



TECHNICAL DATA

MICROFAST® QUICK RESPONSE HORIZONTAL SIDEWALL SPRINKLER VK333 (K2.8)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

Visit the Viking website for the latest edition of this technical data page www.vikinggroupinc.com.

1. DESCRIPTION

The Viking Microfast® Quick Response Horizontal Sidewall Sprinkler VK333 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 environments and are listed/approved as indicated in the 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: 175 psi (12 bar) wwp
Factory tested hydrostatically to 500 psi (34.5 bar)
Nominal K-Factor: 2.8 U.S. (40.3 metric*)
Thread size: 1/2" NPT, 15 mm BSPT

* 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
Bushing: Brass UNS-C36000
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
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 Microfast® Quick Response Horizontal Sidewall Sprinkler VK333 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 VK333 with a Brass finish and a 155 °F/68 °C temperature rating = Part No. 10035AB

Available Finishes And Temperature Ratings: Refer to Table 1.

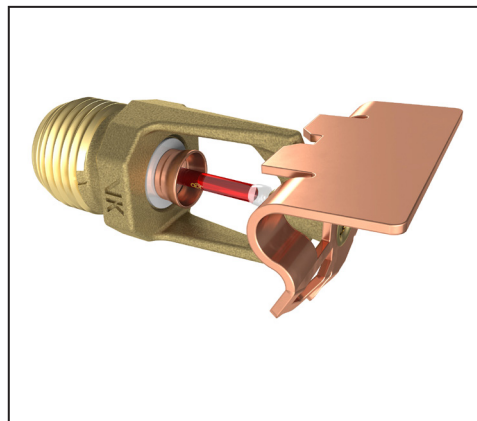
Accessories: (Also refer to the Viking website.)

Sprinkler Wrenches:

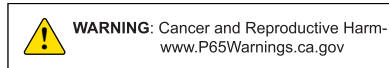
A. Standard Wrench: Part No. 21475M/B (available since 2017).
B. Wrench for recessed sprinklers with protective shields: Part No. 13655W/B** (available since 2003)
**A 1/2" ratchet is required (not available from Viking).

Sprinkler Cabinets:

A. Six-head capacity: Part No. 01724A (available since 1971)
B. Twelve-head capacity: Part No. 01725A (available since 1971)



For Light Hazard Occupancies Only





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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 Microfast® Quick Response Horizontal Sidewall Sprinkler VK333 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.

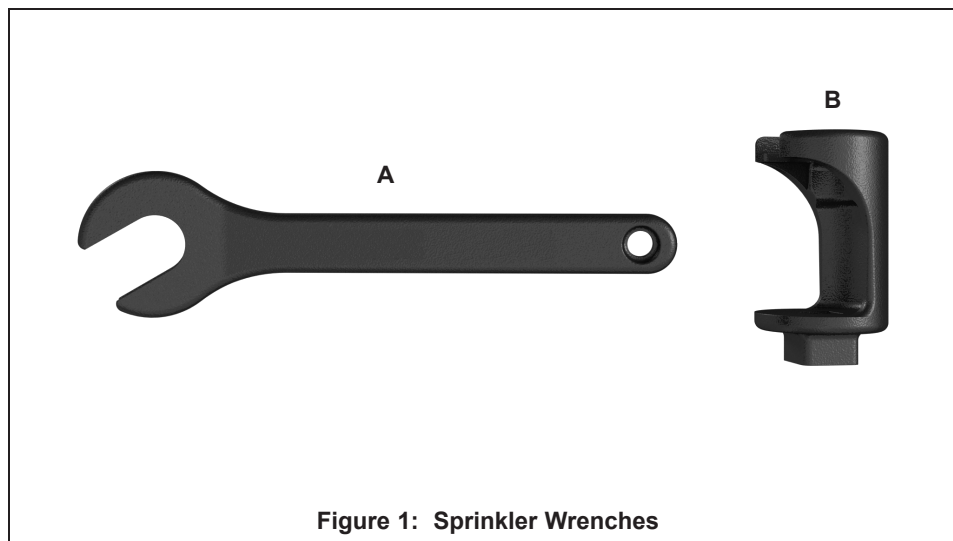


Figure 1: Sprinkler Wrenches



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TABLE 1: AVAILABLE SPRINKLER TEMPERATURE RATINGS AND FINISHES

| Sprinkler Temperature Classification | Sprinkler Nominal Temperature Rating ¹ | Maximum Ambient Ceiling Temperature ² | Bulb Color |
|--------------------------------------|---|--|------------|
| Ordinary | 135 °F (57 °C) | 100 °F (38 °C) | Orange |
| Ordinary | 155 °F (68 °C) | 100 °F (38 °C) | Red |
| Intermediate | 175 °F (79 °C) | 150 °F (65 °C) | Yellow |
| Intermediate | 200 °F (93 °C) | 150 °F (65 °C) | Green |
| High | 286 °F (141 °C) | 225 °F (107 °C) | Blue |

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

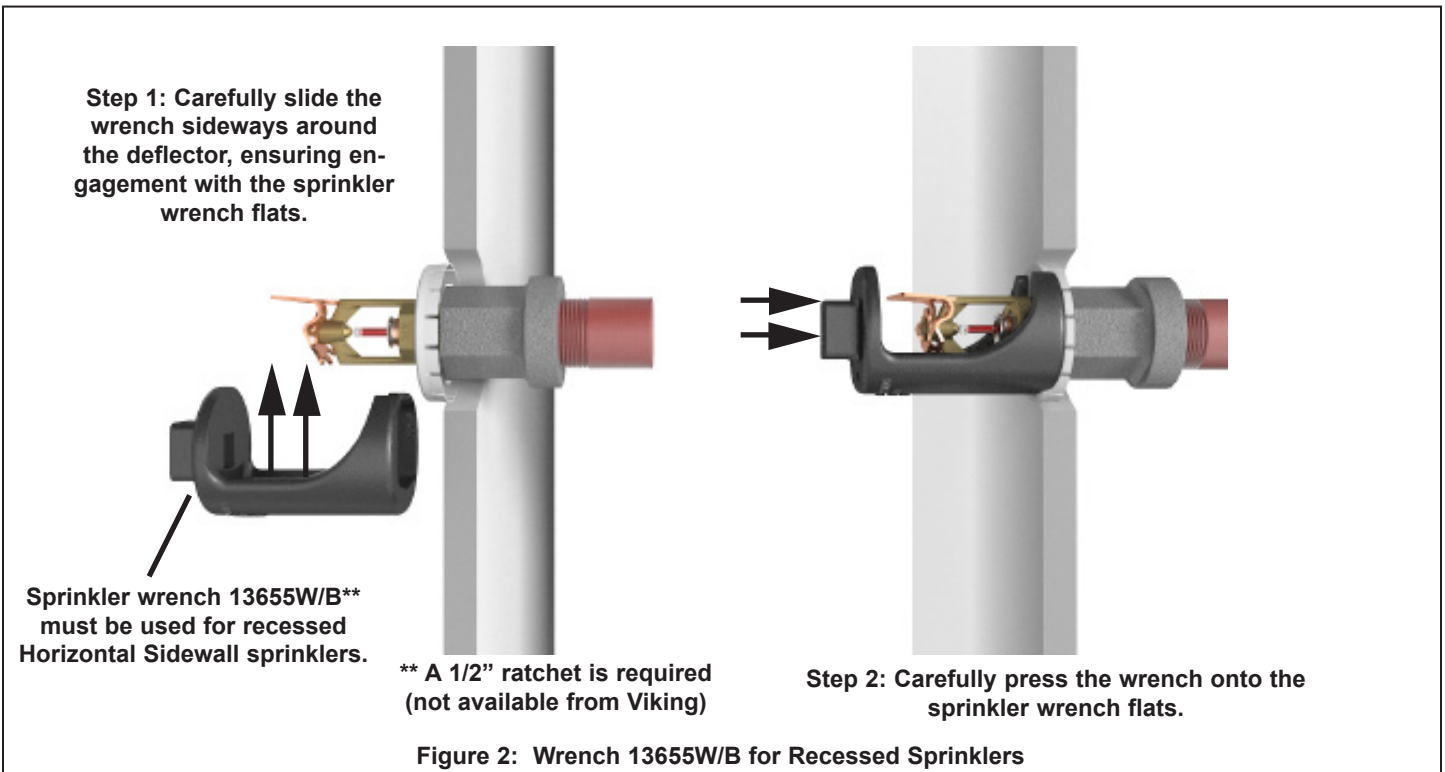
Corrosion-Resistant Coatings³: White Polyester, Black Polyester, and ENT

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(s). 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 ENT coated automatic sprinklers, the waterway is coated.



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|  | <h2 style="margin: 0;">TECHNICAL DATA</h2> | <h3 style="margin: 0;">MICROFAST® QUICK RESPONSE HORIZONTAL SIDEWALL SPRINKLER VK333 (K2.8)</h3> |
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| Approval Chart 1 (UL) Microfast® Quick Response Horizontal Sidewall Sprinkler VK333 for light hazard occupancies only deflector must be located 4" to 6" (102 mm to 152 mm) below the ceiling. | | | | | | | | | | | | |
|---|-------|------------------|-------------|-------|--|---------------------|----------------|---|---|------|----|----|
| Base Part Number ¹ | SIN | Maximum Pressure | Thread Size | | Nominal K-Factor | | Overall Length | | Listings and Approvals ³ (Refer also to Design Criteria below.) | | | |
| | | | NPT | BSPT | U.S. | metric ² | Inches | mm | cULus ⁴ | LPCB | CE | ⚙️ |
| 10035 ^{7,8} | VK333 | 250 psi | 1/2" | 15 mm | 2.8 | 40.3 | 2-11/16 | 68 | A1Y, B1X | | | |
| 20989 ⁷ | VK333 | 250 psi | 1/2" | 15 mm | 2.8 | 40.3 | 2-11/16 | 68 | A1Y, B1X, C2Y, D2Z | | | |
| 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 ^{5,6} , and Black Polyester ^{5,6} 2 - ENT ⁵ | | | Approved Escutcheons X - Installed with standard surface-mounted escutcheons or recessed with the Viking Micromatic® Model E-1, E-2, E-3, or G-1 Recessed Escutcheon Y - Installed with standard surface-mounted escutcheons Z - Installed with standard surface-mounted escutcheons or recessed with the Viking Micromatic® Model E-1 Recessed Escutcheon | | | | |
| 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. ⁷ Listings are limited to Light Hazard Occupancies, with hydraulically calculated wet systems. exception: 4.2K sprinklers may be installed on hydraulically calculated dry pipe systems where piping is corrosion resistant or internally galvanized. ⁸ The sprinkler orifice is bushed. | | | | | | | | | | | | |

| DESIGN CRITERIA - UL (Also refer to Approval Chart 1 above.) |
|---|
| <p>cULus Listing Requirements:</p> <p>Viking Microfast® Quick Response Horizontal Sidewall Sprinkler VK333 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.</p> <ul style="list-style-type: none"> Limited to Light Hazard occupancies only (<i>Small orifice sprinklers are limited to Light Hazard where allowed by the installation standards being applied, with hydraulically calculated wet systems only.</i>) 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). Locate the deflector 4" to 6" (102 mm to 152 mm) below the ceiling. Align with the leading edge of the deflector parallel to the ceiling. 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. Minimum distance from end walls is 4 in. (102 mm). The sprinkler installation and obstruction rules contained in NFPA 13 for sidewall standard spray sprinklers must be followed. <p>IMPORTANT: Always refer to Bulletin Form No. F_091699 - Care and Handling of Sprinklers. Also refer to page QR1-3 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, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.</p> |



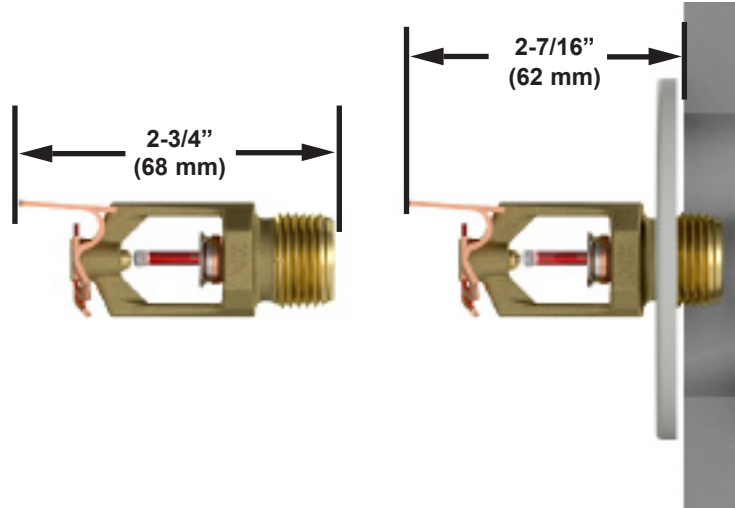
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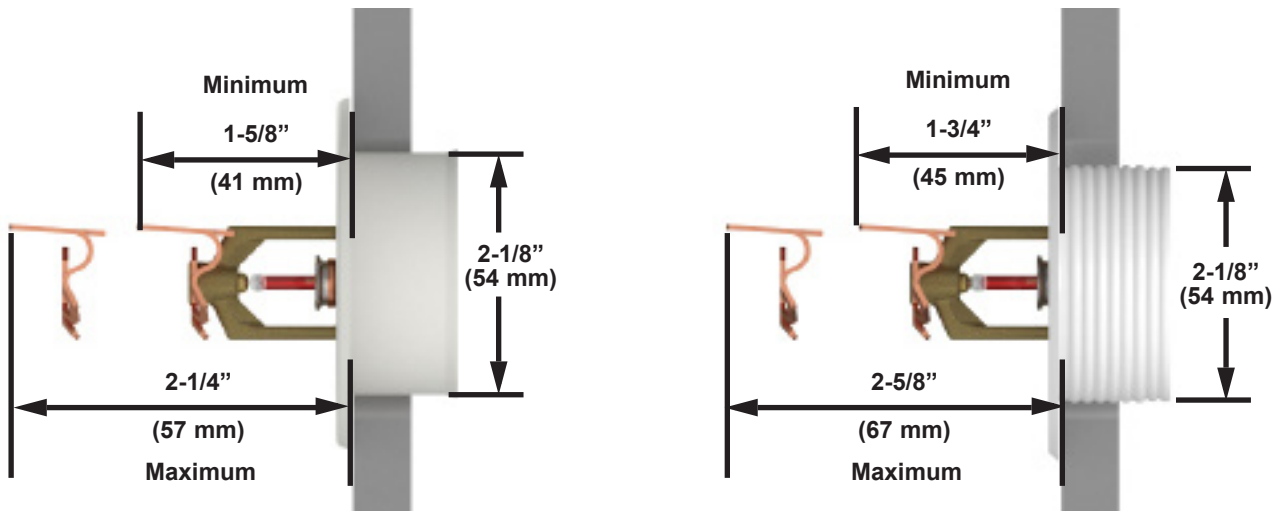
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Wall Opening Size:
2-5/16" (59 mm) minimum
2-1/2" (64 mm) maximum

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

Figure 3: Horizontal Sidewall Sprinkler Dimensions with a Standard Escutcheon



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



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