1. DESCRIPTION
The Viking MicrofastHP® Quick Response Fusible Element Pendent High Pressure Sprinkler VK343 is a small, thermosensitive, solder link spray sprinkler available with various finishes and temperature ratings to meet design requirements. The special Polyester and Electroless Nickel PTFE (ENT) 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

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

3. TECHNICAL DATA

Specifications:
- Minimum Operating Pressure: 7 psi (0.5 bar)
- Rated to 250 psi (17 bar) water working pressure
- Factory tested hydrostatically to 500 psi (34.5 bar)
- Thread size: 1/2” NPT, 15 mm BSPT
- Nominal K-Factor: 2.8 U.S. (40.3 metric*)
- Overall Length: 2-3/16” (56 mm)

*As ULus Listing, FM Approval, and NFPA 13 installs require a minimum of 7 psi (0.5 bar). The minimum operating pressure for LPCB and CE Approvals ONLY is 5 psi (0.35 bar).

Material Standards:
- Frame Casting: Brass UNS-C84400
- Deflector: Brass UNS-C26000
- Bushing: Brass UNS-C36000
- 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

For ENT Coated Sprinklers:
- Belleville Spring-Exposed, Screw and Pip Cap ENT Plated

Ordering Information: (Also refer to the current Viking price list.)
Order Viking MicrofastHP® Quick Response Fusible Element Pendent Sprinkler VK343 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, 205 °F (96 °C) = E, and 280 °F (138 °C)

For example, sprinkler VK343 with a 1/2” NPT thread, Brass finish and a 165 °F (74 °C) temperature rating = Part No.13964AB

Available Finishes And Temperature Ratings: Refer to Table 1.
Accessories: (Also refer to the Viking website.)
Sprinkler Wrenches (See Figure 1):
A. Standard Wrench: Part No. 21475M/B (available since 2017).
B. Wrench for Recessed Pendent Sprinklers: Part No. 13655W/B** (available since 2006)
C. Optional Protective Sprinkler Cap Remover/Escutcheon Installer Tool*** Part No. 15915 (available since 2010)

**A ½” ratchet is required (not available from Viking).
***Allows use from the floor by attaching a length of 1” diameter CPVC tubing to the tool. Ideal for sprinkler cabinets. Refer to Bulletin F_051808.
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 MicrofastHP® Quick Response Pendent High Pressure Sprinkler VK343 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: Sprinkler Wrenches

A

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.
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>
<tr>
<td>High</td>
<td>280 °F (138 °C)</td>
<td>225 °F (107 °C)</td>
<td>Blue</td>
</tr>
</tbody>
</table>

Sprinkler Finishes: Brass, Chrome, White Polyester⁴, Black Polyester⁴, and ENT³

Corrosion Resistant Sprinkler Coatings: ENT³

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 The corrosion resistant coatings have passed the standard corrosion test required by the approving agencies indicated in the Approval Chart(s). 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.
⁴ 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.

Sprinkler wrench 13655W/B** for recessed pendent sprinklers

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

Carefully slide the wrench sideways around the protective cap, ensuring engagement with the sprinkler wrench flats.

Figure 2: Wrench 13655W/B for Recessed Pendent Sprinklers
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)

**The Viking MicrofastHP® Quick Response Pendent High Pressure Sprinkler VK343**  
Maximum 250 PSI (17 Bar) WWP

<table>
<thead>
<tr>
<th>Base Part Number</th>
<th>SIN</th>
<th>Sprinkler Style</th>
<th>Thread Size</th>
<th>Nominal K-Factor</th>
<th>Overall Length</th>
<th>Listings and Approvals (Refer also to Design Criteria.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>13964³ VK343</td>
<td>Pendent</td>
<td>1/2” 15 mm</td>
<td>2.8 40.3</td>
<td>2-1/4 58</td>
<td>cULus³</td>
<td></td>
</tr>
<tr>
<td>20994 VK343</td>
<td>Pendent</td>
<td>1/2” 15 mm</td>
<td>2.8 40.3</td>
<td>2-1/4 58</td>
<td>A1X, B1Y, A2X, B2Z</td>
<td></td>
</tr>
</tbody>
</table>

#### Approved Temperature Ratings

- **A** - 165 °F (74 °C), 205 °F (96 °C), and 280 °F (138 °C)
- **B** - 165 °F (74 °C) and 205 °F (96 °C)

#### Approved Finishes

1. Brass, Chrome, White Polyester,
2. Black Polyester
3. ENT

#### Approved Escutcheons

X - Standard surface-mounted escutcheon
Y - Standard surface-mounted escutcheon or recessed with the Viking Micromatic® Model E-1 or E-2 Recessed Escutcheon
Z - Standard surface-mounted escutcheon or recessed with the Viking Micromatic® Model E-1 Recessed Escutcheon

**Footnotes**

1. Base part number shown. For complete part number, refer to Viking's current price 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 table shows the listings and approvals available at the time of printing. Other approvals may be in process.
4. Listed by Underwriters Laboratories Inc. for use in the U.S. and Canada.
5. Other colors are available on request with the same Listings and Approvals as the standard colors.
6. The sprinkler orifice is bushed.
7. cULus Listed as corrosion resistant.

### DESIGN CRITERIA - UL

(Also refer to Approval Chart 1 above.)

**cULus Listing Requirements:**

Quick Response Fusible Element Pendent Sprinkler VK343 is cULus Listed as indicated in the Approval Chart for installation in accordance with the latest edition of NFPA 13 for standard spray sprinklers.

- Small orifice sprinklers are limited to Light Hazard where allowed by the installation standards being applied, with hydraulically calculated wet systems only
- The sprinkler installation rules contained in NFPA 13 for standard spray pendent 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.
Figure 3: Sprinkler Dimensions with a Standard Escutcheon

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