1. DESCRIPTION
The Viking Microfast® Quick Response Upright Fusible Element Sprinkler VK351 is a small, thermostatic, solder link spray sprinkler available in several different finishes and temperature ratings to meet design requirements. The special Polyester, PTFE, 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 Chart(s).

2. LISTINGS AND APPROVALS
- cULus Listed: Category VNIV
- FM Approved: Classes 2002 and 2020

Refer to the Approval Chart(s) and Design Criterion for listing and approval requirements that must be followed.

3. TECHNICAL DATA
Specifications:
- Minimum Operating Pressure: 7 psi (0.5 bar)*
- Maximum Working Pressure: 175 psi (12 bar) wwp.
- Factory tested hydrostatically to 500 psi (34.5 bar)
- Testing: U.S.A. Patent No. 4,831,870
- Thread size: 1/2” NPT, 15 mm BSPT, 3/4” NPT, 20 mm BSPT
- Nominal K-factor: 8.0 U.S. (115.2 metric**)
- Overall Length: 2-5/16” (58 mm)

Material Standards:
- Frame Casting: Brass UNS-C84400 or QM Brass
- Deflector: Copper UNS-C19500 or Brass UNS-C23000
- 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 PTFE Coated Sprinklers:
- Belleville Spring-Exposed, Screw-Nickel Plated, Pip Cap-PTFE Coated

For Polyester Coated Sprinklers:
- Belleville Spring-Exposed

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

Ordering Information:
Order Viking Microfast® Quick Response Fusible Element Upright Sprinkler VK351 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, Black PTFE = N, and ENT = JN

Temperature Suffix: 165 °F (74 °C) = C, 205 °F (96 °C) = E, and 280 °F (138 °C) = JN

For example, sprinkler VK351 with a 3/4” NPT thread, Brass finish and a 165 °F (74 °C) temperature rating = Part No. 18275AB

Available Finishes And Temperature Ratings: Refer to Table 1.

Accessories:
- (Also refer to the current Viking price list.)

Sprinkler Wrench: Standard Wrench: Part No. 21475M/B (available since 2017)

Sprinkler Cabinets:
- A. Six-head capacity: Part No. 01724A (available since 1971)
- B. Twelve-head capacity: Part No. 01725A (available since 1971)

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 Microfast® Quick Response Upright Fusible Element Sprinkler VK351 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: AVAILABLE SPRINKLER TEMPERATURE RATINGS AND FINISHES

<table>
<thead>
<tr>
<th>Sprinkler Temperature Classification</th>
<th>Sprinkler Nominal Temperature Rating</th>
<th>Maximum Ambient Ceiling Temperature</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 Polyester, Black Polyester, Black PTFE, and ENT³⁴

Corrosion Resistant Sprinkler Coatings: ENT³⁴

**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 cULus Listed as corrosion resistant.

5 For automatic sprinklers, the coatings indicated are applied to the exposed exterior surfaces only. Note that the spring is exposed on sprinklers with Polyester and PTFE coatings.
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)**  
Microfast® Quick Response Fusible Element Upright Sprinkler VK351  
Maximum 175 PSI (12 bar) WWP

<table>
<thead>
<tr>
<th>Base Part Number</th>
<th>SIN</th>
<th>Thread Size</th>
<th>Nominal K-factor</th>
<th>Overall Length</th>
<th>Listings and Approvals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>NPT  BSPT</td>
<td>U.S.  metric²</td>
<td>Inches  mm</td>
<td>cULus  VdS  LPCB  CE</td>
</tr>
<tr>
<td>18272³</td>
<td>VK351</td>
<td>1/2’’  15 mm</td>
<td>8.0  115.2</td>
<td>2-5/16  59</td>
<td>A1, A2  --  --  --</td>
</tr>
<tr>
<td>18275</td>
<td>VK351</td>
<td>3/4’’  20 mm</td>
<td>8.0  115.2</td>
<td>2-5/16  59</td>
<td>A1, A2  --  --  --</td>
</tr>
<tr>
<td>13966⁴</td>
<td>VK351</td>
<td>1/2’’  15 mm</td>
<td>8.0  115.2</td>
<td>2-5/16  59</td>
<td>A1   --  --  --</td>
</tr>
<tr>
<td>13976</td>
<td>VK351</td>
<td>3/4’’  20 mm</td>
<td>8.0  115.2</td>
<td>2-5/16  59</td>
<td>A1   --  --  --</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Base Part Number</th>
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<td>A1   --  --  --</td>
</tr>
</tbody>
</table>

**Approved Temperature Ratings**
A - 165 °F (74 °C), 205 °F (96 °C), 280 °F (138 °C)

**Approved Finishes**
1 - Brass, Chrome, White Polyester⁵, Black Polyester⁵, and Black PTFE
2 - ENT⁷

**Footnotes**
1 Base part number is 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. Check with the manufacturer for any additional approvals.
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 1/2’’ NPT Large Orifice Sprinkler is Listed and Approved for retrofit only.
⁷ cULus Listed as corrosion resistant.

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**DESIGN CRITERIA - UL**  
(Also refer to Approval Chart 1 above.)

**cULus Listing Requirements:**
Quick Response Fusible Element Upright Sprinkler VK351 is cULus Listed as indicated in the Approval Chart for installation in accordance with the latest edition of NFPA 13 for standard spray sprinklers.

- Designed for use in Light and Ordinary Hazard occupancies.
- The sprinkler installation rules contained in NFPA 13 for standard spray upright 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.
**TECHNICAL DATA**

**MICROFAST® QUICK RESPONSE FUSIBLE ELEMENT UPRIGHT SPRINKLER VK351 (K8.0)**

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.

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### Approval Chart 2 (FM)

**Microfast® Quick Response Fusible Element Upright Sprinkler VK351**

Maximum 175 PSI (12 bar) WWP

<table>
<thead>
<tr>
<th>Base Part Number</th>
<th>SIN</th>
<th>Thread Size</th>
<th>Nominal K-factor</th>
<th>Overall Length</th>
<th>FM Approvals</th>
</tr>
</thead>
<tbody>
<tr>
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<td>VK351</td>
<td>3/4&quot;</td>
<td>8.0</td>
<td>2-5/16</td>
<td>A1, A2</td>
</tr>
<tr>
<td>13976</td>
<td>VK351</td>
<td>3/4&quot;</td>
<td>8.0</td>
<td>2-5/16</td>
<td>A1</td>
</tr>
</tbody>
</table>

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

13976 VK351 3/4" 20 mm 8.0 115.2 2-5/16 59 A1

### Approved Temperature Ratings

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

### Approved Finishes

1 - Brass, Chrome, White Polyester, Black Polyester, and ENT

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**Footnotes**

1. Base part number is 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 FM Approvals available at the time of printing. Check with the manufacturer for any additional approvals.
4. Other colors are available on request with the same Approvals as the standard colors.

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**DESIGN CRITERIA - FM**

(Also refer to Approval Chart 2 above.)

**FM Approval Requirements:**

The Microfast® Quick Response Fusible Element Upright Sprinkler VK351 is FM Approved as a quick response Non-Storage upright sprinkler 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, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.