1. DESCRIPTION

Viking dry vertical sidewall sprinklers are suitable for use in areas subject to freezing. They may be installed either upright or pendent, and are suitable for use on dry systems, preaction systems, or wet systems. They are ideal for use in unheated spaces above ceilings of heated rooms equipped with wet pipe sprinkler systems.

Viking Standard Response Dry Vertical Sidewall Sprinklers are available in various finishes and temperature ratings to meet design requirements.

2. LISTINGS AND APPROVALS

NOTE: Viking Dry Vertical Sidewall Sprinklers are NOT listed or approved.

3. TECHNICAL DATA

Specifications:

Available since 1994.
Minimum Operating Pressure: 7 psi (0.5 bar)
Maximum Working Pressure: 175 psi (12 bar).
Factory tested pneumatically to 100 psi (6.89 bar)
Thread size: 1" NPT or 25 mm BSP
Nominal K-Factor: 5.6 U.S. (80.6 metric*) for all standard lengths.

* 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)
Covered by the following U.S. Patents: 8,636,075 and 10,220,231

Material Standards:

Frame Casting: Brass UNS-C84400
Deflector: Brass UNS-C23000
Bulb: Glass, nominal 5 mm diameter
Belleville Spring Sealing Assembly: Nickel Alloy, coated on both sides with PTFE Tape
Compression Screw: Brass UNS-C36000
Pipe Cap: UNS-C31400 or UNS-C31600 Brass
Pipe Cap Adapter: Brass UNS-C36000
Orifice: Copper UNS-C22000
Tube: ERW Hydraulic Steel Tube
Support (Internal): Stainless Steel UNS-S30400
Barrel: Steel Pipe UNS-G10260, Electrodeposited Epoxy Base finish
Barrel End and Threads: QM Brass
Sleeve (for Adjustable Standard style only): Brass UNS-C26000 or UNS-C26800

Escutcheon Materials:

Adjustable Standard Dry Escutcheons: Brass UNS-C26000 or UNS-C26800
Recessed Dry Escutcheons: Cold Rolled Steel UNS-G10080

Ordering Information:

(Also refer to the current Viking price list.)
Order Standard Response Dry Vertical Sidewall Sprinklers by first adding the appropriate suffix for the sprinkler finish, the appropriate suffix for the temperature rating, and then the suffix for the length (“A” or “B” dimension) to sprinkler base part number. Order in a specific length noted as the “A” or “B” dimension (see Figures 4 through 6). For Adjustable Recessed or Adjustable Standard Dry Vertical Sidewall Sprinklers, the “A” dimension is the distance from the face of the fitting (tee) to the desired finished surface of the ceiling; for Plain Barrel Dry Vertical Sidewall Sprinklers, the “B” dimension is the distance from the face of the fitting (tee) to the top of the deflector.

These sprinklers are available in lengths from 3" to 45-1/2" (76.2 mm to 1,156 mm) for the adjustable standard style, 4-1/2" to 47" (114.3 mm to 1,194 mm) for the plain barrel style, and 3-1/4" to 47-1/2" (82.5 mm to 1,207 mm) for the adjustable recessed style.

Finish Suffix: Brass = A, Chrome-Enloy ® = F, and White Polyester = M/W
Temperature Suffix: 155 °F (68 °C) = B, 175 °F (79 °C) = D, 200 °F (93 °C) = E, 286 °F (141 °C) = G

For example, sprinkler VK157 with 1" NPT Threads, a Chrome finish and a 155 °F (68 °C) temperature rating, and “A” length of 10" = Part No. 09123UFB10.

Viking Technical Data may be found on The Viking Corporation’s Web site at http://www.vikinggroupinc.com. The Web site may include a more recent edition of this Technical Data Page.
Available Finishes And Temperature Ratings:
Refer to Table 1.

Accessories: (Also refer to the “Sprinkler Accessories” section of the Viking data book.)

Sprinkler Wrenches:
A. Standard Wrench: Part No. 07297W/B (available since 1991)
B. Wrench for recessed sprinklers: Part No. 07565W/B** (available since 1991)
   **A ½” ratchet is required (not available from Viking).

Dry Sprinkler Protective Cover: Part No. 15610

Replacement Escutcheons:
A. Adjustable Standard Dry Escutcheon: Base Part No. 07741
B. Recessed Dry Escutcheon Cup: Base Part No. 05459A

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 internal parts to open the waterway. Water flowing through the sprinkler orifice strikes the sprinkler deflector, forming a semi-circular 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 Viking Standard Response Dry Vertical Sidewall Sprinkler 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>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>268 °F (141 °C)</td>
<td>225 °F (107 °C)</td>
<td>Blue</td>
</tr>
</tbody>
</table>

Sprinkler Finishes: Brass, Chrome-Enloy® (patents pending), and White Polyester

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.

Figure 2: Wrench 07565W/B for Adjustable Recessed Dry VSW Sprinklers
## Approval Chart

**Standard Response Dry Vertical Sidewall Sprinklers**

Maximum 175 PSI (12 bar) WWP

<table>
<thead>
<tr>
<th>Sprinkler Base Part Number¹</th>
<th>SIN</th>
<th>Style</th>
<th>Thread Size</th>
<th>Nominal K-Factor²</th>
<th>Order Length Increment</th>
<th>Listings and Approvals⁴</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>NPT</td>
<td>BSP</td>
<td>U.S.</td>
<td>metric¹</td>
</tr>
<tr>
<td>09123U VK157</td>
<td></td>
<td>Adjustable Standard</td>
<td>1&quot;</td>
<td>--</td>
<td>5.6</td>
<td>--</td>
</tr>
<tr>
<td>08961U VK157</td>
<td></td>
<td>Adjustable Standard</td>
<td>--</td>
<td>25 mm</td>
<td>--</td>
<td>80.6</td>
</tr>
<tr>
<td>09124U VK161</td>
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<td>Adjustable Recessed</td>
<td>1&quot;</td>
<td>--</td>
<td>5.6</td>
<td>--</td>
</tr>
<tr>
<td>08962U VK161</td>
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<td>Adjustable Recessed</td>
<td>--</td>
<td>25 mm</td>
<td>--</td>
<td>80.6</td>
</tr>
<tr>
<td>09125U VK153</td>
<td></td>
<td>Plain Barrel</td>
<td>1&quot;</td>
<td>--</td>
<td>5.6</td>
<td>--</td>
</tr>
<tr>
<td>08963U VK153</td>
<td></td>
<td>Plain Barrel</td>
<td>--</td>
<td>25 mm</td>
<td>--</td>
<td>80.6</td>
</tr>
</tbody>
</table>

### Available Temperature Ratings

**A** - 155 °F (68 °C), 175 °F (79°C), 200 °F (93 °C), and 286 °F (141 °C) for the Adjustable Standard and Plain Barrel Styles

**B** - 155 °F (68 °C), 175 °F (79°C), and 200 °F (93 °C) for the Adjustable Recessed Style

### Available Finishes and “A” and “B” Dimensions

1. Chrome-Enloy® or White with “A” dimensions 3” to 45-1/2” (76.2 mm to 1,156 mm) for the Adjustable Standard Style
2. Chrome-Enloy® or White with “A” dimensions 3-1/4” to 47-1/2” (82.5 mm to 1,207 mm) for the Adjustable Recessed Style
3. Chrome-Enloy® or Brass with “B” dimensions 4-1/2” to 47” (114 mm to 1,194 mm) for the Plain Barrel Style

### Footnotes

1. Part number shown is the base part number. For complete part number, refer to current Viking price list schedule.
3. 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.
4. Viking dry vertical sidewall sprinklers are NOT listed or approved.

**NOTE:** When using CPVC fittings with Viking dry sprinklers, use only new Nibco Model 5012-S-BI tees. When selecting other CPVC fittings, contact Viking Technical Services.

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**IMPORTANT:** Always refer to Bulletin Form No. F_091699 - Care and Handling of Sprinklers. Also refer to page DRY1-3 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.
Figure 3: Adjustable Standard Dry VSW Sprinkler

Figure 4: Adjustable Recessed Dry VSW Sprinkler

For "A" Dimension:
1: Determine the distance from the face of the tee to the finished ceiling.
2: Round to the nearest 1/2' (12.7 mm) between 3' (76.2 mm) and 45-1/2' (1156 mm).

NOTE:
Deflector will be located approximately 3-7/16' (87.3 mm) below the ceiling with 1" (25.4 mm) upward and 1" (25.4 mm) downward adjustment available.

For "A" Dimension:
1: Determine the distance from the face of the tee to the finished ceiling.
2: Round to the nearest 1/4" (6.35 mm) between 3-1/4" (82.5 mm) and 47-1/2" (1207 mm).

NOTE:
The base of the sprinkler wrench boss will be recessed approximately 5/16" (7.9 mm) above the finished ceiling with 5/8" (15.8 mm) of vertical adjustment available.
Figure 5: Plain Barrel Dry VSW Sprinkler