvals as the standard colors.
⁵ The sprinkler orifice is bushed.
⁶ FM Approved as corrosion resistant.

**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.

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

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