1. DESCRIPTION

Viking Mirage® Quick Response Extended Coverage Light Hazard ELO Concealed Pendent Sprinkler VK636 is a thermosensitive solder link spray sprinkler designed for installation on concealed pipe systems where the appearance of a smooth ceiling is desired. The 11.2K sprinkler meets Light Hazard density requirements at lower pressures than 5.6K or 8.0K sprinklers. The fusible operating element and special deflector characteristics meet the challenges of quick response extended coverage standards.

The sprinkler is pre-assembled with a threaded adapter for installation with a low-profile cover assembly that provides up to ½” (12.7 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 reinstated, allowing temporary removal of ceiling panels without taking the sprinkler system out of service or removing the sprinkler.

2. LISTINGS AND APPROVALS

- **cULus Listed:** Category VNIV

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

3. TECHNICAL DATA

- **Specifications:**
  - Available since 2010.
  - 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” 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.

- **Patents Pending**

- **Material Standards:**
  - Sprinkler Body: Brass UNS-C84400
  - Deflector: Brass UNS-C23000 or 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
  - Deflector Carrier: Brass UNS-C84400 or QM Brass
  - 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:** Refer to Tables 1 and 2 (Also refer to the current Viking price list.)

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 Model VK636 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 1: SPRINKLER ORDERING INFORMATION

<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>NPT Inch</td>
<td>BSPT mm</td>
<td>Description</td>
</tr>
<tr>
<td>VK636</td>
<td>16102</td>
<td>3/4</td>
<td>–</td>
<td>Brass</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Accessories**

**Sprinkler Wrenches and tools (see Figure 1):**
A. Heavy Duty Part Number: 15467W/B (available since 2009)
B. Head Cabinet Wrench Part Number: 15466 (available since 2009)
C. Optional Concealed Cover Plate Installer Tool Part Number: 14867 (available since 2007)

**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. Requires a ½” ratchet (not available from Viking).
4. Also optional for removal of the protective cap. Ideal for sprinkler cabinets.
5. The installer tool is for push-on style cover plates only.
## 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>Base Part Number</th>
<th>Size Inch (mm)</th>
<th>Type</th>
<th>Base Part Number</th>
<th>Size Inch (mm)</th>
<th>Type</th>
<th>Description</th>
<th>Suffix</th>
</tr>
</thead>
<tbody>
<tr>
<td>15765</td>
<td>3-5/16 (84)</td>
<td>Round</td>
<td>23495</td>
<td>3-5/16 (84)</td>
<td>Round</td>
<td>Polished Chrome</td>
<td>F</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Painted White</td>
<td>M-/W</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Painted Black</td>
<td>M-/B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Painted Ivory</td>
<td>M-/I</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>165 °F (74 °C)</td>
<td>100 °F (38 °C)</td>
<td>A</td>
</tr>
<tr>
<td>165 °F (74 °C)</td>
<td>Ordinary</td>
<td>165 °F (74 °C)</td>
<td>100 °F (38 °C)</td>
<td>C</td>
</tr>
<tr>
<td>165 °F (74 °C)</td>
<td>Intermediate</td>
<td>205°F (96 °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.

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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.
## TECHNICAL DATA

**MIRAGE® QR EXTENDED COVERAGE LIGHT HAZARD ELO CONCEALED PENDENT SPRINKLER VK636 (K11.2)**

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 [link](www.vikinggroupinc.com)

### Sprinkler Base Part Number

<table>
<thead>
<tr>
<th>NPT Thread Size</th>
<th>Nominal K-Factor</th>
<th>Maximum Water Working Pressure</th>
<th>Overall Length (Sprinkler Body)</th>
</tr>
</thead>
<tbody>
<tr>
<td>inches mm</td>
<td>U.S.</td>
<td>metric²</td>
<td>inches mm</td>
</tr>
<tr>
<td>16102A</td>
<td>3/4</td>
<td>20</td>
<td>11.2</td>
</tr>
</tbody>
</table>

### Approval Chart

**Quick Response Extended Coverage Light Hazard ELO Concealed Pendent Sprinkler VK636**

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

**Cover Assembly Temperature Ratings**
- W - 135 °F (57 °C) or 165 °F (74 °C) cover 15765 or 23495
- X - 165 °F (74 °C) cover 15765 or 23495

**Cover Plate Finishes**
- 1 - Polished Chrome, Painted White, Painted Ivory, or Painted Black

### Coverage Limitations

- 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.

### Notes
- Custom colors are indicated on a label inside the cover assembly. Refer to Figure 1.

### Design Criteria

**cULus Listing Requirements:** Quick Response Extended Coverage Light Hazard ELO Concealed Pendent Sprinkler VK636 is cULus Listed 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 page 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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**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. 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. Listed by Underwriter’s Laboratories, Inc. for use in the U.S. and Canada.
6. cULus Listings are limited to Light Hazard occupancies with smooth, flat, horizontal ceilings only.
7. Meets New York City requirements, effective July 1, 2008.
8. Painted finish consists of Polyester Baked Enamel. Other paint colors are available on request with the same listings as the standard paint colors.

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

The MIRAGE® QR EXTENDED COVERAGE LIGHT HAZARD ELO CONCEALED PENDENT SPRINKLER VK636 (K11.2) TECHNICAL DATA

Figure 2: Sprinkler Installation and Correct Use of Wrenches

Step 1: Carefully slide the wrench sideways around the deflector and pins. Step 2: Carefully press the wrench upward and turn slightly to ensure engagement with the sprinkler wrench flats.

NEVER install the sprinkler by applying the installation wrench across the frame arms. DO NOT overtighten. Use only the designated sprinkler wrench, Viking Part Number 15467W/B or 15466.

DO NOT apply more than 25 ft. lbs. of torque. A leak tight seal should be achieved by turning the sprinkler clockwise 1 to 1-1/2 turns beyond finger tight.

Figure 3: Sprinkler Dimensions and Cover Installation

Note: Upon sprinkler activation, the deflector descends to approximately 1-1/16" (28 mm) below the sprinkler body.

Replaces Form No. F_121009, December 6, 2012 (Added cover plate option.)

Replaces Form No. F_121009 Rev P65 (Added cover plate options.)