1. DESCRIPTION
The Viking Microfast® Quick Response Upright Fusible Element Sprinkler VK328 is a small, thermosensitive, solder link spray sprinkler available in several different finishes and temperature ratings to meet design requirements. The special Polyester, Polytetrafluoroethylene (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

\[\text{cULus Listed: Category VNIV}\]

Refer to Approval Chart and Design Criteria for cULus Listing 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
- Nominal K-Factor: 4.2 U.S. (57 metric**)
- Overall Length: 2-3/16” (56 mm)

*\text{cULus 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-C23000 or Copper UNS-C19500
- Bushing: Brass UNS-C36000
- Fusible Element Assembly: Nickel Alloy
- Trigger and Support: UNS-S31603
- 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-ENT Plated, Pip Cap-ENT Coated

**Ordering Information:**
Order Viking Microfast® Quick Response Fusible Element Upright Sprinkler VK328 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)

For example, sprinkler VK328 with a 1/2” NPT thread, Brass finish and a 165 °F (74 °C) temperature rating = Part No. 13958AB

Available Finishes And Temperature Ratings: Refer to Table 1.

**Accessories:**
- 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 VK328 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>
<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 ENT3,4
Corrosion Resistant Sprinkler Coatings: ENT3,4

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. 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.
**Approval Chart 1 (UL)**

**Microfast® Quick Response Fusible Element**

**Upright Sprinkler VK328**

**Maximum 175 PSI (12 bar) WWP**

<table>
<thead>
<tr>
<th>Base Part Number¹</th>
<th>SIN</th>
<th>Thread Size</th>
<th>Nominal K-Factor</th>
<th>Overall Length</th>
<th>Listings and Approvals³</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>NPT BSPT</td>
<td>U.S.</td>
<td>metric²</td>
<td>cULus</td>
</tr>
<tr>
<td>13958²,³</td>
<td>VK328</td>
<td>1/2&quot;</td>
<td>15 mm</td>
<td>4.2</td>
<td>57</td>
</tr>
<tr>
<td>21270⁴</td>
<td>VK328</td>
<td>1/2&quot;</td>
<td>15 mm</td>
<td>4.2</td>
<td>57</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 Polyester, Black Polyester, and Black PTFE

2 - ENT

**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 us in the U.S. and Canada

5 Other colors are available on request with the same Listings and Approvals as the standard colors.

6 Listings and Approvals limited to Light Hazard Occupancies where allowed by the installation standards being applied, with hydraulically calculated wet systems only.

7 The sprinkler orifice is bushed.

8 cULus Listed as corrosion resistant.

---

**DESIGN CRITERIA - UL**

(Also refer to Approval Chart 1 above.)

**cULus Listing Requirements:**

Quick Response Fusible Element Upright Sprinkler VK328 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. Exception: 4.2K sprinklers may be installed on hydraulically calculated dry pipe systems where piping is corrosion resistant or internally galvanized.
- 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, FM Global, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.