1. DESCRIPTION
The Viking Microfast® EC/QREC Pendent HP Sprinkler VK610 is a small thermosensitive spray sprinkler available in several different finishes and temperature ratings to meet varying design requirements. These sprinklers have both standard response and quick response listings. The fast response type glass bulb and special deflector combine speed of operation and area of coverage to meet quick response extended coverage standards.

The special Polyester coating can be used in decorative applications where colors are desired.

2. LISTINGS AND APPROVALS

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

3. TECHNICAL DATA

Specifications:
- Minimum Operating Pressure: Refer to the Approval Chart.
- Maximum Working Pressure: 250 psi (17 bar) wwp.
- Factory tested hydrostatically to 500 psi (34.5 bar).
- Testing: U.S.A. Patent No. 4,831,870
- 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.
- Glass-bulb fluid temperature rated to -65 °F (-55 °C)
- Overall Length: 2-1/4 (58 mm)

Material Standards:
- Sprinkler Frame: Brass UNS-C84400
- Deflector: Brass UNS-C26000
- 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 Polyester Coated Sprinklers:
- Belleville Spring-Exposed

Ordering Information: (Also refer to the current Viking price list.)
Order Viking Microfast® EC/QREC Pendent HP Sprinkler VK610 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, and Black Polyester = M-/B

Temperature Suffix (°F/°C): 135°/57° = A, 155°/68° = B, 175°/79° = D

For example, sprinkler VK610 with a Brass finish and a 155 °F/68 °C temperature rating = Part No. 12294AB

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. Socket Wrench for recessed pendent sprinklers: Part No. 13577W/B** (available since 2006)

** A ½” 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)
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
Viking Microfast® EC/QREC Pendent HP Sprinkler VK610 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.
**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>
</tbody>
</table>

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

**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.

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**Step 1:** Carefully slide the wrench sideways around the deflector, ensuring engagement with the sprinkler wrench flats.

**Pendent Sprinkler**

Sprinkler wrench 13577W/B** must be used for installing recessed sprinklers.

**Step 2:** Carefully press the wrench upward and ensure engagement with the sprinkler wrench flats.

**Figure 2:** Socket Wrench for Recessed Pendent HP Sprinkler 13577W/B

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

**Viking Microfast® EC/QREC Pendent HP Sprinkler VK610**

For Light Hazard Occupancies Only

<table>
<thead>
<tr>
<th>Sprinkler Base Part Number</th>
<th>SIN</th>
<th>NPT Thread Size</th>
<th>Nominal K-Factor</th>
<th>Maximum Water Working Pressure</th>
<th>Overall Length</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Inches</td>
<td>mm</td>
<td>U.S.</td>
<td>metric</td>
</tr>
<tr>
<td>12294</td>
<td>VK610</td>
<td>1/2</td>
<td>15</td>
<td>5.6</td>
<td>80.6</td>
</tr>
</tbody>
</table>

**Sprinkler Base Part Number**

<table>
<thead>
<tr>
<th>SIN</th>
<th>Maximum Areas of Coverage</th>
<th>Minimum Water Supply Requirements</th>
<th>Listings and Approvals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>cULus</td>
</tr>
</tbody>
</table>

**Standard Response High Pressure**

Maximum 250 PSI WWP

<table>
<thead>
<tr>
<th>Part Number</th>
<th>SIN</th>
<th>Area of Coverage</th>
<th>Flow Rate</th>
<th>Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>12294</td>
<td>VK610</td>
<td>18' x 18' (5.5 m x 5.5 m)</td>
<td>33 gpm @ 34.7 psi (124.9 L/min @ 2.40 Bar)</td>
<td>D1Z</td>
</tr>
</tbody>
</table>

**Quick Response High Pressure**

Maximum 250 PSI WWP

<table>
<thead>
<tr>
<th>Part Number</th>
<th>SIN</th>
<th>Area of Coverage</th>
<th>Flow Rate</th>
<th>Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>12294</td>
<td>VK610</td>
<td>16' x 16' (4.9 m x 4.9 m)</td>
<td>26 gpm @ 21.6 psi (98.4 L/min @ 1.49 Bar)</td>
<td>A1X</td>
</tr>
</tbody>
</table>

**Approved Temperature Ratings**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Temperature Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>135 °F (57 °C), 155 °F (68 °C), and 175 °F (79 °C)</td>
</tr>
<tr>
<td>B</td>
<td>135 °F (57 °C) and 175 °F (79 °C)</td>
</tr>
<tr>
<td>C</td>
<td>135 °F (57 °C)</td>
</tr>
<tr>
<td>D</td>
<td>155 °F (68 °C)</td>
</tr>
<tr>
<td>E</td>
<td>175 °F (79 °C)</td>
</tr>
</tbody>
</table>

**Approved Finishes**

1. Brass, Chrome-EnOloy®, and White Polyester

**Approved Escutcheons**

X - Standard surface-mounted escutcheon or recessed with the Micromatic® Model E-1 or E-2 Recessed Escutcheon

Y - Standard surface-mounted escutcheons

Z - Recessed with the Micromatic® Model E-1 or E-2 Recessed Escutcheon only

**Footnotes**

1. Part number shown is the base part number. For complete part number, refer to current Viking price list 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 chart shows listings and approvals available at time of printing. Check with the manufacturer for any additional approvals.
4. cULus Listed for use in the U.S. and Canada for Light-Hazard occupancies where allowed by the installation standards being applied.
5. Listings are limited to Light Hazard Occupancies where allowed by the installation standards being applied.
6. For areas of coverage smaller than shown, use the “Minimum Water Supply Requirement” for the next larger area listed. Flows and pressures listed are per sprinkler.

**Design Criteria**

(Also refer to the Approval Chart)

**cULus Listing Requirements:**

Viking Microfast® EC/QREC Pendent HP Sprinkler VK610 is cULus Listed as indicated in the Approval Chart for installation in accordance with the latest edition of NFPA 13 for extended coverage pendent spray sprinklers:

- Limited to Light Hazard occupancies, where allowed by the installation standards being applied, with smooth, flat, horizontal ceilings only.
- Minimum spacing allowed is 8 ft. (2.4 m) unless baffles are installed in accordance with NFPA 13.
- Minimum distance from walls is 4 in. (102 mm).
- Maximum distance from 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 extended coverage pendent 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, 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