



## TECHNICAL DATA

## QUICK RESPONSE HORIZONTAL SIDEWALL SPRINKLER VK360 (K8.0)

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](http://www.vikinggroupinc.com)

### 1. DESCRIPTION

Viking Quick Response Horizontal Sidewall Sprinkler VK360 is a thermosensitive glass bulb spray sprinkler available in several different finishes and temperature ratings to meet varying design requirements. The special Polyester and PTFE 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 cULus listed as corrosion resistant as indicated in the Approval Chart.

### 2. LISTINGS AND APPROVALS



**cULus Listed:** Category VNIV

Refer to the Approval Chart on page 43r and Design Criteria on page 43s for cULus Listing requirements that must be followed.

### 3. TECHNICAL DATA

#### Specifications:

Available since 2009.

Minimum Operating Pressure: 7 psi (0.5 bar)

Maximum Working Pressure: 175 psi (12 bar).

Factory tested hydrostatically to 500 psi (34.5 bar)

Thread Size: 3/4" (20 mm) NPT

Nominal K-Factor: 8.0 U.S. (115.2 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: 2-5/8" (66 mm)

Covered by the following US Patent Nos: 7,854,269 and 7,712,218

#### Material Standards:

Sprinkler Frame: Brass UNS-C84400

Deflector: Brass UNS-C23000 or Phosphor Bronze UNS-C51000

Bulb: Glass, nominal 3 mm diameter

Belleville Spring Sealing Assembly: Nickel Alloy, coated on both sides with PTFE Tape

Pip Cap and Insert Assembly: Copper UNS-C11000 and Stainless Steel UNS-S30400

Compression Screws: 18-8 Stainless Steel

Yoke: Phosphor Bronze UNS-C51000

Ejector Spring: 17-7 Stainless Steel

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 Quick Response Horizontal Sidewall Sprinklers 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 (°F/°C): 135°/57° = A, 155°/68° = B, 175°/79° = D, 200°/93° = E

For example, sprinkler VK360 with a Brass finish and a 155 °F/68 °C temperature rating = Part No. 15591AB

#### 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)



**WARNING:** Cancer and Reproductive Harm-  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



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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 yoke, 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**

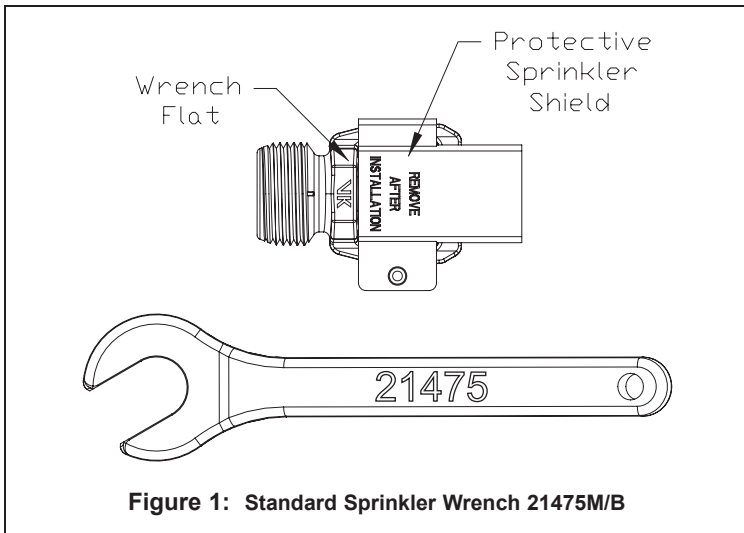
Refer to NFPA 25 for Inspection, Testing and Maintenance requirements.

**7. AVAILABILITY**

Viking Quick Response Horizontal Sidewall Sprinklers 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: Standard Sprinkler Wrench 21475M/B**



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**TABLE 1: AVAILABLE SPRINKLER TEMPERATURE RATINGS AND FINISHES**

Sprinkler Temperature Classification	Sprinkler Nominal Temperature Rating <sup>1</sup>	Maximum Ambient Ceiling Temperature <sup>2</sup>	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

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

**Corrosion-Resistant Coatings<sup>3</sup>:** White Polyester, Black Polyester, and Black PTFE

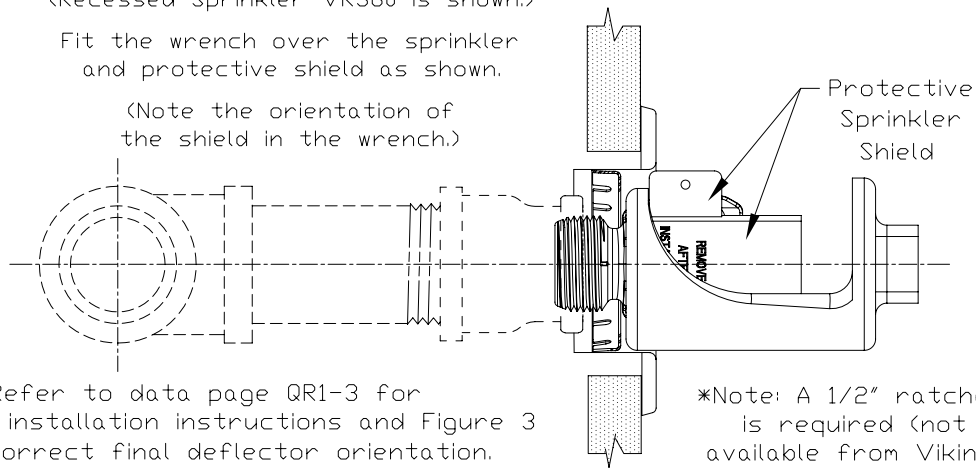
**Footnotes**

- <sup>1</sup> The sprinkler temperature rating is stamped on the deflector.
- <sup>2</sup> 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.
- <sup>3</sup> 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. Note that the spring is exposed on sprinklers with Polyester and PTFE coatings.

Sprinkler Wrench Part No. 13655W/B\* must be used with Coated and/or Recessed Sprinkler VK360. (Recessed Sprinkler VK360 is shown.)

Fit the wrench over the sprinkler and protective shield as shown.

(Note the orientation of the shield in the wrench.)



Refer to data page QR1-3 for complete installation instructions and Figure 3 for correct final deflector orientation.

**Figure 2: Installation of Coated and/or Recessed Sprinkler VK360**



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**Approval Chart**

Quick Response Horizontal Sidewall Sprinkler VK360

For Light or Ordinary Hazard Occupancies.

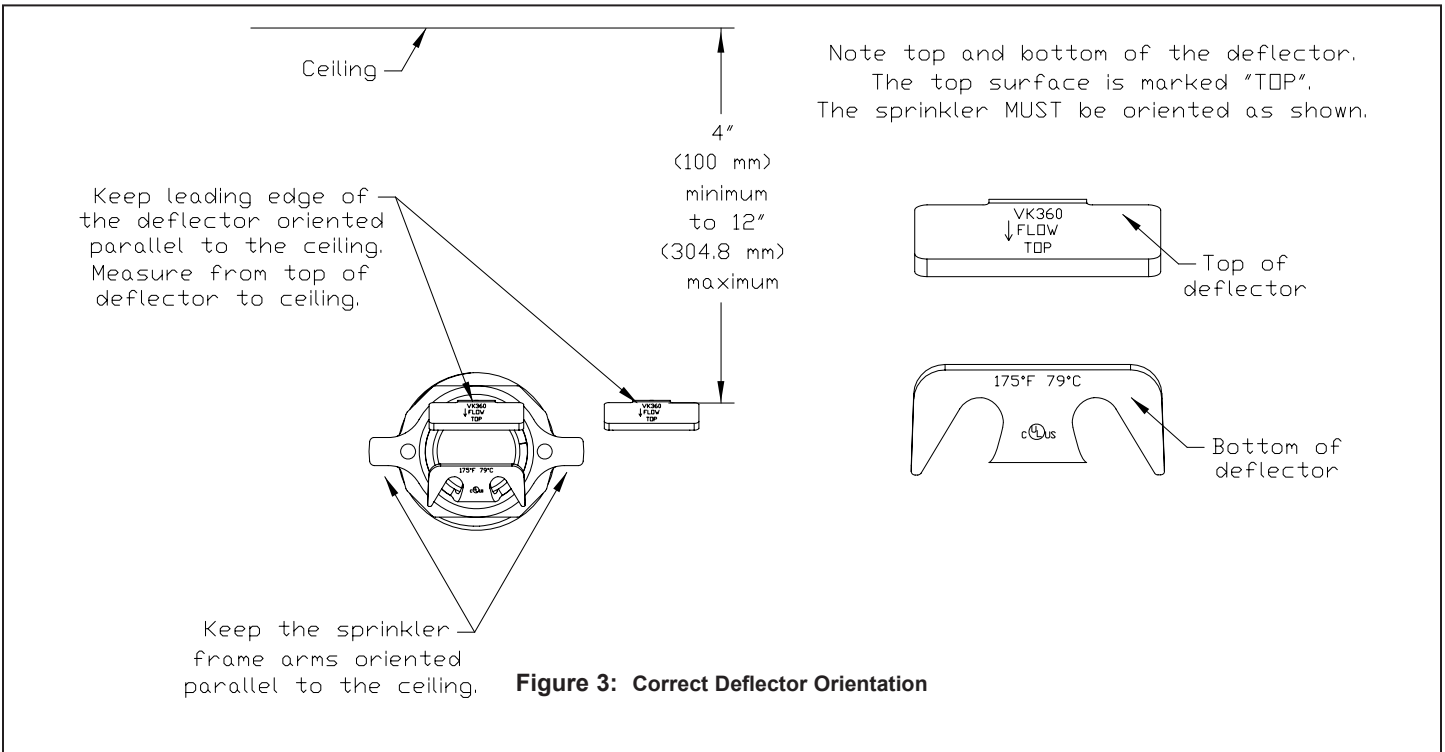
Deflector must be located 4" to 12" (102 mm to 305 mm) below the ceiling.

Temperature	KEY
Finish	
A1X	Escutcheon (if applicable)

Base Part Number <sup>1</sup>	SIN	Maximum Pressure	Thread Size		Nominal K-Factor		Overall Length		Listings and Approvals <sup>3</sup> (Refer also to Design Criteria on pg 43s.)						
			NPT	BSP	U.S.	metric <sup>2</sup>	Inches	mm	cULus <sup>4</sup>	NYC	FM	LPCB	CE	⚙	
15591	VK360	175 psi	3/4"	20 mm	8.0	115.2	2-5/8	66	A1X	See Footnote 5.	--	--	--	--	
<b>Approved Temperature Ratings</b> A - 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), and 200 °F (93 °C)			<b>Approved Finishes</b> 1 - Brass, Chrome, White Polyester <sup>6</sup> , Black Polyester <sup>6</sup> , and Black PTFE <sup>6</sup>				<b>Approved Escutcheons</b> X - Installed with standard surface-mounted escutcheons or recessed with the Viking Micromatic <sup>®</sup> Model E-1 or E-2 Recessed Escutcheon, or the Model G-1 Recessed Escutcheon								

**Footnotes**

- <sup>1</sup> Base part number shown. For complete part number, refer to Viking's current price schedule.
- <sup>2</sup> 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.
- <sup>3</sup> This table shows the listings and approvals available at the time of printing. Other approvals may be in process.
- <sup>4</sup> Listed by Underwriters Laboratories Inc. for use in the U.S. and Canada.
- <sup>5</sup> Meets New York City requirements, effective July 1, 2008.
- <sup>6</sup> cULus Listed as corrosion-resistant. Other colors are available on request with the same Listings and Approvals as the standard colors.





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**DESIGN CRITERIA**

(Also refer to the Approval Chart on page 43r.)

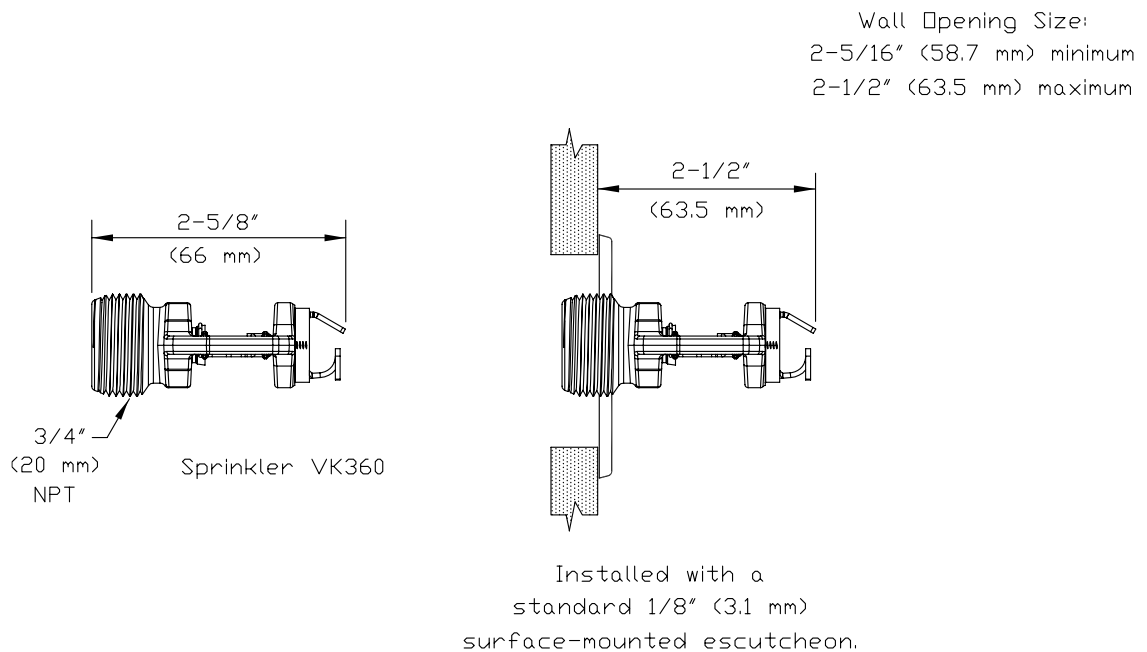
**cULus Listing Requirements:**

Quick Response Horizontal Sprinkler VK360 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).
- 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.

**DEFLECTOR POSITION:** Install sprinkler VK360 with the leading edge of the deflector and the sprinkler frame arms oriented parallel to the ceiling (see Figure 3). **THE TOP SURFACE OF THE DEFLECTOR IS MARKED "TOP"**. The sprinkler must be oriented as shown in Figure 3.

**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.



**Figure 4: Sidewall Sprinkler VK360 Dimensions with a Standard Escutcheon**



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