



## TECHNICAL DATA

### STANDARD/QR EXTENDED COVERAGE LIGHT HAZARD ELO FUSIBLE ELEMENT PENDENT SPRINKLER VK617

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 Standard/QREC Light Hazard ELO Fusible Element Pendent Sprinkler VK617 is a thermosensitive spray sprinkler available in several different finishes and temperature ratings to meet varying design requirements. The fusible operating element and special deflector characteristics meet the challenges of quick response extended coverage standards. The sprinkler has both quick response and standard response listings as indicated in the Approval Charts. The special Polyester and Electroless Nickel PTFE coatings can be used in decorative applications where colors are desired. In addition, the ENT coating has been investigated for installation in corrosive environments and is listed/approved as indicated in the Approval Charts.

## 2. LISTINGS AND APPROVALS



**cULus Listed:** Category VNIV



**FM Approved:** Classes 2020 and 2022

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

## 3. TECHNICAL DATA

### Specifications:

Available since 2007.

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: 3/4" NPT

Nominal K-Factor: 11.2 U.S. (161.3 metric†)

† Metric K-factor measurement shown is in Bar. When pressure is measured in kPa, divide the metric K-factor shown by 10.0.

Overall Length: 2-5/16" (59 mm)

### Material Standards:

Sprinkler Frame: Brass UNS-C84400

Deflector: Phosphor Bronze UNS-C51000

Fusible Element Assembly: Nickel Alloy

Trigger and Support: Stainless Steel UNS-S31600

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

Seat and Insert Assembly: Copper UNS-C11000 and Stainless Steel UNS-S30400

Screw: Brass UNS-C36000

For ENT Coated Sprinklers: Belleville Spring-Exposed, Screw and Pip Cap-ENT Coated

For Polyester Coated Sprinklers: Belleville Spring-Exposed

### Ordering Information: (Also refer to the current Viking price list.)

Order Standard/QREC Light Hazard ELO Fusible Element Pendent Sprinkler VK617 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: 165 °F (74 °C) = C and 205 °F (96 °C) = E

For example, sprinkler VK617 with a Brass finish and a 165 °F (74 °C) temperature rating = Part No. 14141AC

**Available Finishes And Temperature Ratings:** Refer to Table 1.

**Accessories:** (Also refer to the Viking website.)

### Sprinkler Wrenches:

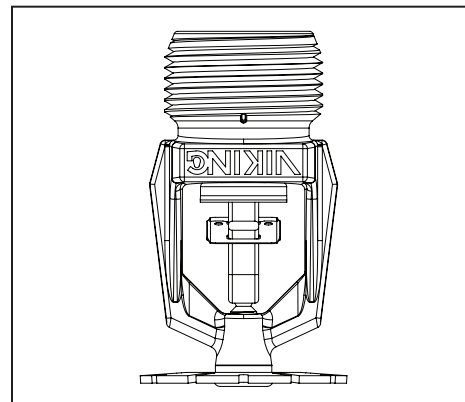
A. Standard Wrench: Part No. 05118CW/B (available since 1981)

B. Wrench for recessed pendent sprinkler: Part No. 11663W/B\*\* (available since 2001)

\*\*A 1/2" ratchet is required (not available from Viking).

### Sprinkler Cabinets:

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



**For Light Hazard Occupancies Only**

NOTE: As of May 2018 all logos have been removed from the wrench boss.



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



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

**4. INSTALLATION**

Refer to appropriate NFPA Installation Standards.

**5. OPERATION**

During fire conditions, the heat-sensitive fusible element assembly disengages, releasing the seat and spring assemblies to open the waterway. 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**

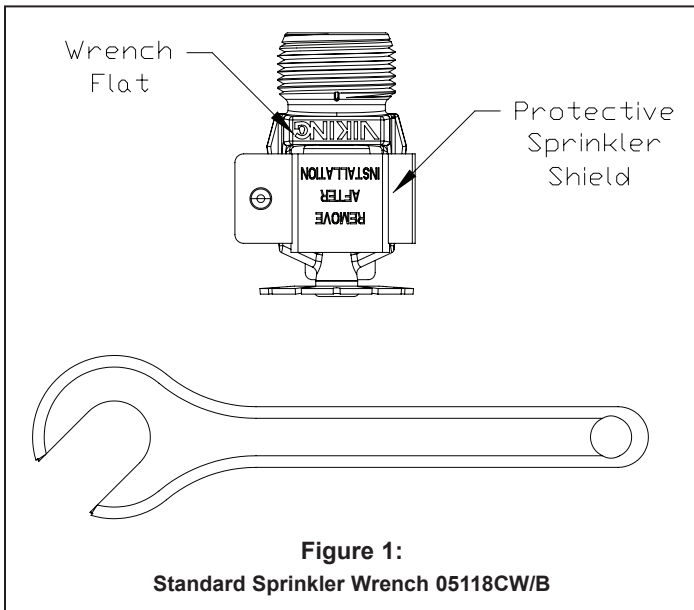
Refer to NFPA 25 for Inspection, Testing and Maintenance requirements.

**7. AVAILABILITY**

Viking Sprinkler VK617 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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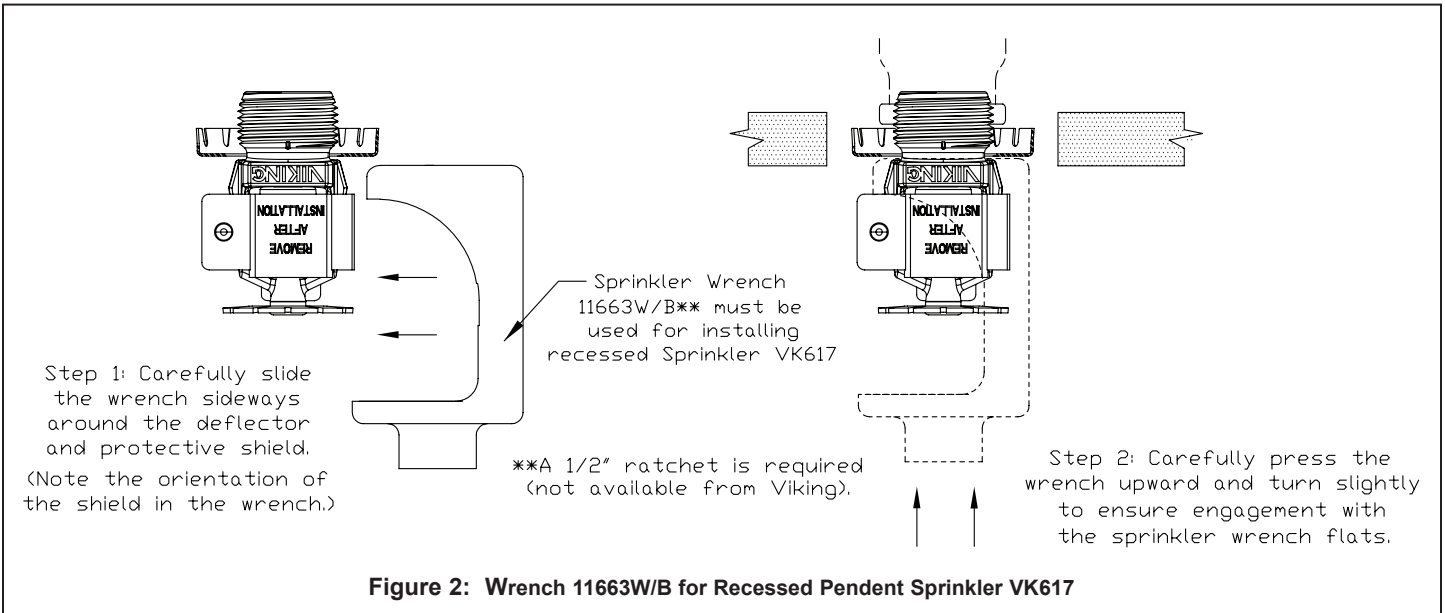
**TABLE 1: AVAILABLE SPRINKLER TEMPERATURE RATINGS AND FINISHES**

Sprinkler Temperature Classification	Sprinkler Nominal Temperature Rating <sup>1</sup>	Maximum Ambient Ceiling Temperature <sup>2</sup>	Frame Paint Color
Ordinary	165 °F (74 °C)	100 °F (38 °C)	None
Intermediate	205 °F (96 °C)	150 °F (65 °C)	White

**Sprinkler Finishes:** Brass, Chrome, White Polyester<sup>3</sup>, Black Polyester<sup>3</sup>, and ENT<sup>4,5</sup>  
**Corrosion Resistant Sprinkler Finishes:** ENT<sup>4,5</sup>

**Footnotes**

- <sup>1</sup> Decorative sprinklers may not be color coded. The 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> For automatic sprinklers, the coatings indicated are applied to the exposed exterior surfaces only. Note that the spring is exposed on sprinklers with Polyester coatings.
- <sup>4</sup> 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. Note that the spring is exposed on sprinklers with ENT coatings. For ENT coated automatic sprinklers, the waterway is coated.
- <sup>5</sup> cULus Listed as corrosion resistant.



	<h2 style="margin: 0;">TECHNICAL DATA</h2>	<p><b>STANDARD/QR EXTENDED COVERAGE LIGHT HAZARD ELO FUSIBLE ELEMENT PENDENT SPRINKLER VK617</b></p>
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Sprinkler Base Part Number <sup>1</sup>	SIN	NPT Thread Size		Nominal K-Factor		Maximum Water Working Pressure	Overall	
		Inches	mm	U.S.	metric <sup>2</sup>		inches	mm
14141	VK617	3/4	--	11.2	161.3	175 psi (12 Bar)	2-5/16	59

<p><b>Approval Chart 1 (UL)</b>  <b>Standard Response/QR ELO Pendent Sprinkler VK617</b>  <b>For Light Hazard Occupancies Only</b></p>	<table border="1" style="border-collapse: collapse;"> <tr> <td style="font-size: small;">Temperature</td> <td style="text-align: center;"><b>KEY</b></td> </tr> <tr> <td style="font-size: small;">Finish</td> <td></td> </tr> <tr> <td style="font-size: small;">A1X ← Escutcheon (if applicable)</td> <td></td> </tr> </table>	Temperature	<b>KEY</b>	Finish		A1X ← Escutcheon (if applicable)	
Temperature	<b>KEY</b>						
Finish							
A1X ← Escutcheon (if applicable)							

Maximum Sprinkler Spacing <sup>4</sup> (Length x Width)	Maximum Area per Sprinkler	Minimum Water Supply Requirements <sup>4</sup>	Listings and Approvals <sup>3</sup> (Refer also to Design Criteria below.)	
			cULus <sup>5</sup>	NYC

Standard Response <sup>7</sup>				
12 ft. x 12 ft. (3.7 m x 3.7 m)	144 ft <sup>2</sup> (13.4 m <sup>2</sup> )	30 gpm @ 7.2 psi (113.6 L/min @ .50 Bar)	A1Y, A2Z	See Footnote 6.
14 ft. x 14 ft. (4.3 m x 4.3 m)	196 ft <sup>2</sup> (18.2 m <sup>2</sup> )	30 gpm @ 7.2 psi (113.6 L/min @ .50 Bar)	A1Y, A2Z	See Footnote 6.

Quick Response				
16 ft. x 16 ft. (4.9 m x 4.9 m)	256 ft <sup>2</sup> (23.8 m <sup>2</sup> )	30 gpm @ 7.2 psi (113.6 L/min @ .50 Bar)	C1Y, B1X, C2Z, B2X	See Footnote 6.
18 ft. x 18 ft. (5.5 m x 5.5 m)	324 ft <sup>2</sup> (30.1 m <sup>2</sup> )	33 gpm @ 8.7 psi (124.9 L/min @ .60 Bar)	C1Y, C2Z	See Footnote 6.

Approved Temperature Ratings	Approved Finishes	Approved Escutcheons
A - 165 °F (74 °C) and 205 °F (96 °C) B - 205 °F (96 °C) C - 165 °F (74 °C)	1 - Brass, Chrome, White Polyester and Black Polyester 2 - ENT <sup>8</sup>	X - Standard surface-mounted escutcheons Y - Standard surface-mounted escutcheons or recessed with the Micromatic® Model E-1, E-2, or E-3 Recessed Escutcheon Z - Standard surface-mounted escutcheons or recessed with the Micromatic Model E-1 Recessed Escutcheon.

**Footnotes**

<sup>1</sup> Part number shown is the base part number. For complete part number, refer to current Viking price list 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 chart shows listings and approvals available at time of printing. Other approvals may be in process. Check with the manufacturer for any additional approvals.  
<sup>4</sup> For areas of coverage smaller than shown, use the "Minimum Water Supply Requirement" for the next larger area listed. Flows and pressures listed are per sprinkler.  
<sup>5</sup> cULus Listed for use in the U.S. and Canada for Light Hazard occupancies with smooth, flat, horizontal ceilings only.  
<sup>6</sup> Meets New York City requirements, effective July 1, 2008.  
<sup>7</sup> Listings are limited to Light Hazard Occupancies where allowed by the installation standards being applied.  
<sup>8</sup> cULus Listed as corrosion resistant.

**DESIGN CRITERIA - UL**  
 (Also refer to Approval Chart 1 above.)

**cULus Listing Requirements:**  
 Standard/QR ELO Fusible Element Pendent Sprinkler VK617 is cULus Listed as indicated in Approval Chart 1 for installation in accordance with the latest edition of NFPA 13 for extended coverage pendent spray sprinklers:

- Limited to Light Hazard occupancies, where allowed by the installation standards being applied, with smooth, flat, horizontal ceilings only.
- Minimum spacing allowed is 8 ft. (2.4 m) unless baffles are installed in accordance with NFPA 13.
- Minimum distance from walls is 4 in. (102 mm).
- Maximum distance from 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 extended coverage pendent spray sprinklers must be followed.

**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.**



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Sprinkler Base Part Number <sup>1</sup>	SIN	NPT Thread Size		Nominal K-Factor		Maximum Water Working Pressure	Overall Length	
		Inches	mm	U.S.	metric <sup>2</sup>		Inches	mm
14141	VK617	3/4	--	11.2	161.3	175 psi (12 Bar)	2-5/16	59

#### Approval Chart 2 (FM)

#### Quick Response Extended Coverage ELO Pendent Sprinkler VK617

KEY	
Temperature	Temperature
Finish	Finish
A1X ← Escutcheon (if applicable)	Escutcheon (if applicable)

Maximum Sprinkler Spacing <sup>4</sup> (Length x Width)	Maximum Area per Sprinkler	Minimum Water Supply Requirements <sup>4</sup>	FM Approvals <sup>3</sup> (Refer also to Design Criteria below.)
16 ft. x 16 ft. (4.9 m x 4.9 m)	256 ft <sup>2</sup> (23.8 m <sup>2</sup> )	30 gpm @ 7.2 psi (113.6 L/min @ 0.50 Bar)	A1X
18 ft. x 18 ft. (5.5 m x 5.5 m)	324 ft <sup>2</sup> (30.1 m <sup>2</sup> )	33 gpm @ 8.7 psi (124.9 L/min @ 0.60 Bar)	A1X

#### Approved Escutcheons

**Approved Temperature Rating**  
A - 165 °F (74 °C)

**Approved Finishes**  
1 - Brass, Chrome, White Polyester,  
Black Polyester, and ENT

X - Standard surface-mounted escutcheons or recessed with the Micromatic® Model E-1, E-2, or E-3 Recessed Escutcheon  
Z - Standard surface-mounted escutcheons or recessed with the Micromatic Model E-1 Recessed Escutcheon.

#### Footnotes

<sup>1</sup> Part number shown is the base part number. For complete part number, refer to current Viking price list 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 chart shows listings and approvals available at time of printing. Other approvals may be in process. Check with the manufacturer for any additional approvals.

<sup>4</sup> For areas of coverage smaller than shown, use the "Minimum Water Supply Requirement" for the next larger area listed. Flows and pressures listed are per sprinkler.

### DESIGN CRITERIA - FM

(Also refer to Approval Chart 2 above.)

#### FM Approval Requirements:

Sprinkler VK617 is FM Approved as a quick response **Non-Storage** extended coverage pendent sprinkler as indicated in the FM Approval Guide. For specific application and installation requirements, reference the latest applicable FM Loss Prevention Data Sheets (including Data Sheet 2-0). 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.

**NOTE: The FM installation guidelines may differ from cULus and/or NFPA criteria.**

**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.**



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