1. DESCRIPTION
Viking Mirage® Quick Response ELO Concealed Pendent Sprinkler SIN VK469 is a thermosensitive solder link spray sprinkler designed for installation on concealed pipe systems where the appearance of a smooth ceiling is desired. The sprinkler is pre-assembled with a threaded adapter for installation with a low profile cover assembly that provides up to ½" (13 mm) of vertical adjustment. The two-piece design allows installation and testing of the sprinkler prior to installation of the cover plate. The “push-on” and “thread-on” designs of the concealed cover plate assemblies allow easy installation of the cover plate after the system has been tested and the ceiling finish has been applied. The cover assembly can be removed and reinstalled, allowing temporary removal of ceiling panels without taking the sprinkler system out of service or removing the sprinkler. The Electroless Nickel PTFE (ENT) coating has been investigated for installation in corrosive environments and is listed and approved as indicated in the Approval Charts. The ENT finish is only available for the sprinkler assembly, the cover plate is not plated.

The extra-large orifice provides greater flows at lower pressures than standard orifice or large orifice sprinklers. This feature allows higher densities of water to be applied when limited water pressure is available. Viking Quick Response Extra-Large Orifice Sprinklers may eliminate the need for a fire pump or reduce the size of the pump if it is required. On existing systems, replacing large orifice sprinklers with extra-large orifice sprinklers may provide the higher densities required to allow an increase in the hazard classification of an occupancy.

2. LISTINGS AND APPROVALS

- cULus Listed: Category VNIV

NOTE: This sprinkler is NOT listed for storage applications and cannot be used for the protection of storage. Refer to the Approval Chart and Design Criteria cULus Listing requirements that must be followed.

3. TECHNICAL DATA
Specifications:
- Available since 2009.
- Minimum Operating Pressure: 7 psi (0.5 bar).
- 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: 11.2 U.S. (161.3 metric*)

* Metric K-factor measurement is shown in bar. When pressure is measured in kPa, divide the metric K-factor shown by 10.0.

Material Standards:
- Sprinkler Body: Brass UNS-C84400
- Deflector: Phosphor Bronze UNS-C51000
- Deflector Pins: Stainless Steel
- Fusible Element Assembly: Nickel Alloy and Eutectic Solder
- Lever and Lever Bar: Stainless Steel
- Seat: Bronze UNS-C31400/UNS-C31600
- Button: Brass UNS-C36000
- Screw: Brass UNS-C36000
- Belleville Spring Sealing Assembly: Nickel Alloy, coated on both sides with PTFE Tape
- Cover Adapter: Cold Rolled Steel UNS-G10080, Finish: Clear Chromate over Zinc Plating

Cover Assembly Materials:
- Cover: Brass UNS-C26800
- Base: Cold Rolled Steel UNS-G10060/G10080, Finish: Copper Flash
- Springs: Nickel Alloy
- Solder: Non-eutectic

Ordering Information: The sprinkler and cover plate must be ordered separately. Refer to Tables 1 and 2.

4. INSTALLATION
Refer to appropriate NFPA Installation Standards.

5. OPERATION
During fire conditions, when the temperature around the sprinkler approaches its operating temperature, the cover plate detaches. Continued heating of the exposed sprinkler causes the heat-sensitive fusible element assembly to disengage, releasing seat 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 Mirage® Quick Response ELO Concealed Pendent Sprinkler VK469 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>SIN</th>
<th>Sprinkler Base Part Number</th>
<th>Size</th>
<th>1: Finishes</th>
<th>2: Temperature Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Description</td>
<td>Sprinkler Temperature Classification</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Suffix</td>
<td></td>
</tr>
<tr>
<td>VK469</td>
<td>15764</td>
<td>3/4</td>
<td>Brass</td>
<td>Ordinary</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ENT</td>
<td>Intermediate</td>
</tr>
</tbody>
</table>

Accessories
Sprinkler Wrenches and tools:
- A. Heavy Duty Part Number: 15467W/B
- B. Head Cabinet Wrench Part Number: 15466
- C. Optional Large Concealed Cover Plate Installer Tool Part No. 14867

Sprinkler Cabinet:
Holds up to 6 sprinklers: Part number 01731A (available since 1971).

Footnotes
1. Where a dash (-) is shown in the Finish suffix designation, insert the desired Temperature Rating suffix. See example above.
2. Based on NFPA 13, NFPA 13R, and NFPA 13D. Other limits may apply, depending on fire loading, sprinkler location, and other requirements of the Authority Having Jurisdiction. Refer to specific installation standards.
3. UL Listed as corrosion resistant.
4. The corrosion resistant coatings have passed the standard corrosion test required by the approving agencies indicated in the Approval Chart. 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 ENT coating is applied to all exposed exterior surfaces, including the waterway.
5. Requires a ½" ratchet (not available from Viking).
6. Also optional for removal of the protective cap. Ideal for sprinkler cabinets.
7. The installer tool is for push-on style cover plates only.

Figure 1: Identification of Custom Paint for Concealed Covers

All custom color painted cover plates will have an identifying label affixed to the inside of the cover that indicates the custom color and will have a representative sample (a paint dot) of the paint on the label.
TABLE 2: COVER PLATE ORDERING INFORMATION

Instructions:
(1) Select a Cover Plate Base Part Number
(2) Add the suffix for the desired Finish
(3) Add the suffix for the required Cover Plate Nominal Rating.

Example:
15765MC/W = 165 °F (74 °C) Temperature Rated, 3-5/16” (84 mm) diameter, Thread-On style Round Cover Plate with a Painted White finish.

<table>
<thead>
<tr>
<th>1: Select a Cover Plate Base Part Number</th>
<th>2: Select a Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Thread-On Style</strong></td>
<td><strong>Push-On Style</strong></td>
</tr>
<tr>
<td>Base Part Number</td>
<td>Size Inch (mm)</td>
</tr>
<tr>
<td>------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>15765</td>
<td>3-5/16 (84)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3: Temperature Rating Matrix

<table>
<thead>
<tr>
<th>Cover Plate Nominal Rating (Required)</th>
<th>Temperature Classification</th>
<th>Sprinkler Nominal Rating</th>
<th>Sprinkler Maximum Ambient Ceiling Temperature</th>
<th>Suffix</th>
</tr>
</thead>
<tbody>
<tr>
<td>135 °F (57 °C)</td>
<td>Ordinary</td>
<td>155 °F (68 °C)</td>
<td>100 °F (38 °C)</td>
<td>A</td>
</tr>
<tr>
<td>165 °F (74 °C)</td>
<td>Intermediate</td>
<td>175 °F (79 °C)</td>
<td>150 °F (65 °C)</td>
<td>C</td>
</tr>
<tr>
<td>165 °F (74 °C)</td>
<td>Intermediate</td>
<td>200 °F (93 °C)</td>
<td>150 °F (65 °C)</td>
<td>C</td>
</tr>
</tbody>
</table>

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. Part number shown is the base part number. For complete part number, refer to current Viking price list schedule.
4. Where a dash (-) is shown in the Finish suffix designation, insert the desired Temperature Rating suffix. See example above.
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**

**Mirage® Quick Response ELO Concealed Pendent Sprinkler VK469**

Maximum 175 PSI (12 bar) WWP

<table>
<thead>
<tr>
<th>Sprinkler Base Part Number¹</th>
<th>SIN</th>
<th>NPT Thread Size</th>
<th>Nominal K-Factor</th>
<th>Listings and Approvals³ (Refer also to Design Criteria.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inch</td>
<td>mm</td>
<td>U.S.</td>
<td>metric²</td>
</tr>
<tr>
<td>15764A</td>
<td>3/4&quot;</td>
<td>20</td>
<td>11.2</td>
<td>161.3</td>
</tr>
<tr>
<td>15764JN²</td>
<td>3/4&quot;</td>
<td>20</td>
<td>11.2</td>
<td>161.3</td>
</tr>
</tbody>
</table>

**Sprinkler Temperature Ratings**

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

**Cover Plate Assembly Temp. Ratings⁶**

- X - 135 °F (57 °C) and 165 °F (74 °C)
- Y - 165 °F (74 °C)

**Finishes of the Cover Plate Assembly⁷**

1. Polished Chrome, Painted White, Painted Ivory, or Painted Black

**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 listings and approvals available at the time of printing. Other approvals may be in process. Check with the manufacturer for any additional approvals.
4. Listed by Underwriter’s Laboratories for use in the U.S. and Canada.
6. The 135 °F (57 °C) cover has an orange label. The 165 °F (74 °C) cover has a white label.
7. Standard painted finishes consist of Polyester Baked Enamel. Other paint colors are available on request with the same listings as the standard paint colors. Listings and approvals apply for any paint manufacturer. Contact Viking for additional information.

**NOTE:** Custom colors are indicated on a label inside the cover assembly. Refer to Figure 1.

**DESIGN CRITERIA**

(Also refer to the Approval Chart.)

**cULus Listing Requirements:**

Mirage® Quick Response ELO Concealed Pendent Sprinkler VK469 is cULus Listed for installation in accordance with the latest edition of NFPA 13 for standard coverage pendent spray sprinklers as indicated below:

- Designed for use in hazard occupancies up to and including Ordinary Hazard, Group II with a minimum operating pressure of 7 PSI (0.5 bar).
- This sprinkler is NOT listed for storage applications and cannot be used for the protection of storage.
- Protection areas and maximum spacing shall be in accordance with the tables provided in NFPA 13. Maximum spacing allowed is 15 ft. (4.6 m).
- Minimum spacing allowed is 6 ft. (1.8 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 obstruction rules contained in NFPA 13 for standard coverage pendent spray sprinklers must be followed.

**NOTE:** Concealed sprinklers must be installed in neutral or negative pressure plenums only.

**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.
**Sprinkler and Adapter Assembly**
- Protective cap removed
- Use wrench 15466**

**Step 1:**
Carefully slide the wrench sideways around the deflector and pins

**Sprinkler Wrench**
Part No. 15467W/B**

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

**2-3/4” (70 mm) to 2-7/8” (73 mm)**
Diameter opening required in the ceiling.

**IMPORTANT:**
- NEVER install the sprinkler by applying the installation wrench across the frame arms.
- DO NOT overtighten.
- DO NOT apply more than 25 ft-lbs of torque.
- Use only the designated sprinkler wrenches, Part Numbers 15467W/B** or 15466**.
- A leak tight seal should be achieved by turning the sprinkler clockwise 1 to 1-1/2 turns beyond finger tight.

**Figure 2:** Sprinkler Installation and Proper Wrench Usage
**A 1/2” ratchet is required (Not available from us.)**

**NOTE:**
Upon sprinkler activation, the deflector descends to approximately 1-3/16” (30 mm) below the sprinkler body.

**Figure 3:** Sprinkler Installation Dimensions

3/4” (20 mm) NPT

2-3/4” (70 mm)

3” (76 mm)

2-1/2” (64 mm)

Maximum

Minimum

**Form No. F_120508     20.06.26     Rev 20.1**
Replaces Form No. F_120508 Rev 19.1
(Added cover plate options.)