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 PTFE coatings can be used in decorative applications where colors are desired.

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 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 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 Black PTFE = N
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)
  **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 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 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>
</tbody>
</table>

**Available Sprinkler Finishes:** Brass, Chrome, White Polyester³, Black Polyester³, and Black PTFE³

**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 coatings indicated are applied to the exposed exterior surfaces only. For PTFE coated open sprinklers only, the waterway is coated. Note that the spring is exposed on sprinklers with PTFE and Polyester coatings.
# Approval Chart

**Microfast® EC/QREC Horizontal Sidewall HP Sprinkler VK612**

<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</td>
<td>VK612</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**

**Approved Temperature Ratings**

**A - 135 °F (57 °C) and 175 °F (79 °C)**

**B - 155 °F (68 °C)**

**Approved Finishes**

1 - Brass, Chrome, White Polyester, Black Polyester, and Black PTFE

**Approved Escutcheons**

W - Standard surface-mounted escutcheons 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

<table>
<thead>
<tr>
<th>Sprinkler Base Part Number</th>
<th>SIN</th>
<th>Maximum Areas of Coverage</th>
<th>Minimum Water Supply Requirements</th>
<th>Listings and Approvals</th>
</tr>
</thead>
<tbody>
<tr>
<td>12295</td>
<td>VK612</td>
<td>16' Wide x 16' Throw (4.9 m x 4.9 m)</td>
<td>26 gpm @ 21.6 psi (98.4 L/min @ 1.49 Bar)</td>
<td>cULus²</td>
</tr>
<tr>
<td>12295</td>
<td>VK612</td>
<td>16' Wide x 18' Throw (4.9 m x 5.5 m)</td>
<td>29 gpm @ 26.8 psi (109.8 L/min @ 1.85 Bar)</td>
<td>B1W</td>
</tr>
<tr>
<td>12295</td>
<td>VK612</td>
<td>16' Wide x 20' Throw (4.9 m x 6.1 m)</td>
<td>32 gpm @ 32.7 psi (121.1 L/min @ 2.25 Bar)</td>
<td>B1W</td>
</tr>
</tbody>
</table>

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**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.
**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.

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

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

Sprinkler wrench 13655W/B**

**must be used for installing wax coated sprinklers.**

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

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

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

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

Wall Opening Size:
- 2-516/" (58.7 mm) minimum
- 2-1/2" (63.5 mm) maximum

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)

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

** 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