



TECHNICAL DATA

STANDARD RESPONSE ELO PENDENT SPRINKLER VK536 (STORAGE-DENSITY/AREA)

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

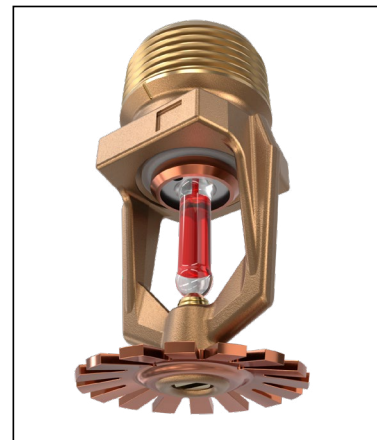
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1. DESCRIPTION

The Viking Standard Response ELO Pendent Sprinkler VK536 is a thermosensitive glass bulb spray sprinkler available in several different 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 atmospheres and are listed/approved as corrosion resistant as indicated in the Approval Charts.

The extra-large orifice provides greater flows at lower pressures than standard orifice or large orifice sprinklers. This feature allows reduced pipe sizing for hydraulically calculated sprinkler systems, which require high densities of water. Viking Standard Response Extra-Large Orifice Sprinklers may eliminate the need for a fire pump or reduce the size of the pump if it is required. On existing systems, replacing large orifice sprinklers with extra-large orifice sprinklers may provide the higher densities required to allow an increase in the hazard classification of an occupancy.

Viking standard response sprinklers may be ordered and/or used as open sprinklers (glass bulb and pip cap assembly removed) on deluge systems. Refer to Ordering Instructions below.



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

2. LISTINGS AND APPROVALS



cULus Listed: Category VNIV



FM Approved: Class 2009

Refer to Approval Charts and Design Criteria for requirements that must be followed.

3. TECHNICAL DATA

Specifications:

Available since 1992.

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

Thread size: 3/4" NPT or 20 mm BSP

Nominal K-Factor: 11.2 U.S. (161.3 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: 2-5/16" (58.7 mm)

Material Standards:

Sprinkler Frame: Brass UNS-C84400

Deflector: Brass UNS-C51000

Bulb: Glass, nominal 5 mm diameter

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

Compression Screw: Brass UNS-C36000

Belleville Spring Sealing Assembly: Nickel Alloy, coated on both sides with PTFE Tape
For Polyester Coated Sprinklers: Belleville Spring-Exposed

For ENT Coated Sprinklers: Belleville Spring-Exposed, Screw and Pipcap-ENT plated

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4. INSTALLATION

Refer to appropriate NFPA, FM Global, and/or any other applicable installation standards.

5. OPERATION

During fire conditions, when the temperature around the sprinkler reaches its operating temperature, 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 Standard Response Extra-Large Orifice Pendent Sprinkler VK536 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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Ordering Instructions

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

EXAMPLE: 07961AD = VK536 with brass finish and 175 °F (79 °C) nominal temperature rating. This sprinkler is to be installed into an area with a maximum ambient temperature of 150 °F (66 °C).

Sprinkler Base Part Number		Finish		Temperature Ratings				
Part Number*	Thread Size	Description	Suffix	Temperature Classification	Temperature Rating	Bulb color	Maximum Ambient Ceiling Temperature	Suffix
07961	3/4" NPT	Brass	A	Ordinary	155 °F (68 °C)	Red	100 °F (38 °C)	B
07961XX-TQ*	3/4" NPT	Chrome	F	Intermediate	175 °F (79 °C)	Yellow	150 °F (66 °C)	D
14820	20 mm	White polyester	M-/W	Intermediate	200 °F (93 °C)	Green	150 °F (66 °C)	E
14820XX-TQ*	20 mm	Black polyester	M-/B	High	286 °F (141 °C)	Blue	225 °F (107 °C)	G
		ENT	JN					

* Where "XX" is shown in the base part number, enter the desired suffixes for Finish and Temperature Rating (EXAMPLE: 07961AE-TQ)

Accessories
Sprinkler wrench: 05118CW/B (standard wrench) & 11663W/B (for recessed or coated sprinklers)
Sprinkler cabinet: 01724A (six head capacity) & 01725A (twelve head capacity)





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Step 1: Carefully slide the wrench sideways around the deflector and protective shield. (Note the shield orientation in the wrench.)

Step 2: Carefully press the wrench upward and turn slightly to ensure engagement with the sprinkler wrench flats.

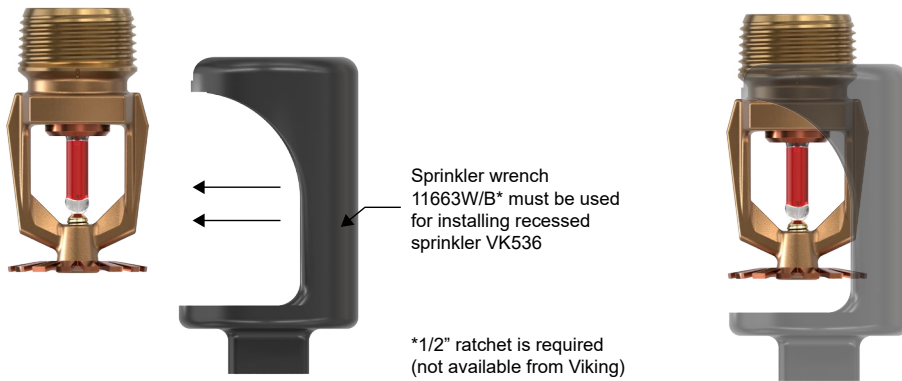


Figure 3: Wrench 11663W/B for Coated and/or Recessed Pendent ELO Sprinklers

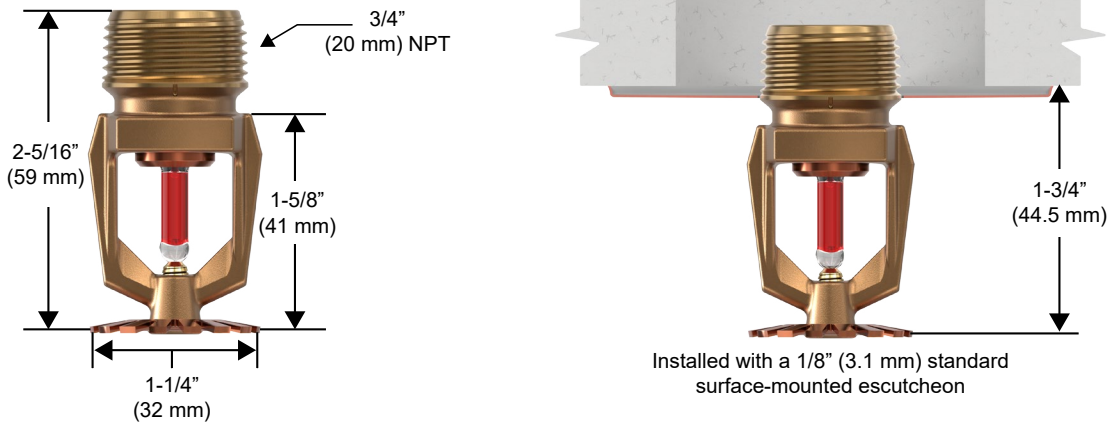


Figure 4: Sprinkler Dimensions



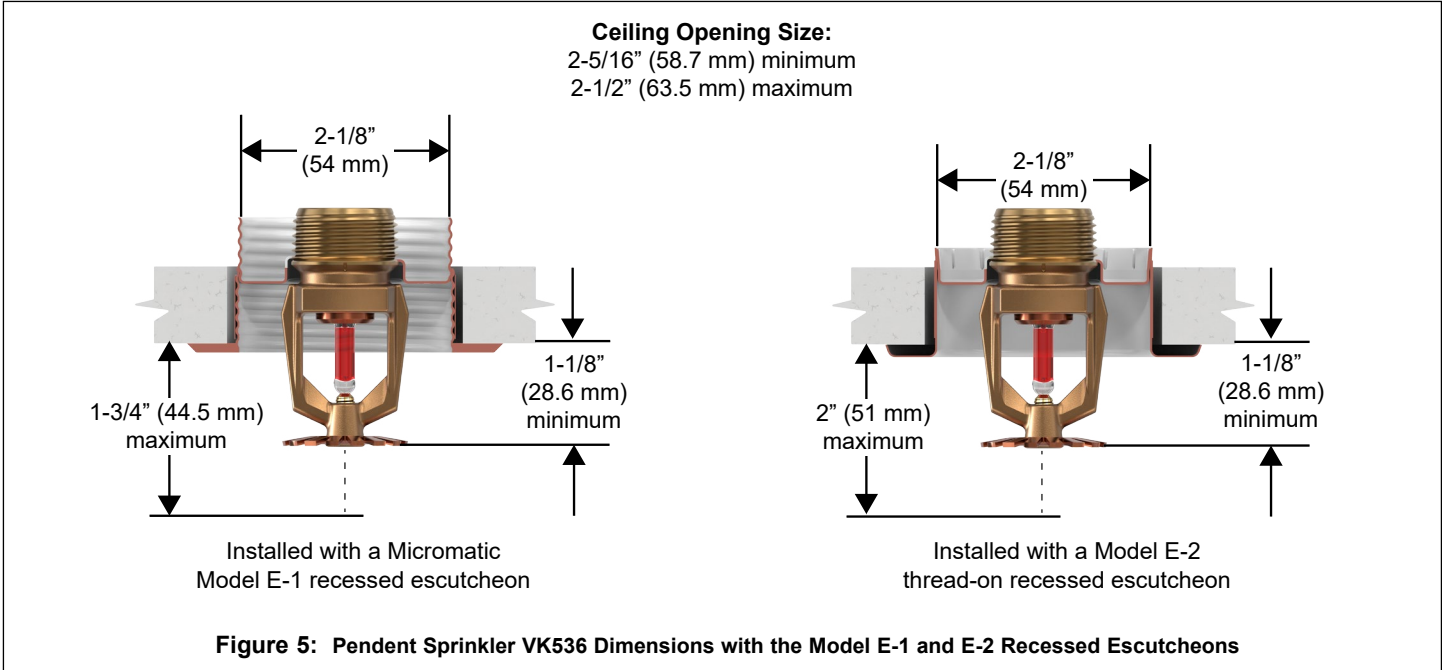
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Approval Chart 1 (UL) Standard Response Extra-Large Orifice Pendent Sprinklers Maximum 175 PSI (12 Bar) WWP	<table border="1" style="border-collapse: collapse;"> <tr> <td style="font-size: small;">Temperature</td> <td style="text-align: center;">KEY</td> </tr> <tr> <td style="font-size: x-small;">A1X</td> <td style="font-size: x-small;">Escutcheon (if applicable)</td> </tr> </table>	Temperature	KEY	A1X	Escutcheon (if applicable)
Temperature	KEY				
A1X	Escutcheon (if applicable)				

Base Part Number ¹	SIN	Sprinkler Style	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
07961	VK536	Pendent	3/4"	--	11.2	161.3	2-5/16	58.7	A1Y, B1Z, B2Y, B3X, A3W
07961XX-TQ	VK536	Pendent	3/4"	--	11.2	161.3	2-5/16	58.7	A1Y, B1Z, B3X, A3W
14820	VK536	Pendent	--	20 mm	11.2	161.3	2-5/16	58.7	A1Y, B1Z, B2Y, B3X, A3W
14820XX-TQ	VK536	Pendent	--	20 mm	11.2	161.3	2-5/16	58.7	A1Y, B1Z, B3X, A3W

Approved Temperature Ratings A - 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), and 286 °F (141 °C) B - 155 °F (68 °C), 175 °F (79 °C), and 200 °F (93 °C)	Approved Finishes 1 - Brass, Chrome, White Polyester ⁵ , and Black Polyester ⁵ 2 - Wax-Coated Brass (corrosion-resistant) ⁶ 3 - ENT ⁵	Escutcheons W - Standard surface-mounted escutcheons only. X - Standard surface-mounted escutcheons or recessed with the Micromatic Model E-1 Escutcheon. Y - Standard surface-mounted escutcheons Z - Standard surface-mounted escutcheons, or recessed with the Micromatic [®] Model E-1, E-2, or E-3 Recessed Escutcheon
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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. The corrosion-resistant coatings have passed the standard corrosion test required by the approving agencies indicated in the Approval Charts. 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 all ENT coated sprinklers, the waterway is coated.
- ⁶ Wax melting point is 170 °F (76 °C) for 286 °F (141 °C) temperature rated sprinklers.

DESIGN CRITERIA - UL (Also refer to Approval Chart 1 above.)
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cULus Listing Requirements:

Standard Response Extra-Large Orifice Pendent Sprinkler VK536 is cULus Listed for installation in accordance with the latest edition of NFPA 13 for standard pendent spray sprinklers:

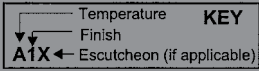
- Designed for use in hazard occupancies up to and including Extra-Hazard Group II with a minimum operating pressure of 7 psi (0.5 bar).
- Sprinkler VK536 is also cULus Listed for use in High-Piled Storage Occupancies as defined in NFPA 13 with a minimum operating pressure of 7 psi (0.5 bar).
- The sprinkler installation and obstruction rules contained in NFPA 13 for standard spray pendent sprinklers must be followed.
- Venting is not required.

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, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.

	<h2 style="margin: 0;">TECHNICAL DATA</h2>	<h3 style="margin: 0;">STANDARD RESPONSE ELO PENDENT SPRINKLER VK536 (STORAGE-DENSITY/AREA)</h3>
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Approval Chart 2 (FM) Standard Response Extra-Large Orifice Pendent Sprinklers Maximum 175 PSI (12 Bar) WWP									
Base Part Number ¹	SIN	Sprinkler Style	Thread Size		Nominal K-Factor		Overall Length		FM Approvals ³ (Refer also to Design Criteria below.)
			NPT	BSPT	U.S.	metric ²	Inches	mm	
07961	VK536	Pendent	3/4"	--	11.2	161.3	2-5/16	58.7	A1X, A2X
07961XX-TQ	VK536	Pendent	3/4"	--	11.2	161.3	2-5/16	58.7	A1X, A2X
14820	VK536	Pendent	--	20 mm	11.2	161.3	2-5/16	58.7	A1X, A2X
14820XX-TQ	VK536	Pendent	--	20 mm	11.2	161.3	2-5/16	58.7	A1X, A2X
Approved Temperature Ratings A - 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), and 286 °F (141 °C)					Approved Finishes 1 - Brass 2 - ENT ⁴			Escutcheons X - Standard surface-mounted escutcheons	
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 FM Approvals available at the time of printing. Other approvals may be in process. ⁴ FM Approved as corrosion resistant.									



DESIGN CRITERIA - FM (Also refer to Approval Chart 2 above.)
<p>FM Approval Requirements:</p> <p>1. Standard Response Extra-Large Orifice Pendent Sprinkler VK536 is FM Approved for use as a standard response pendent Storage sprinkler as indicated in the FM Approval Guide.</p> <ul style="list-style-type: none"> For specific application and installation requirements, reference the latest applicable FM Loss Prevention Data Sheets (including Data Sheets 2-0 and 8-9). <p>2. Approved storage sprinklers are also FM Approved for use as non-storage sprinklers.</p> <ul style="list-style-type: none"> For specific application and installation requirements, reference the latest applicable FM Loss Prevention Data Sheets (including Data Sheet 2-0). <p>FM Global Loss Prevention Data Sheets contain guidelines relating to, but not limited to: minimum water supply requirements, hydraulic design, ceiling slope and obstructions, minimum and maximum allowable spacing, and deflector distance below the ceiling.</p> <p>NOTE: The FM installation guidelines may differ from cULus and/or NFPA criteria.</p> <p>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, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.</p>