1. DESCRIPTION

Viking QREC Fusible Element Pendent High Pressure Sprinkler VK611 is a thermostensitive solder link 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 special Polyester coatings can be used in decorative applications where colors are desired.

2. LISTINGS AND APPROVALS

- cULus Listed: Category VNIV
- FM Approved: Class 2020

Refer to Approval Chart 1 and UL Design Criteria for cULus Listing requirements that must be followed.

3. TECHNICAL DATA

- Specifications:
  - Minimum Operating Pressure: Refer to the Approval Charts.
  - Maximum Working Pressure: 250 psi (17 bar). Factory tested hydrostatically to 500 psi (34.5 bar).
  - Thread sizes: 1/2” (15 mm) NPT
  - Nominal K-Factors: 5.6 U.S. (80.6 metric†)
  - Overall Length: 2-1/4” (58 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 Polyester Coated Sprinklers: Belleville Spring-Exposed

- Ordering Information: (Also refer to the current Viking price list.)
  - Order QREC Fusible Element Pendent High Pressure Sprinkler VK611 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: 165 °F (74 °C) = C and 205 °F (96 °C) = E
  - For example, sprinkler VK611 with a Brass finish and a 165 °F (74 °C) temperature rating = Part No. 13972AC

- Accessories: (Also refer to the Viking website.)
  - For Polyester Coated Sprinklers: Belleville Spring-Exposed

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 Model VK611 Sprinkler 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>
<thead>
<tr>
<th>Sprinkler Temperature Classification</th>
<th>Sprinkler Nominal Temperature Rating(^1)</th>
<th>Maximum Ambient Ceiling Temperature(^2)</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 Polyester\(^3\), and Black Polyester\(^3\)

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.

Figure 1: Standard Sprinkler Wrench 21475M/B
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.

Approval Chart 1 (UL)
Quick Response Extended Coverage Pendent
Fusible Element High Pressure Sprinkler VK611

For Light Hazard Occupancies Only. Maximum 250 PSI (17 Bar) WWP

<table>
<thead>
<tr>
<th>Sprinkler Base Part Number</th>
<th>SIN</th>
<th>NPT Thread Size</th>
<th>Nominal K-Factor</th>
<th>Maximum Areas of Coverage</th>
<th>Minimum Water Supply Requirements*</th>
<th>Listings and Approvals† (Refer also to Design Criteria below.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Inches</td>
<td>mm</td>
<td>U.S.</td>
<td>metric² (Length x Width)</td>
<td>Flow/Pressure</td>
</tr>
</tbody>
</table>

**Standard Response Applications**

- **13972 VK611**
  - 1/2 15 5.6 80.6
  - 18' x 18' (5.5 m x 5.5 m)
  - 33 gpm @ 34.7 psi (124.9 L/min @ 2.4 Bar)
  - B1Z

- **13972 VK611**
  - 1/2 15 5.6 80.6
  - 20' x 20' (6.1 m x 6.1 m)
  - 40 gpm @ 51.0 psi (151.4 L/min @ 3.52 Bar)
  - B1Z, C1Z

**Quick Response Applications**

- **13972 VK611**
  - 1/2 15 5.6 80.6
  - 16' x 16' (4.9 m x 4.9 m)
  - 26 gpm @ 21.6 psi (98.4 L/min @ 1.49 Bar)
  - A1X

- **13972 VK611**
  - 1/2 15 5.6 80.6
  - 18' x 18' (5.5 m x 5.5 m)
  - 33 gpm @ 34.7 psi (124.9 L/min @ 2.4 Bar)
  - A1Y, C1X

- **13972 VK611**
  - 1/2 15 5.6 80.6
  - 20' x 20' (6.1 m x 6.1 m)
  - 40 gpm @ 51.0 psi (151.4 L/min @ 3.52 Bar)
  - C1Y

**Approved Temperature Ratings**

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

**Approved Finishes**

1 - Brass, Chrome, White Poly-ester, and Black Polyester

**Approved Escutcheons**

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

**Footnotes**

1 Base part number is shown. For complete part number, refer to current Viking price list schedule.

2 Metric K-factor shown is for use when pressure is measured in kPa. When pressure is measured in bar, multiply the metric K-factor by 10.0.

3 This chart shows listings and approvals available at time of printing. Check with the manufacturer for any additional approvals.

4 Listed by Underwriter’s Laboratories, Inc. for use in Canada.

5 Listings and Approvals 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 listed area of coverage with sprinklers of similar K-Factor.
DESIGN CRITERIA - UL
(Also refer to Approval Chart 1 above.)

cULus Listing Requirements:
QREC Pendent High Pressure Sprinkler VK611 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, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.

Figure 2: Wrench 13577W/B for Recessed Pendent Sprinklers

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

Sprinkler wrench 13577W/B** must be used for installing recessed Sprinkler VK611.

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

Step 2: Carefully press the wrench upward and ensure engagement with the sprinkler wrench flats.
MicrofastHP® EC/QREC
FUSIBLE ELEMENT PENDENT
HIGH PRESSURE SPRINKLER
VK611 (K5.6)

Ceiling Opening Size:
2-5/16" (59 mm) minimum
2-1/2" (64 mm) maximum

Installed with a standard
1/8" surface-mounted escutcheon

Figure 3: Sprinkler Dimensions with a Standard Escutcheon

Installed with a Model E-1 Recessed Escutcheon

1-1/8" (29 mm) Min.
1-3/4" (45 mm) Max.

Installed with a Model E-2 Thread-on Recessed Escutcheon

2" (51 mm) Max.
1-1/8" (29 mm) Min.

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