1. DESCRIPTION
The Viking Standard Response Conventional VK1181 Sprinklers are small, thermosensitive, glass-bulb spray sprinklers available in several different finishes, temperature ratings, and K-factors to meet design requirements. The special Polyester, and Electroless Nickel Polytetrafluoroethylene (ENT), coatings can be used in decorative applications where colors are desired. In addition, these coatings have been investigated for installation in corrosive environments and are listed as indicated in the Approval Chart.
Standard Response sprinklers may be ordered and/or used as open sprinklers (glass bulb and pip cap assembly removed) on deluge systems. Refer to Ordering Information.

2. LISTINGS AND APPROVALS*

UL Listed: Category VNIV

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

3. TECHNICAL DATA
Specifications:
- Minimum Operating Pressure: 7 psi (0.5 bar)
- Rated to: 175 PSI (12 bar)
- Factory tested hydrostatically to 500 psi (34.5 bar).
- Thread size: 1/2" NPT or 15 mm BSPT
- Nominal K-factor: 5.6 U.S. (80.6 metric**)
- Glass-bulb fluid temperature rated to -65 °F (-55 °C)

**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.

Material Standards:
- Sprinkler Body: Brass CW602N, UNS-C84400 or QM Brass
- Deflector: Stainless Steel UNS S30400
- Pip Cap Shell - Stainless Steel UNS-S44400
- Pip Cap Disc - Stainless Steel UNS-S30100
- Belleville Spring - Nickel Alloy
- Pip Cap Seal - Polytetrafluoroethylene (PTFE)
- Compression Screw: Brass CW612N, CW508L, UNS-C36000 or UNS-C26000
- Shipping Cap: Polyethylene
- Bulb: Glass, nominal 5 mm diameter

Available Finishes and Temperature Ratings:

<table>
<thead>
<tr>
<th>Finish</th>
<th>Brass</th>
<th>Chrome</th>
<th>White Polyester</th>
<th>Black Polyester</th>
<th>ENT</th>
<th>--</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suffix</td>
<td>A</td>
<td>F</td>
<td>M-W</td>
<td>M-B</td>
<td>JN</td>
<td>--</td>
</tr>
<tr>
<td>Temperature</td>
<td>135 °F (57 °C)</td>
<td>155 °F (68 °C)</td>
<td>175 °F (79 °C)</td>
<td>200 °F (93 °C)</td>
<td>286 °F (141 °C)</td>
<td>Open</td>
</tr>
</tbody>
</table>

Ordering Information: (Refer to Table 1.)

4. INSTALLATION
Refer to appropriate NFPA and/or any other applicable 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 Model VK1181 Sprinkler is available through a network of domestic and international distributors. See the web site for the closest distributor or contact Viking.

8. GUARANTEE
For details of warranty, refer to the current list price schedule or contact us directly.
TABLE 1: ORDERING INFORMATION
Instructions: Using the sprinkler base part number,
(1) add the suffix for the desired Finish
(2) add the suffix for the desired Temperature Rating.

<table>
<thead>
<tr>
<th>Sprinkler Base Part No.</th>
<th>Size</th>
<th>1: Finishes</th>
<th>2: Temperature Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NPT</td>
<td>BSPT</td>
<td>Description</td>
</tr>
<tr>
<td>22100</td>
<td>1/2</td>
<td>--</td>
<td>Brass</td>
</tr>
<tr>
<td>22106</td>
<td>--</td>
<td>15</td>
<td>Chrome</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>White Polyester</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Black Polyester</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ENT 3,4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OPEN</td>
</tr>
</tbody>
</table>

Example: 22100MBW = VK1181 with White Polyester Finish and 155 °F (68 °C) Nominal temperature rating. This sprinkler is to be installed into an area with a maximum ambient temperature of 100 °F (38 °C) meaning if the area will experience temperatures above the maximum ambient rating, you shall use a higher temperature-rated sprinkler.

Accessories
Sprinkler Wrenches (see Figure 1):
A. Installer Wrench: Part No. 22055
B. Cabinet Wrench: Part No. 20901M/B
C. Straight Wrench: Part No. 22940MB
Sprinkler Cabinet:
A. Up to 6 sprinklers: Part number 01724A
B. 6-12 Sprinklers: Part number 01725A

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. UL Listed as corrosion resistant.
4. The corrosion resistant and corrosion proofing coatings have passed the standard corrosion test required by the approving agencies indicated in the Approval Chart. 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 ENT coating is applied to all exposed exterior surfaces, including the waterway.
**DESIGN CRITERIA - UL**

**cULus Listing Requirements:**
The Viking Standard Response Conventional Sprinkler VK1181 is cULus Listed as indicated in the Approval Chart for installation in accordance with the latest edition of NFPA 13 for old style (conventional) sprinklers.
- Designed for use in Light, Ordinary, and Extra 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 or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.

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### APPROVAL CHART

**Standard Response Conventional Sprinkler VK1181 K5.6 (80.6 metric)**

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

<table>
<thead>
<tr>
<th>Sprinkler Base Part Number¹</th>
<th>Thread Size</th>
<th>Listings and Approvals²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NPT Inch</td>
<td>BSPT</td>
</tr>
<tr>
<td>22100</td>
<td>1/2</td>
<td>--</td>
</tr>
<tr>
<td>22106</td>
<td>--</td>
<td>15</td>
</tr>
</tbody>
</table>

**Approved Temperature Rating Codes:**

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

**Approved Finish Codes:**

- 1 = Brass, Chrome, White Polyester ³, Black Polyester ³, and ENT ⁴

**Footnotes**

1. Base Part number is shown. For complete part number, refer to current price schedule.
2. This table shows the listings and approvals available at the time of printing. Check with the manufacturer for any additional approvals.
3. Other colors are available upon request with the same Listings and Approvals as the standard colors.
4. cULus Listed as corrosion resistant.

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**Figure 3: Installation**

1. Slide the wrench around the protective cap.
2. Press the wrench downward to engage on the wrench flats.
3. Rotate the wrench clockwise to install the sprinkler.

**NOTE:** The sprinkler frame arms shall be parallel to the pipe.