1. DESCRIPTION

Viking Standard/QREC Light Hazard ELO Fusible Element Pendent Sprinkler VK617 is a thermosensitive spray sprinkler available in several different finishes and temperature ratings to meet varying design requirements. The fusible operating element and special deflector characteristics meet the challenges of quick response extended coverage standards. The sprinkler has both quick response and standard response listings as indicated in the Approval Charts. The special Polyester and Electroless Nickel PTFE 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
- FM Approved: Classes 2020 and 2022

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

3. TECHNICAL DATA

Specifications:
Available since 2007.
Minimum Operating Pressure: Refer to the Approval Chart.
Maximum Working Pressure: 175 psi (12 Bar).
Factory tested hydrostatically to 500 psi (34.5 bar).
Thread size: 3/4” NPT
Nominal K-Factor: 11.2 U.S. (161.3 metric)
† Metric K-factor measurement shown is in Bar. When pressure is measured in kPa, divide the metric K-factor shown by 10.0.
Overall Length: 2-5/16” (59 mm)

Material Standards:
Sprinkler Frame: Brass UNS-C84400
Deflector: Phosphor Bronze UNS-C51000
Fusible Element Assembly: Nickel Alloy
Trigger and Support: Stainless Steel UNS-S31600
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 ENT Coated Sprinklers: Belleville Spring-Exposed, Screw and Pip Cap-ENT Coated
For Polyester Coated Sprinklers: Belleville Spring-Exposed

Ordering Information:
Order Standard/QREC Light Hazard ELO Fusible Element Pendent Sprinkler VK617 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 and 205 °F (96 °C) = E
For example, sprinkler VK617 with a Brass finish and a 165 °F (74 °C) temperature rating = Part No. 14141AC

Available Finishes And Temperature Ratings: Refer to Table 1.

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

Sprinkler Wrenches:
A. Standard Wrench: Part No. 05118CW/B (available since 1981)
B. Wrench for recessed pendent sprinkler: Part No. 11663W/B** (available since 2001)
**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 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 Sprinkler VK617 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 05118CW/B

Wrench Flat
Protective Sprinkler Shield
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>Frame Paint Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ordinary</td>
<td>165 °F (74 °C)</td>
<td>100 °F (38 °C)</td>
<td>None</td>
</tr>
<tr>
<td>Intermediate</td>
<td>205 °F (96 °C)</td>
<td>150 °F (65 °C)</td>
<td>White</td>
</tr>
</tbody>
</table>

Sprinkler Finishes: Brass, Chrome, White Polyester³, Black Polyester³, and ENT⁴,⁵

Corrosion Resistant Sprinkler Finishes: ENT⁴,⁵

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 coatings.
⁴ 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. Note that the spring is exposed on sprinklers with ENT coatings. For ENT coated automatic sprinklers, the waterway is coated.
⁵ cULus Listed as corrosion resistant.

Figure 2: Wrench 11663W/B for Recessed Pendent Sprinkler VK617

Step 1: Carefully slide the wrench sideways around the deflector and protective shield. (Note the orientation of the shield in the wrench.)

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

Step 2: Carefully press the wrench upward and turn slightly to ensure engagement with the sprinkler wrench flats.
## TECHNICAL DATA

### STANDARD/QR EXTENDED COVERAGE LIGHT HAZARD ELO FUSIBLE ELEMENT PENDENT SPRINKLER VK617

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.

### TECHNICAL DATA

<table>
<thead>
<tr>
<th>Sprinkler Base Part Number1</th>
<th>SIN</th>
<th>NPT Thread Size</th>
<th>Nominal K-Factor</th>
<th>Maximum Water Working Pressure</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Inches</td>
<td>mm</td>
<td>U.S.</td>
<td>metric2</td>
</tr>
<tr>
<td>14141</td>
<td>VK617</td>
<td>3/4</td>
<td>8.25</td>
<td>22.0</td>
<td>11.2</td>
</tr>
</tbody>
</table>

#### Approval Chart 1 (UL)

**Standard Response/QREC ELO Pendent Sprinkler VK617**  
For Light Hazard Occupancies Only

<table>
<thead>
<tr>
<th>Maximum Sprinkler Spacing4 (Length x Width)</th>
<th>Maximum Area per Sprinkler</th>
<th>Minimum Water Supply Requirements4</th>
<th>Listings and Approvals3</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 ft. x 12 ft. (3.7 m x 3.7 m)</td>
<td>144 ft² (13.4 m²)</td>
<td>30 gpm @ 7.2 psi (113.6 L/min @ .50 Bar)</td>
<td>A1Y, A2Z See Footnote 6.</td>
</tr>
<tr>
<td>14 ft. x 14 ft. (4.3 m x 4.3 m)</td>
<td>196 ft² (18.2 m²)</td>
<td>30 gpm @ 7.2 psi (113.6 L/min @ .50 Bar)</td>
<td>A1Y, A2Z See Footnote 6.</td>
</tr>
<tr>
<td>16 ft. x 16 ft. (4.9 m x 4.9 m)</td>
<td>256 ft² (23.8 m²)</td>
<td>30 gpm @ 7.2 psi (113.6 L/min @ .50 Bar)</td>
<td>C1Y, B1X, C2Z, B2X See Footnote 6.</td>
</tr>
<tr>
<td>18 ft. x 18 ft. (5.5 m x 5.5 m)</td>
<td>324 ft² (30.1 m²)</td>
<td>33 gpm @ 8.7 psi (124.9 L/min @ .60 Bar)</td>
<td>C1Y, C2Z See Footnote 6.</td>
</tr>
</tbody>
</table>

#### Approved Temperature Ratings

- A - 165 °F (74 °C) and 205 °F (96 °C)  
- B - 205 °F (96 °C)  
- C - 165 °F (74 °C)

#### Approved Finishes

1. Brass, Chrome, White Polyester and Black Polyester  
2. ENT³

#### Approved Escutcheons

- X - Standard surface-mounted escutcheons  
- Y - Standard surface-mounted escutcheons or recessed with the Micromatic® Model E-1, E-2, or E-3 Recessed Escutcheon  
- Z - Standard surface-mounted escutcheons or recessed with the Micromatic Model E-1 Recessed Escutcheon.

#### 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. Other approvals may be in process. Check with the manufacturer for any additional approvals.  
4. 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.  
5. cULus Listed for use in the U.S. and Canada for Light Hazard occupancies with smooth, flat, horizontal ceilings only.  
7. Listings are limited to Light Hazard Occupancies where allowed by the installation standards being applied.  
8. cULus Listed as corrosion resistant.

### DESIGN CRITERIA - UL

(Also refer to Approval Chart 1 above.)

#### cULus Listing Requirements:

Standard/QREC Light Hazard ELO Fusable Element Pendent Sprinkler VK617 is cULus Listed as indicated in Approval Chart 1 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.
## TECHNICAL DATA

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.

### FM Approval Requirements:
Sprinkler VK617 is FM Approved as a quick response Non-Storage extended coverage pendent sprinkler as indicated in the FM Approval Guide. For specific application and installation requirements, refer to 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.

### DESIGN CRITERIA - FM
(Also refer to Approval Chart 2 above.)

#### FM Approval Requirements:
Sprinkler VK617 is FM Approved as a quick response Non-Storage extended coverage pendent 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.

**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.

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<tr>
<td>14141</td>
<td>VK617</td>
<td>3/4</td>
<td>--</td>
<td>11.2</td>
<td>161.3</td>
</tr>
</tbody>
</table>

### Approval Chart 2 (FM)
Quick Response Extended Coverage ELO Pendent Sprinkler VK617

<table>
<thead>
<tr>
<th>Maximum Sprinkler Spacing (Length x Width)</th>
<th>Maximum Area per Sprinkler</th>
<th>Minimum Water Supply Requirements</th>
<th>FM Approvals</th>
</tr>
</thead>
<tbody>
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<td>16 ft x 16 ft (4.9 m x 4.9 m)</td>
<td>256 ft² (23.8 m²)</td>
<td>30 gpm @ 7.2 psi (113.6 L/min @ 0.50 Bar)</td>
<td>A1X</td>
</tr>
<tr>
<td>18 ft x 18 ft (5.5 m x 5.5 m)</td>
<td>324 ft² (30.1 m²)</td>
<td>33 gpm @ 8.7 psi (124.9 L/min @ 0.60 Bar)</td>
<td>A1X</td>
</tr>
</tbody>
</table>

### Approved Temperature Rating
A - 165 °F (74 °C)

### Approved Finishes
1 - Brass, Chrome, White Polyester, Black Polyester, and ENT

### Approved Escutcheons
X - Standard surface-mounted escutcheons or recessed with the Micromatic® Model E-1, E-2, or E-3 Recessed Escutcheon
Z - Standard surface-mounted escutcheons or recessed with the Micromatic Model E-1 Recessed Escutcheon.

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**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. Other approvals may be in process. Check with the manufacturer for any additional approvals.
4. 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.

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**Form No. F_021207 20.06.04  Rev 20.1**
Figure 3: Sprinkler VK617 Dimensions with a Standard Escutcheon

Figure 4: Sprinkler VK617 Dimensions with the Model E-1, E-2, and E-3 Recessed Escutcheons