1. DESCRIPTION
The Viking MicrofastHP® Quick Response Horizontal High Pressure Sidewall Sprinkler VK319 is a small thermosensitive glass bulb spray sprinkler available with various finishes and temperature ratings to meet design requirements. The special Polyester and Electroless Nickel PTFE (ENT) 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/approved as corrosion resistant as indicated in Approval Charts.

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)
Maximum Working Pressure: Sprinkler VK319 is rated for use with water working pressures ranging from the minimum 7 psi (0.5 bar) up to 250 psi (17 bar) for high-pressure systems. High-pressure (HP) sprinklers can be identified by locating “250” stamped on the deflector.
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: 2-3/4” (68 mm)
Material Standards:
Frame Casting: Brass UNS-C84400
Deflector: Copper UNS-C19500
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: Copper UNS-C11000 and Stainless Steel UNS-S30400
Pip Cap Attachment: Brass UNS-C36000
For Polyester Coated Sprinklers: Belleville Spring-Exposed
For ENT Coated Sprinklers: Belleville Spring - Exposed, Screw and Pip cap - ENT plated.
Ordering Information: (Also refer to the current Viking price list.)
Order Viking MicrofastHP® Quick Response Horizontal High Pressure Sidewall Sprinkler VK319 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
Temperature Suffix (°F/°C): 135°/57° = A, 155°/68° = B, 175°/79° = D, 200°/93° = E, and 286°/141° = G
For example, sprinkler VK319 with a Brass finish and a 155 °F/68 °C temperature rating = Part No. 12282AB
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
   Viking MicrofastHP® Quick Response Horizontal High Pressure Sidewall Sprinkler VK319 are 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>
</tbody>
</table>

**Sprinkler Finishes:** Brass, Chrome, White Polyester, Black Polyester, and ENT

**Corrosion-Resistant Coatings³:** White Polyester, Black Polyester, and ENT

### 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. For ENT coated sprinklers, the waterway is coated. Note that the spring is exposed on sprinklers with Polyester and ENT coatings.

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**Step 1:** Carefully slide the wrench sideways around the deflector, ensuring engagement with the sprinkler wrench flats.

**Sprinkler wrench 13655WB** must be used for installing wax coated sprinklers.

**A 1/2” ratchet is required (not available from Viking)**

**Step 2:** Carefully press the wrench onto the sprinkler wrench flats.

**Figure 2:** Socket Wrench for Recessed Sprinklers 13655WB
## Approval Chart 1 (UL)

### MicrofastHP® Quick Response Horizontal Sidewall Sprinkler VK319

<table>
<thead>
<tr>
<th>Base Part Number</th>
<th>SIN</th>
<th>Maximum Pressure</th>
<th>Thread Size</th>
<th>Nominal K-Factor</th>
<th>Overall Length</th>
<th>Listings and Approvals</th>
</tr>
</thead>
<tbody>
<tr>
<td>12285</td>
<td>VK319</td>
<td>250 psi</td>
<td>1/2&quot;</td>
<td>15 mm</td>
<td>5.6</td>
<td>80.6</td>
</tr>
</tbody>
</table>

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

**Approved Finishes**

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

**Approved Escutcheons**

- W - Installed with standard surface-mounted escutcheons.
- X - Installed with standard surface-mounted escutcheons or recessed with the Viking Micromatic Model E-1, E-2, E-3, or G-1
- Z - Installed with standard surface-mounted escutcheons or recessed with the Viking Micromatic Model E-1

### Footnotes

1. Base part number 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. Other approvals may be in process.
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.

## DESIGN CRITERIA - UL

(Also refer to Approval Chart 1 above.)

**cULus Listing Requirements:**

Viking MicrofastHP® Quick Response Horizontal High Pressure Sidewall Sprinkler VK319 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.

- Designed for use in Light and Ordinary Hazard occupancies.
- 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 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.
Figure 3: Installation Dimensions with the Viking Standard Surface Mount

Wall Opening Size:
2-5/16" (59 mm) minimum
2-1/2" (64 mm) maximum

Figure 4: Installation Dimensions with Viking Model E-1 and E-2 Recessed Escutcheons

Wall Opening Size:
2-5/16" (59 mm) minimum
2-1/2" (64 mm) maximum

Installed with the Micromatic Model E-1 Recessed Escutcheon

Installed with the Threaded Model E-2 Recessed Escutcheon
Figure 5: Installation Dimensions with Viking Model G-1 Recessed Escutcheon

Wall opening size with the Model G-1 Escutcheon:
2-5/8” (66 mm) minimum
3-3/4” (95 mm) maximum

Adjustable Adapter Ring

Depth
1-1/16” (27 mm)

Adjustable Outer Cup

1/8” (3.2 mm)

2-5/8” (66 mm)

4” (102 mm)

1-1/16” (27 mm)

Maximum Recess:
1/2” (13 mm)

** A 1/2” ratchet is required (not available from Viking)

Step 2: Carefully press the wrench onto the sprinkler wrench flats.