



TECHNICAL DATA

FREEDOM® RESIDENTIAL HORIZONTAL SIDEWALL SPRINKLER VK479 (K3.0)

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

1. DESCRIPTION

Viking Freedom® Residential Horizontal Sidewall Sprinkler VK479 is a small, thermosensitive, glass-bulb residential sprinkler that is available in several different finishes and temperature ratings to meet varying design requirements. The Electroless Nickel PTFE (ENT) coating has been investigated for installation in corrosive atmospheres and is C-UL-US-EU Listed as corrosion-resistant, as indicated in the Approval Chart below. The sprinkler orifice design, with a K-Factor of 3.0 (43.2 metric†), allows efficient use of available water supplies for the hydraulically designed fire-protection system. The glass bulb operating element and special deflector characteristics meet the challenges of residential sprinkler standards.



2. LISTINGS AND APPROVALS



UL Listed (C-UL-US-EU): Category VKKW

Refer to the Approval Chart and Design Criteria for C-UL-US-EU Listing requirements that must be followed.



WARNING: Cancer and Reproductive Harm-
www.P65Warnings.ca.gov

3. TECHNICAL DATA

Specifications:

Minimum Operating Pressure: Refer to the Approval Chart.

Maximum Working Pressure: 175 psi (12 bar). Factory tested hydrostatically to 500 psi (34.5 bar).

Thread size: 1/2" (15 mm) NPT

Nominal K-Factor: 3.0 U.S. (43.2 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: 2-7/16" (62 mm)

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

Material Standards:

Frame Casting: QM Brass or Brass UNS-C84400

Deflector: 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

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 Sprinkler VK479 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.



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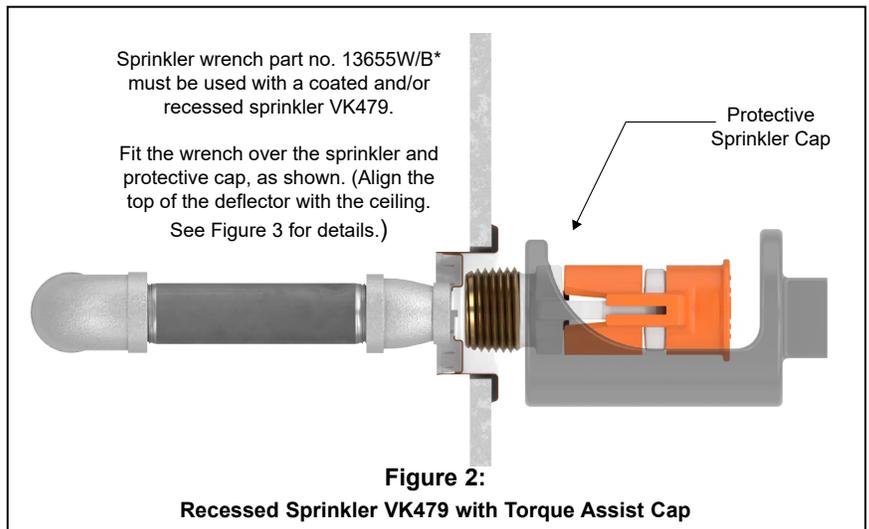
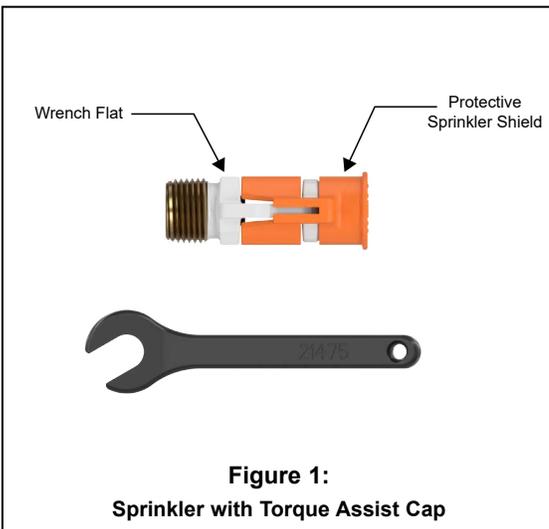
TABLE 1: AVAILABLE SPRINKLER TEMPERATURE RATINGS AND FINISHES

Sprinkler Temperature Classification	Sprinkler Nominal Temperature Rating ¹	Maximum Ambient Ceiling Temperature ²	Bulb Color
Ordinary	155 °F (68 °C)	100 °F (38 °C)	Red

Sprinkler Finishes: Brass, Chrome, White Polyester³, Black Polyester³, and ENT³

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 Sprinklers with ENT, White Polyester, and Black Polyester finishes are C-UL-US-EU Listed as corrosion resistant.



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Ordering Instructions

1. Choose a sprinkler base part number with the required thread size and listing or approval (refer to the approval chart).
2. Add the suffix for the desired finish.
3. Add the suffix for the desired temperature rating.

EXAMPLE: 19707AB-TQ = VK479 with brass finish and 155 °F (66 °C) nominal temperature rating. This sprinkler is to be installed into an InstaSeal® fitting in an area with a maximum ambient temperature of 100 °F (38 °C).

NOTE: The “TQ” suffix for the part number below indicates a special protective cap (Figure 2-B) intended for use with InstaSeal® fittings. When ordering sprinklers with TQ suffixes in combination with InstaSeal fittings, refer to Form No. F_021323 for installation instructions.

Sprinkler Base Part Number	
Part Number*	Thread Size
19707XX-TQ	1/2" NPT

Temperature Ratings			
Temperature Rating	Bulb Color	Maximum Ambient Ceiling Temperature	Suffix
155 °F (68 °C)	Red	100 °F (38 °C)	B

* Where “X” is shown in the base part number, enter the desired suffix for temperature rating (EXAMPLE: 19707AB-TQ)

Accessories
Standard Wrench: Part no. 21475M/B
Recessed wrench: Part no. 13655W/B (requires a 1/2" wrench not available from Viking)
Protective sprinkler cap/escutcheon installation tool: Part no. 15915
Sprinkler Cabinet: Part no. 01724A (up to 6 sprinklers) or 01725A (up to 12 sprinklers)



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Approval Chart Viking VK479, 3.0 K-Factor Residential Horizontal Sidewall Sprinkler

For systems designed to NFPA 13D or NFPA 13R. For systems designed to NFPA 13, refer to the design criteria. For Ceiling types refer to current Editions of NFPA 13, 13R or 13D

Sprinkler Base Part Number ¹	SIN	NPT Thread Size		Maximum Water Working Pressure	Overall Length		
		Inches	mm		Inches	mm	
19707XX-TQ	VK479	1/2	15	175 psi (12 bar)	2-7/16	62	
Max. Coverage Area ² Width X Length Ft. X Ft. (m X m)	Max. Spacing Ft. (m)	Ordinary Temp Rating (155 °F/68 °C)		Top of Deflector to Ceiling	Installation Type	Listings and Approvals ³	Minimum Spacing Ft. (m)
		Flow ² GPM (L/min)	Pressure ² PSI (bar)			C-UL-US-EU ⁴	
12 X 12 (3.7 X 3.7)	12 (3.7)	11 (41.7)	13.4 (0.92)	4 to 12 inches	Standard surface-mounted escutcheons or recessed with the Model E-1, E-2, E-3, or G-1 recessed escutcheon	See footnotes 5 and 6.	8 (2.4)
14 X 14 (4.3 X 4.3)	14 (4.3)	13 (49.3)	18.8 (1.30)				
16 X 16 (4.9 X 4.9)	16 (4.9)	13 (49.3)	18.8 (1.30)				

Footnotes

- ¹ Part number shown is the base part number. For complete part number, refer to Viking's current price schedule.
- ² For areas of coverage smaller than shown, use the "Flow" and "Pressure" for the next larger area listed. Flows and pressures listed are per sprinkler. The distance from sprinklers to walls shall not exceed one-half the sprinkler spacing indicated for the minimum "Flow" and "Pressure" used.
- ³ This chart shows the listings and approvals available at the time of printing. Other approvals may be in process. Check with the manufacturer for any additional approvals. Refer also to Design Criteria below.
- ⁴ Listed by Underwriter's Laboratories, Inc. for use in the U.S., Canada, and European Union.
- ⁵ Approved Finishes are: brass, chrome, white polyester, and black polyester. Other paint colors are available on request with the same C-UL-US-EU listings as the standard finish colors.
- ⁶ Approved finish is Electroless Nickel PTFE (ENT). Sprinklers with ENT, white polyester, and black polyester finishes are C-UL-US-EU Listed as corrosion-resistant. ENT is available with standard surface-mounted escutcheons or the Model E-1 recessed escutcheon.



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DESIGN CRITERIA

(Also refer to the Approval Chart.)

UL Listing Requirements (C-UL-US-EU):

When using Viking Residential Horizontal Sidewall Sprinkler VK479 for systems designed to NFPA 13D or NFPA 13R, apply the listed areas of coverage and minimum water supply requirements shown in the Approval Chart.

For systems designed to NFPA 13: The number of design sprinklers is to be the four contiguous most hydraulically demanding sprinklers. The minimum required discharge from each of the four sprinklers is to be the greater of the following:

- The flow rates given in the Approval Chart for NFPA 13D and NFPA 13R applications for each listed area of coverage, **or**
- Calculated based on a minimum discharge of 0.1 gpm/sq. ft. over the “design area” in accordance with sections 8.5.2.1 or 8.6.2.1.2 of NFPA 13.
- Minimum distance between residential sprinklers: 8 ft. (2.4 m).
- The VK479 horizontal sidewall sprinkler deflector shall be located a minimum of 1-1/4” (31.8 mm) and a maximum of 6” (152 mm) from the wall on which it is installed.

DEFLECTOR POSITION: Install sprinkler VK479 with the leading edge of the deflector oriented parallel to the ceiling and the sprinkler frame arms oriented parallel to the ceiling (see Figure 4). **THE TOP SURFACE OF THE DEFLECTOR IS MARKED “TOP”.** The sprinkler must be oriented as shown in Figure 3 below.

IMPORTANT: Always refer to Bulletin Form No. F_091699 - Care and Handling of Sprinklers. Also refer to Form No. F_080190, F_080814, and F_080415 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 and any other similar Authorities Having Jurisdiction, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable. Final approval and acceptance of all residential sprinkler installations must be obtained from the Authorities Having Jurisdiction.



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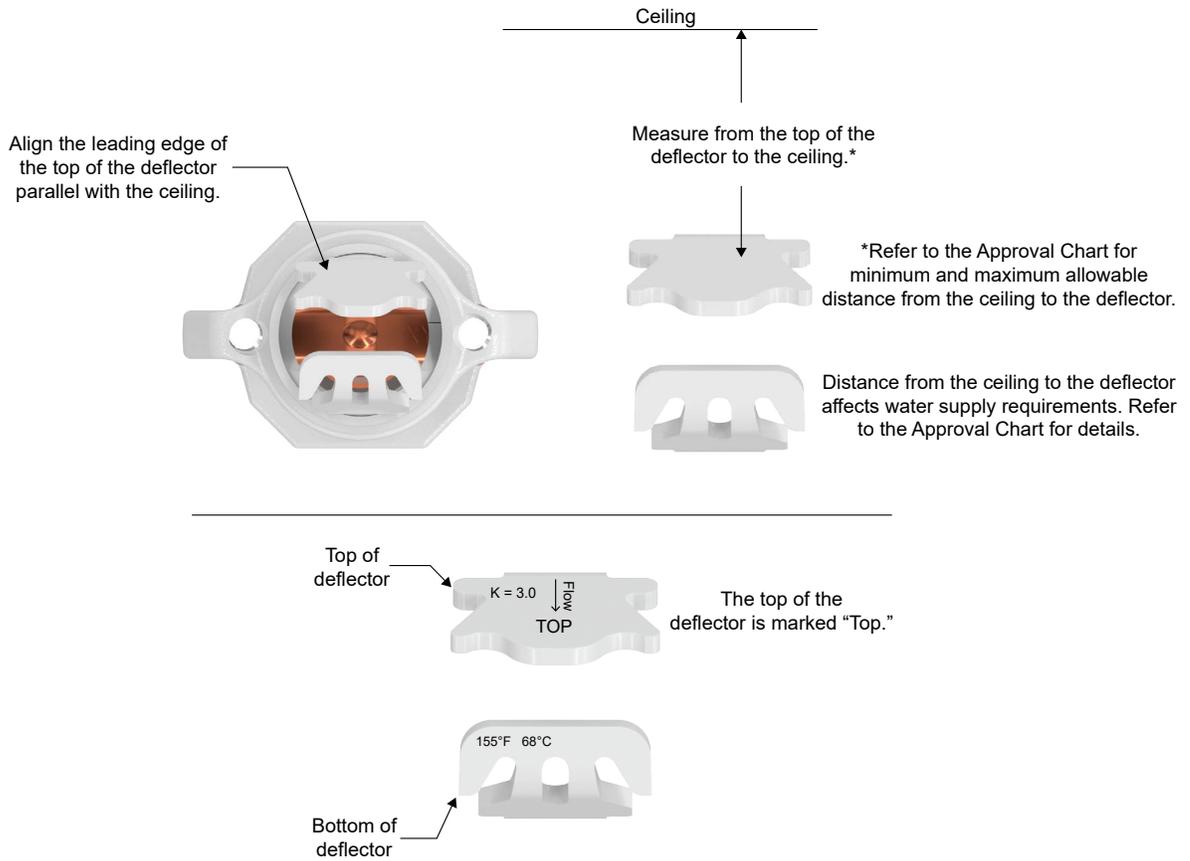


Figure 3:
Correct Orientation of the Deflector



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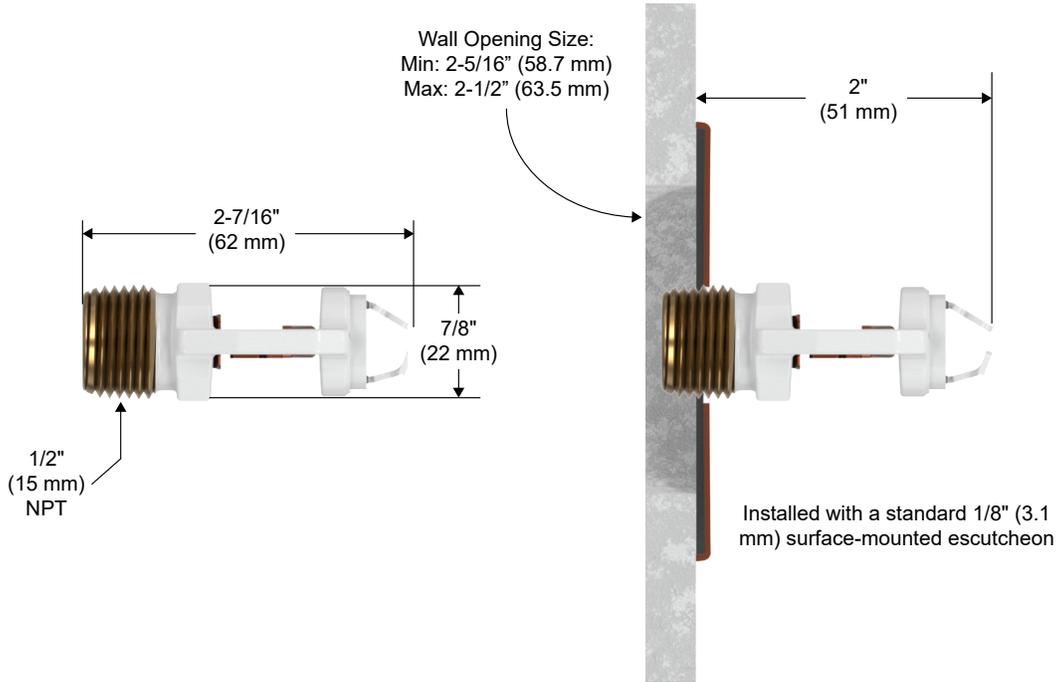


Figure 4:
Sprinkler VK479 Dimensions with a Standard Escutcheon

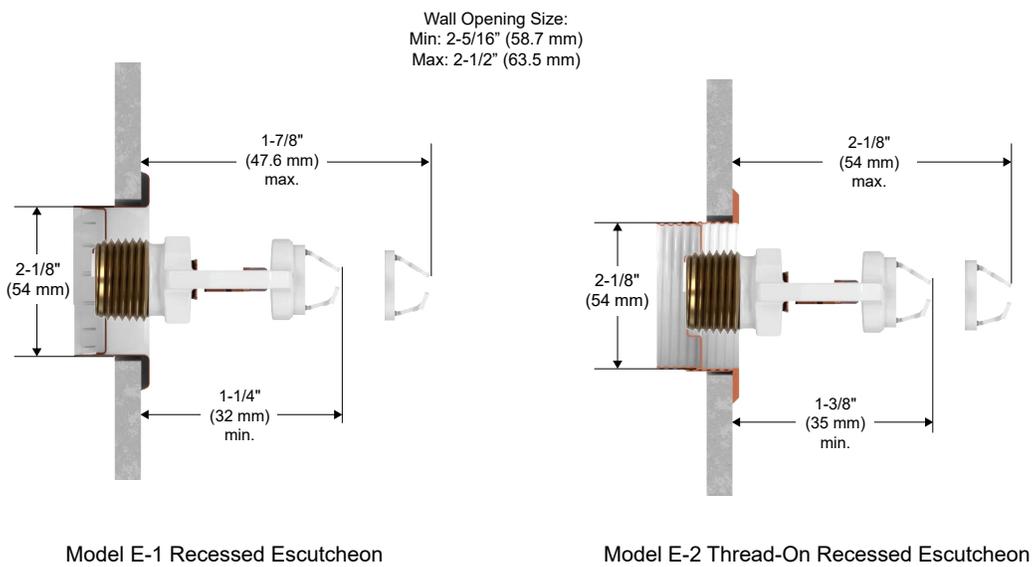


Figure 5:
Sprinkler VK479 Dimensions with the Model E-1 and E-2 Recessed Escutcheons



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