1. DESCRIPTION
The Viking Microfast® Quick Response Conventional Sprinkler VK310 is a small, thermostensitive, glass-bulb spray sprinkler available in several different finishes, temperature ratings, and K-factors to meet design requirements. The special Polyester coatings can be used in decorative applications where colors are desired. In addition, these coatings have been investigated for installation in corrosive atmospheres and are listed as corrosion resistant as indicated in the Approval Charts.

2. LISTINGS AND APPROVALS
- cULus Listed: Category VNIV
- LPCB Approved: Certificate 096e/04
- CE Certified: Standard EN 12259-1, EC-Certificate of constancy of performance 0832-CPR-S0021
- MED Certified: Standard EN 12259-1, EC-certificate of conformity 0832-MED-1003

NOTE: Other International approval certificates are available upon request. Refer to Approval Chart 1 and Design Criteria for cULus Listing requirements.

3. TECHNICAL DATA
Specifications:
- Minimum Operating Pressure: 7 psi (0.5 bar)*
- Maximum Working Pressure: 175 psi (12 bar)
- Factory tested hydrostatically to 500 psi (34.5 bar)
- Testing: U.S.A. Patent No. 4,831,870
- Thread size: 1/2” (15 mm) NPT
- Nominal K-Factor: 5.6 U.S. (80.6 metric**)
- Glass-bulb fluid temperature rated to -65 °F (-55 °C)
- Overall Length: 2-3/16” (56 mm)

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

Material Standards:
- Frame Casting: Brass UNS-C84400 or QM Brass
- Deflector: Brass UNS-C26000
- Bulb: Glass, nominal 3 mm diameter
- Belleville Spring Sealing Assembly: Nickel Alloy, coated on both sides with PTFE Tape
- Screw: Brass UNS-C36000
- Pip Cap and Insert Assembly: Copper UNS-C11000 and Stainless Steel UNS-S30400

For Polyester Coated Sprinklers:
Belleville Spring-Exposed

Ordering Information: (Also refer to the current Viking price list.)
Order Microfast® Quick Response Conventional Sprinkler VK310 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, and Black Polyester = M/B
Temperature Suffix (°F/°C): 135°/57° = A, 155°/68° = B, 175°/79° = D, 200°/93° = E, and 286°/141° = G

For example, sprinkler VK310 with a 1/2” thread, Brass finish and a 155 °F/68 °C temperature rating = Part No. 19391AB

Available Finishes And Temperature Ratings: Refer to Table 1.

Accessories: (Also refer to the Viking website.)
Sprinkler Wrench: Standard Wrench: Part No. 10896W/B (available since 2000)
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 liquid in the glass bulb expands, causing the glass to shatter, releasing the pip cap 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 Microfast® Quick Response Conventional Sprinkler VK310 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(^1)</th>
<th>Maximum Ambient Ceiling Temperature(^2)</th>
<th>Bulb Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ordinary</td>
<td>135 °F (57 °C)</td>
<td>100 °F (38 °C)</td>
<td>Orange</td>
</tr>
<tr>
<td>Ordinary</td>
<td>155 °F (68 °C)</td>
<td>100 °F (38 °C)</td>
<td>Red</td>
</tr>
<tr>
<td>Intermediate</td>
<td>175 °F (79 °C)</td>
<td>150 °F (65 °C)</td>
<td>Yellow</td>
</tr>
<tr>
<td>Intermediate</td>
<td>200 °F (93 °C)</td>
<td>150 °F (65 °C)</td>
<td>Green</td>
</tr>
<tr>
<td>High</td>
<td>286 °F (141 °C)</td>
<td>225 °F (107 °C)</td>
<td>Blue</td>
</tr>
</tbody>
</table>

Sprinkler Finishes: Brass, Chrome, White Polyester, and Black Polyester
Corrosion-Resistant Coatings\(^3\): White Polyester, and Black Polyester

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 on Approval Chart 1. 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 coatings indicated are applied to the exposed exterior surfaces only. Note that the spring is exposed on sprinklers with Polyester coatings.
## Approval Chart 1 (UL)

<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 Approvals¹ (Refer also to Design Criteria)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>NPT</td>
<td>BSP</td>
<td>U.S.</td>
<td>metric²</td>
</tr>
<tr>
<td>19391</td>
<td>VK310</td>
<td>1/2&quot;</td>
<td>15 mm</td>
<td>5.6</td>
<td>80.6</td>
</tr>
<tr>
<td>06766B</td>
<td>VK310</td>
<td>1/2&quot;</td>
<td>15 mm</td>
<td>5.6</td>
<td>80.6</td>
</tr>
</tbody>
</table>

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

- 06766B VK310 1/2" 15 mm 5.6 80.6 2-3/16 56 A1 A1 B1⁷ B1⁸

### Approved Temperature Ratings

- **A** - 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), and 286 °F (141°C)
- **B** - 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), and 286 °F (141°C)

### Approved Finishes

- 1 - Brass, Chrome, White Polyester⁵, and Black Polyester⁶

### 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. cULus Listed as corrosion resistant.
6. Other colors are available on request with the same Listings and Approvals as the standard colors.
8. MED Certified, Standard EN 12259-1, EC-certificate 0832-MED-1003.

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## DESIGN CRITERIA - UL

(Also refer to Approval Chart 1)

### cULus Listing Requirements:

Microfast® Quick Response Conventional Sprinkler VK310 is cULus Listed as indicated in Approval Chart 1 for installation in accordance with the latest edition of NFPA 13 for old style (conventional) sprinklers.

- Designed for use in Light and Ordinary Hazard occupancies.
- The sprinkler installation rules contained in NFPA 13 for standard spray old style (conventional) 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.