1. DESCRIPTION
Viking QREC Fusible Element Pendent Sprinkler VK603 is a thermosensitive 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 the Approval Chart and Design Criteria for Listing and approval requirements that must be followed.

3. TECHNICAL DATA

Specifications:
Available since 2013.
Minimum Operating Pressure: Refer to the Approval Charts.
Maximum Working Pressure: 175 psi (12 bar). Factory tested hydrostatically to 500 psi (34.5 bar).
Thread Size: 3/4" (20 mm) NPT
Nominal K-Factor: 8.0 U.S. (115.2 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: 2-3/8" (60 mm)

Material Standards:
Sprinkler Frame: Brass UNS-C84400 or QM Brass
Deflector: Brass UNS-C26000
Fusible Element Assembly: Nickel Alloy
Trigger and Support: Stainless Steel UNS-S31600
Belleville Spring Assembly: Nickel Alloy, coated on both sides with PTFE Tape
Seat and Insert Assembly: Copper UNS-C11000 and Stainless Steel UNS-S30400
Pip Cap Attachment: Brass UNS-C36000
Screw: Brass UNS-C36000
For PTFE Coated Sprinklers: Belleville Spring-Exposed, Screw-Nickel Plated, Pip Cap-PTFE Coated
For Polyester Coated Sprinklers: Belleville Spring-Exposed

Ordering Information:
Order QREC Fusible Element Pendent Sprinkler VK603 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 VK603 with a Brass finish and a 165 °F (74 °C) temperature rating = Part No. 18277AC

Available Finishes And Temperature Ratings: Refer to Table 1.
Accessories:
(Specifications and standards are subject to change. Specifications and standards are subject to change. Specifications and standards are subject to change.)
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 VK603 Sprinkler is available through a network of domestic and international distributors. See The Viking Corporation website 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 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, and Black Polyester³

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.
## Approval Chart 1 (UL)

Quick Response Extended Coverage Pendent Fusible Element Sprinkler VK603

For Light Hazard Occupancies Only. Maximum 175 PSI (12 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</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Inches mm U.S.</td>
<td></td>
<td>(Length x Width)</td>
<td>Flow/Pressure</td>
<td></td>
</tr>
<tr>
<td>18277 VK603</td>
<td>3/4</td>
<td>20</td>
<td>8.0</td>
<td>115.2</td>
<td>16’ x 16’ (4.9 m x 4.9 m)</td>
<td>26 gpm @ 10.6 psi (98.4 L/min @ 0.73 Bar)</td>
</tr>
<tr>
<td>18277 VK603</td>
<td>3/4</td>
<td>20</td>
<td>8.0</td>
<td>115.2</td>
<td>18’ x 18’ (5.5 m x 5.5 m)</td>
<td>33 gpm @ 17.0 psi (124.9 L/min @ 1.17 Bar)</td>
</tr>
<tr>
<td>14140 VK603</td>
<td>3/4</td>
<td>20</td>
<td>8.0</td>
<td>115.2</td>
<td>16’ x 16’ (4.9 m x 4.9 m)</td>
<td>26 gpm @ 10.6 psi (98.4 L/min @ 0.73 Bar)</td>
</tr>
<tr>
<td>14140 VK603</td>
<td>3/4</td>
<td>20</td>
<td>8.0</td>
<td>115.2</td>
<td>18’ x 18’ (5.5 m x 5.5 m)</td>
<td>33 gpm @ 17.0 psi (124.9 L/min @ 1.17 Bar)</td>
</tr>
</tbody>
</table>

**NOTICE - Product Below - Limited Availability (Contact Local Viking Office)**

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 the listings and approvals available at the 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 with sprinklers of similar K-factor. Flows and pressures listed are per sprinkler.
5 Listed by Underwriter’s Laboratories, Inc. for use in the U.S. and Canada for Light Hazard occupancies with smooth, flat, horizontal ceilings only.

### Sprinkler Temperature Ratings

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

### Approved Finishes

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

### Approved Escutcheons

- **Y** - Standard surface-mounted escutcheons
- **Z** - Standard surface-mounted escutcheons or recessed with the Micromatic® Model E-1 or E-2 Recessed Escutcheon

### Footnotes

- For areas of coverage smaller than shown, use the “Minimum Water Supply Requirement” for the next larger area listed with sprinklers of similar K-factor. Flows and pressures listed are per sprinkler.
- Listed by Underwriter’s Laboratories, Inc. for use in the U.S. and Canada for Light Hazard occupancies with smooth, flat, horizontal ceilings only.

### DESIGN CRITERIA - UL

(Also refer to Approval Chart 1 above.)

**cULus Listing Requirements:**

QREC Pendent Sprinkler VK603 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 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.
## Approval Chart 2 (FM)

**Quick Response Extended Coverage Pendent Fusible Element Sprinkler VK603**

**Maximum 175 PSI (12 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>FM Approvals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>inches</td>
<td>mm</td>
<td>U.S.</td>
<td>metric</td>
<td>(Length x Width)</td>
<td>Flow/Pressure</td>
</tr>
<tr>
<td>18277 VK603</td>
<td>3/4</td>
<td>20</td>
<td>8.0</td>
<td>115.2</td>
<td>16' x 16' (4.9 m x 4.9 m)</td>
<td>26 gpm @ 10.6 psi (98.4 L/min @ 0.73 Bar)</td>
</tr>
<tr>
<td>18277 VK603</td>
<td>3/4</td>
<td>20</td>
<td>8.0</td>
<td>115.2</td>
<td>18' x 18' (5.5 m x 5.5 m)</td>
<td>33 gpm @ 17.0 psi (124.9 L/min @ 1.17 Bar)</td>
</tr>
<tr>
<td>14140 VK603</td>
<td>3/4</td>
<td>20</td>
<td>8.0</td>
<td>115.2</td>
<td>16' x 16' (4.9 m x 4.9 m)</td>
<td>26 gpm @ 10.6 psi (98.4 L/min @ 0.73 Bar)</td>
</tr>
<tr>
<td>14140 VK603</td>
<td>3/4</td>
<td>20</td>
<td>8.0</td>
<td>115.2</td>
<td>18' x 18' (5.5 m x 5.5 m)</td>
<td>33 gpm @ 17.0 psi (124.9 L/min @ 1.17 Bar)</td>
</tr>
</tbody>
</table>

**NOTICE - Product Below - Limited Availability (Contact Local Viking Office)**

<table>
<thead>
<tr>
<th>Sprinkler Temperature Rating</th>
<th>Approved Finishes</th>
<th>Approved Escutcheons</th>
</tr>
</thead>
<tbody>
<tr>
<td>A - 165 °F (74 °C)</td>
<td>1 - Brass, Chrome, White Polyester, and Black Polyester</td>
<td>Z - Standard surface-mounted escutcheons or recessed with the Micromatic® Model E-1 or E-2 Recessed Escutcheon</td>
</tr>
</tbody>
</table>

**Sprinkler Temperature Rating**

- A - 165 °F (74 °C)

**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 the FM Approvals available at the 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 with sprinklers of similar K-factor. Flows and pressures listed are per sprinkler.

## DESIGN CRITERIA - FM

(Also refer to Approval Chart 2 above.)

QREC Sprinkler VK603 is FM Approved as quick response **Non-Storage** extended coverage 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 2:** Wrench 12144W/B for Coated and/or Recessed Pendent Sprinklers

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

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

**Sprinkler Wrench 13577W/E must be used for installing recessed Sprinkler VK603**

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

---

**Figure 3:** Sprinkler VK603 Dimensions with a Standard Escutcheon

**Ceiling Opening Size:**
- 2-5/16" (58.7 mm) minimum
- 2-1/2" (63.5 mm) maximum

**Pendent Sprinkler 18277 (VK603)**

**Standard 1/8" (31 mm) surface-mounted escutcheon**
Figure 4: Sprinkler VK603 Dimensions with the Model E-1 and E-2 Recessed Escutcheons