1. DESCRIPTION
The MicromaticHP® Viking Standard Response Horizontal Sidewall High Pressure Sprinkler VK116 is a small thermosensitive glass bulb spray sprinkler available with various finishes and temperature ratings to meet design requirements. The special Polyester and PTFE 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 cULus listed as corrosion resistant as indicated in the Approval Chart.

2. LISTINGS AND APPROVALS

cULus Listed: Category VNIV
Refer to Approval Chart 1 and Design Criteria for 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)
Nominal K-Factor: 5.6 U.S. (80.6 metric*)
* 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.
Glass-bulb fluid temperature rated to -65 °F (-55 °C)
Overall Length: 2-11/16” (68 mm)

Material Standards:
Frame Casting: Brass UNS-C84400
Deflector: Copper UNS-C19500
Bulb: Glass, nominal 5 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 PTFE Coated Sprinklers: Belleville Spring-Exposed, Screw-Nickel Plated, Pip Cap-PTFE Coated
For Polyester Coated Sprinklers: Belleville Spring-Exposed

Ordering Information: (Also refer to the current Viking price list.)
Order Standard Response Sidewall High Pressure Sprinklers 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
For example, sprinkler VK116 with a 1/2” thread, Brass finish and a 155 °F / 68 °C temperature rating = Part No. 09849AB

Available Finishes And Temperature Ratings: Refer to Table 1.
Accessories: (Also refer to the Viking website.)
Sprinkler Wrenches:
A. Standard Wrench: Part No. 21475MB (available since 2017).
B. Wrench for recessed sprinklers with protective shields: Part No. 13655WB** (available since 2003)
   **A ½” ratchet is required (not available from Viking).

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 MicromaticHP® Viking Standard Response Horizontal Sidewall High Pressure Sprinkler VK116 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 Rating¹</th>
<th>Maximum Ambient Ceiling Temperature²</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>
<tr>
<td>Extra High</td>
<td>360 °F (182 °C)</td>
<td>300 °F (149 °C)</td>
<td>Mauve</td>
</tr>
</tbody>
</table>

Sprinkler Finishes: Brass, Chrome, White Polyester, Black Polyester, and ENT Corrosion-Resistant Coatings³: White Polyester, and Black Polyester in all temperature ratings. ENT in all temperature ratings except 135°F (57°C).

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. 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 and ENT coatings. For all ENT coated sprinklers, the waterway is coated.
DESIGN CRITERIA - UL
(Also refer to Approval Chart 1 above.)

cULus Listing Requirements:
The MicromaticHP® Viking Standard Response Horizontal Sidewall High Pressure Sprinkler VK116 is cULus Listed as indicated in the Approval Chart for installation in accordance with the latest edition of NFPA 13 for sidewall standard spray sprinklers.

- For use in Light and Ordinary Hazard occupancies only where allowed by the installation standards being applied.
- Locate the deflector 4” to 12” (102 mm to 305 mm) below the ceiling.
- Protection areas and maximum spacing shall be in accordance with the tables provided in NFPA 13.
- Minimum spacing allowed is 6 ft. (1.8 m).
- Align the top of the deflector parallel with the ceiling.
- Locate no less than 4” (102 mm) from end walls.
- Maximum distance from end walls shall be no more than one-half of the allowable distance between sprinklers. The distance shall be measured perpendicular to the wall.
- The sprinkler installation and obstruction rules contained in NFPA 13 for sidewall standard spray sprinklers must be followed.

IMPORTANT: Always refer to Bulletin Form No. F_091699 - Care and Handling of Sprinklers. Also refer to Form 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.
Figure 4: Horizontal Sidewall Sprinkler Dimensions with a Standard Escutcheon

Wall Opening Size:
2-5/16" (58.7 mm) minimum
2-1/2" (63.5 mm) maximum

Figure 5: Horizontal Sidewall Sprinkler Dimensions with the Model E-1 and E-2 Recessed Escutcheons

Wall Opening Size with the Model E-1 or E-2 Escutcheon:
2-5/16" (58.7 mm) minimum
2-1/2" (63.5 mm) maximum

Installed with a Micromatic Model E-1 Recessed Escutcheon

Installed with a Model E-2 Thread-on Recessed Escutcheon