1. DESCRIPTION
The Viking Microfast® Standard/Quick Response Extended Coverage Horizontal Sidewall HP Sprinkler VK612 is thermosensitive spray sprinklers available in several different finishes and temperature ratings to meet varying design requirements. The orifice design allows efficient use of available water supplies for hydraulically designed fire-protection systems. The glass bulb operating element and special deflector characteristics meet the challenges of quick response extended coverage standards.

The special Polyester and 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

- **cULus Listed:** Category VNIV

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

3. TECHNICAL DATA

**Specifications:**
- Minimum Operating Pressure: Refer to the Approval Chart.
- Maximum Working Pressure: 250 psi (17 bar) wwp.
- Factory tested hydrostatically to 500 psi (34.5 bar).
- Thread size: 1/2" (15 mm) NPT
- Nominal K-Factor: 5.6 U.S. (80.6 metric*)

  *Metric K-factor measurement shown is 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:**
- Sprinkler Frame: 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
- Compression Screw: Brass UNS-C36000
- Pip Cap and Insert Assembly: Copper UNS-C11000 and Stainless Steel UNS-S30400

For ENT Coated Sprinklers:
- Belleville Spring-Exposed, Screw and Pip Cap-ENT Coated
- For Polyester Coated Sprinklers: Belleville Spring-Exposed

**Ordering Information:** (Also refer to the current Viking price list.)

Order Sprinkler VK612 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:** 135 °F (57 °C) = A, 155 °F (68 °C) = B, 175 °F (79 °C) = D

For example, sprinkler VK612 with a Brass finish and a 155 °F (68 °C) temperature rating = Part No. 12295AB.

**Available Finishes And Temperature Ratings:** Refer to Table 1.

**Accessories:** (Also refer to the Viking website.)

**Sprinkler Wrenches:**
- A. Standard Wrench: Part No. 21475M/B (available since 2017)
- B. Socket Wrench for recessed sprinklers: Part No. 13655W/B** (available since 2006)

**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 bulb 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 Model VK612 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>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>
</tbody>
</table>

Available Sprinkler Finishes: Brass, Chrome, White Polyester, Black Polyester, and ENT
Corrosion Resistant Finish: 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 tests required by the approving agencies as 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 ENT automatic sprinklers, the waterway is coated. Note that the spring is exposed on sprinklers with ENT coatings.
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 coatings.
## Approval Chart

**Microfast® EC/QREC Horizontal Sidewall HP Sprinkler VK612**  
For Light Hazard Occupancies Only

<table>
<thead>
<tr>
<th>Sprinkler Base Part Number</th>
<th>SIN</th>
<th>NPT Thread Size</th>
<th>Nominal K-Factor</th>
<th>Maximum Water Working Pressure</th>
<th>Overall Length</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Inches</td>
<td>mm</td>
<td>U.S.</td>
<td>metric²</td>
</tr>
<tr>
<td>12295 VK612</td>
<td></td>
<td>1/2</td>
<td>15</td>
<td>5.6</td>
<td>80.6</td>
</tr>
</tbody>
</table>

**Sprinkler Base Part Number** | **SIN** | **Maximum Areas of Coverage** | **Minimum Water Supply Requirements** | **Listings and Approvals** | **cULus**
--- | --- | --- | --- | --- | ---
12295 VK612 | 16' Wide x 16' Throw (4.9 m x 4.9 m) | 26 gpm @ 21.6 psi (98.4 L/min @ 1.49 Bar) | B1W, B2Y |
12295 VK612 | 16' Wide x 18' Throw (4.9 m x 5.5 m) | 29 gpm @ 26.8 psi (109.8 L/min @ 1.85 Bar) | B1W, B2Y |
12295 VK612 | 16' Wide x 20' Throw (4.9 m x 6.1 m) | 32 gpm @ 32.7 psi (121.1 L/min @ 2.25 Bar) | B1W, B2Y |

### Standard Response - Maximum 250 PSI WWP
For Installation with the deflector located 6” to 12” (152 mm to 305 mm) below smooth, flat, horizontal ceilings only.

### Quick Response - Maximum 250 PSI WWP
For Installation with the deflector located 6” to 12” (152 mm to 305 mm) below smooth, flat, horizontal ceilings only.

### Approved Temperature Ratings
- A - 135 °F (57 °C) and 175 °F (79 °C)
- B - 155 °F (68 °C)
- C - 175 °F (79 °C)

### Approved Finishes
1. Brass, Chrome, White Polyester, and Black Polyester
2. ENT

### Approved Escutcheons
W - Standard surface-mounted escutcheon or recessed with the Micromatic® Model E-1, E-2, or G-1 Recessed Escutcheon
X - Recessed with the Micromatic® Model E-1 Recessed Escutcheon only
Y - Standard surface-mounted escutcheons or recessed with the Micromatic Model E-1 Recessed Escutcheon.

### Footnotes
1. Part number shown is the base part number. For complete part number, refer to current Viking price list 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 chart shows listings and approvals available at time of printing. Check with the manufacturer for any additional approvals.
4. cULus Listed for use in the U.S. and Canada for Light-Hazard occupancies only.
5. Listings are limited to Light Hazard Occupancies where allowed by the installation standards being applied.
6. For areas of coverage smaller than shown, use the “Minimum Water Supply Requirement” for the next larger area listed. Flows and pressures listed are per sprinkler.
7. cULus Listed as corrosion resistant.
**DESIGN CRITERIA**
(Also refer to the Approval Chart.)

**cULus Listing Requirements:** MicroFast® EC/QREC Horizontal Sidewall Sprinkler VK612 is cULus Listed as indicated in the Approval Chart for installation in accordance with the latest edition of NFPA 13 for extended coverage sidewall spray sprinklers:

- Sprinkler VK612 is limited to Light Hazard occupancies with smooth, flat, horizontal ceilings only.
- Refer to the Approval Chart for required deflector distance below the ceiling. Install with the leading edge of the deflector oriented parallel to the ceiling (see Figure 4).
- Minimum distance from end walls is 4 in. (102 mm).
- Maximum distance from the end wall 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 extended coverage sidewall 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, FM Global, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.

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

Sprinkler wrench 13655W/B** must be used for installing wax coated sprinklers.

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

**Figure 2:** Wrench 13655W/B for Recessed Sprinklers

**A 1/2” ratchet is required**
(not available from Viking)
Figure 3: Sidewall Sprinkler Dimensions with a Standard Escutcheon

- **Wall Opening Size:**
  - Minimum: 2-5/16" (58.7 mm)
  - Maximum: 2-1/2" (63.5 mm)

- **Installed with a Standard 1/8" Surface-Mounted Escutcheon**

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Figure 4: Sidewall Sprinkler Dimensions with the Model E-1 and E-2 Recessed Escutcheons

- **Wall Opening Size:**
  - Minimum: 2-5/16" (59 mm)
  - Maximum: 2-1/2" (64 mm)

- **Installed with the Micromatic Model E-1 Recessed Escutcheon**
- **Installed with the Threaded Model E-2 Recessed Escutcheon**
** A 1/2" ratchet is required (not available from Viking)

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

Figure 5: Sidewall Sprinkler Dimensions with the Model G-1 Escutcheon