



## TECHNICAL DATA

## QUICKRESPONSEEXTENDED COVERAGE FUSIBLE ELEMENT PENDENT SPRINKLER VK603

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 QREC Fusible Element Pendent Sprinkler VK603 is a thermosensitive solder link 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 special Polyester coatings can be used in decorative applications where colors are desired.

### 2. LISTINGS AND APPROVALS

 **cULus Listed:** Category VNIV

 **FM Approved:** Class 2020

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

### 3. TECHNICAL DATA

#### Specifications:

Available since 2013.

Minimum Operating Pressure: Refer to the Approval Charts.

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

Overall Length: 2-3/8" (60 mm)

#### Material Standards:

Sprinkler Frame: Brass UNS-C84400 or QM Brass

Deflector: Brass UNS-C26000

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

Pip Cap Attachment: Brass UNS-C36000

Screw: Brass UNS-C36000

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 QREC Fusible Element Pendent Sprinkler VK603 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, and Black Polyester = M-/B

Temperature Suffix: 165 °F (74 °C) = C and 205 °F (96 °C) = E

For example, sprinkler VK603 with a Brass finish and a 165 °F (74 °C) temperature rating = Part No. 18277AC

**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 coated and/or recessed sprinklers: Part No. 13655W/B†† (available since 2006)

††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**

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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**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**

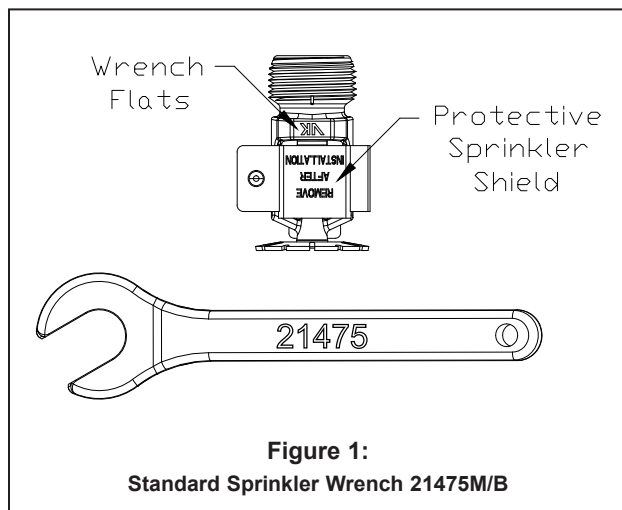
Refer to NFPA 25 for Inspection, Testing and Maintenance requirements.

**7. AVAILABILITY**

The Viking Model VK603 Sprinkler 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.



**Figure 1:  
Standard Sprinkler Wrench 21475M/B**

**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>, and Black Polyester<sup>3</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.



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### Approval Chart 1 (UL)

Quick Response Extended Coverage Pendent Fusible Element Sprinkler VK603

For Light Hazard Occupancies Only.  
 Maximum 175 PSI (12 Bar) WWP

	Temperature	KEY
↓	Finish	
A1X ←	Escutcheon (if applicable)	

Sprinkler Base Part Number <sup>1</sup>	SIN	NPT Thread Size		Nominal K-Factor		Maximum Areas of Coverage <sup>4</sup> (Length x Width)	Minimum Water Supply Requirements <sup>4</sup> Flow/Pressure	Listings and Approvals <sup>3</sup> (Refer also to Design Criteria below.)
		Inches	mm	U.S.	metric <sup>2</sup>			cULus <sup>5</sup>
18277	VK603	3/4	20	8.0	115.2	16' x 16' (4.9 m x 4.9 m)	26 gpm @ 10.6 psi (98.4 L/min @ 0.73 Bar)	A1Y, B1Z
18277	VK603	3/4	20	8.0	115.2	18' x 18' (5.5 m x 5.5 m)	33 gpm @ 17.0 psi (124.9 L/min @ 1.17 Bar)	B1Z
<b>NOTICE - Product Below - Limited Availability (Contact Local Viking Office)</b>								
14140	VK603	3/4	20	8.0	115.2	16' x 16' (4.9 m x 4.9 m)	26 gpm @ 10.6 psi (98.4 L/min @ 0.73 Bar)	A1Y, B1Z
14140	VK603	3/4	20	8.0	115.2	18' x 18' (5.5 m x 5.5 m)	33 gpm @ 17.0 psi (124.9 L/min @ 1.17 Bar)	B1Z
<b>Sprinkler Temperature Ratings</b> A - 205 °F (96 °C) B - 165 °F (74 °C)		<b>Approved Finishes</b> 1 - Brass, Chrome, White Poly-ester, and Black Polyester				<b>Approved Escutcheons</b> Y - Standard surface-mounted escutcheons Z - Standard surface-mounted escutcheons or recessed with the Micromatic® Model E-1 or E-2 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 the listings and approvals available at the 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 with sprinklers of similar K-factor. Flows and pressures listed are per sprinkler.
- <sup>5</sup> Listed by Underwriter's Laboratories, Inc. for use in the U.S. and Canada for Light Hazard occupancies with smooth, flat, horizontal ceilings only.

### DESIGN CRITERIA - UL

(Also refer to Approval Chart 1 above.)

#### cULus Listing Requirements:

QREC Pendent Sprinkler VK603 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 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, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.**



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### Approval Chart 2 (FM)

Quick Response Extended Coverage Pendent Fusible Element Sprinkler VK603  
 Maximum 175 PSI (12 Bar) WWP

KEY	
Temperature	Temperature
Finish	Finish
A1X	Escutcheon (if applicable)

Sprinkler Base Part Number <sup>1</sup>	SIN	NPT Thread Size		Nominal K-Factor		Maximum Areas of Coverage <sup>4</sup> (Length x Width)	Minimum Water Supply Requirements <sup>4</sup> Flow/Pressure	FM Approvals <sup>3</sup> (Refer also to Design Criteria below.)
		Inches	mm	U.S.	metric <sup>2</sup>			
18277	VK603	3/4	20	8.0	115.2	16' x 16' (4.9 m x 4.9 m)	26 gpm @ 10.6 psi (98.4 L/min @ 0.73 Bar)	A1Z
18277	VK603	3/4	20	8.0	115.2	18' x 18' (5.5 m x 5.5 m)	33 gpm @ 17.0 psi (124.9 L/min @ 1.17 Bar)	A1Z
<b>NOTICE - Product Below - Limited Availability (Contact Local Viking Office)</b>								
14140	VK603	3/4	20	8.0	115.2	16' x 16' (4.9 m x 4.9 m)	26 gpm @ 10.6 psi (98.4 L/min @ 0.73 Bar)	A1Z
14140	VK603	3/4	20	8.0	115.2	18' x 18' (5.5 m x 5.5 m)	33 gpm @ 17.0 psi (124.9 L/min @ 1.17 Bar)	A1Z
<b>Sprinkler Temperature Rating</b> A - 165 °F (74 °C)		<b>Approved Finishes</b> 1 - Brass, Chrome, White Polyester, and Black Polyester				<b>Approved Escutcheons</b> Z - Standard surface-mounted escutcheons or recessed with the Micromatic® Model E-1 or E-2 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 the FM Approvals available at the 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 with sprinklers of similar K-factor. Flows and pressures listed are per sprinkler.

### DESIGN CRITERIA - FM

(Also refer to Approval Chart 2 above.)

QREC Sprinkler VK603 is FM Approved as quick response **Non-Storage** extended coverage pendent sprinklers 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.**

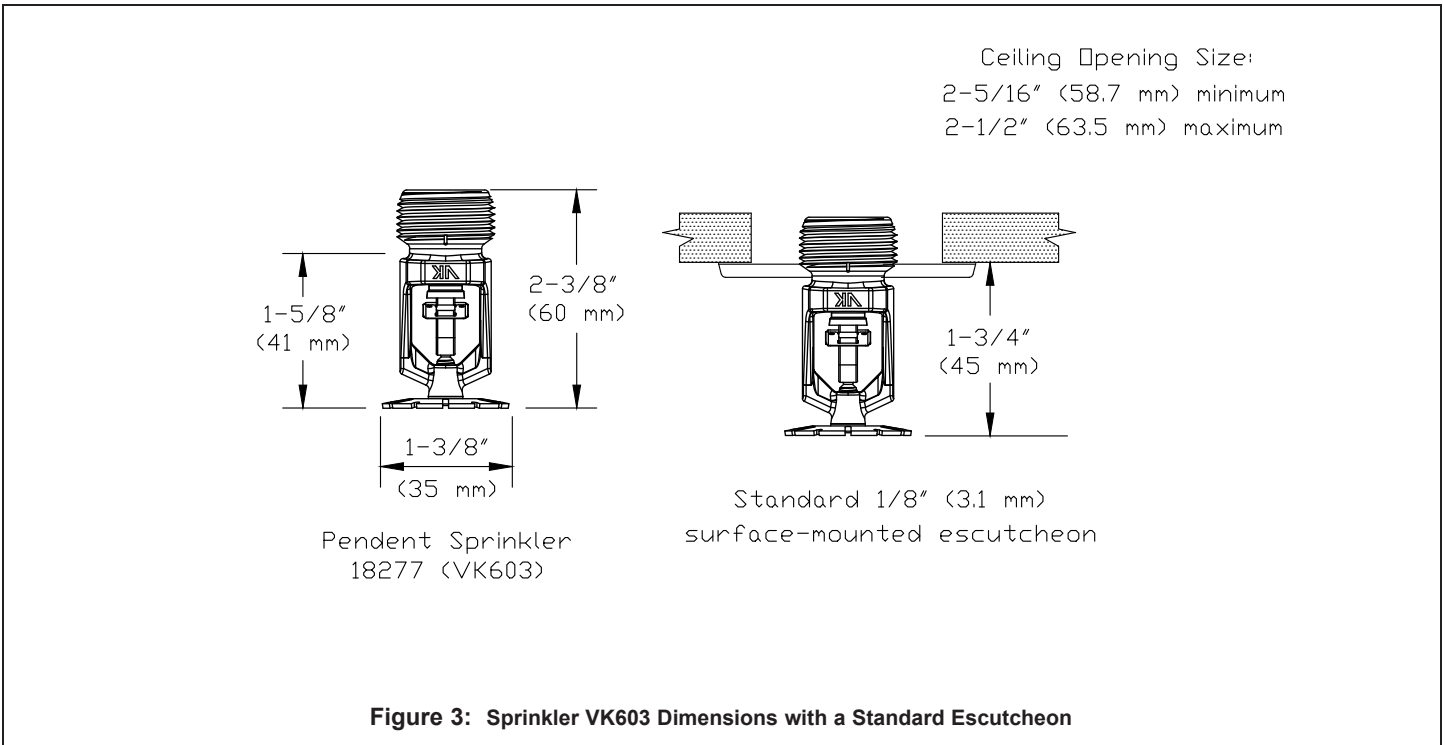
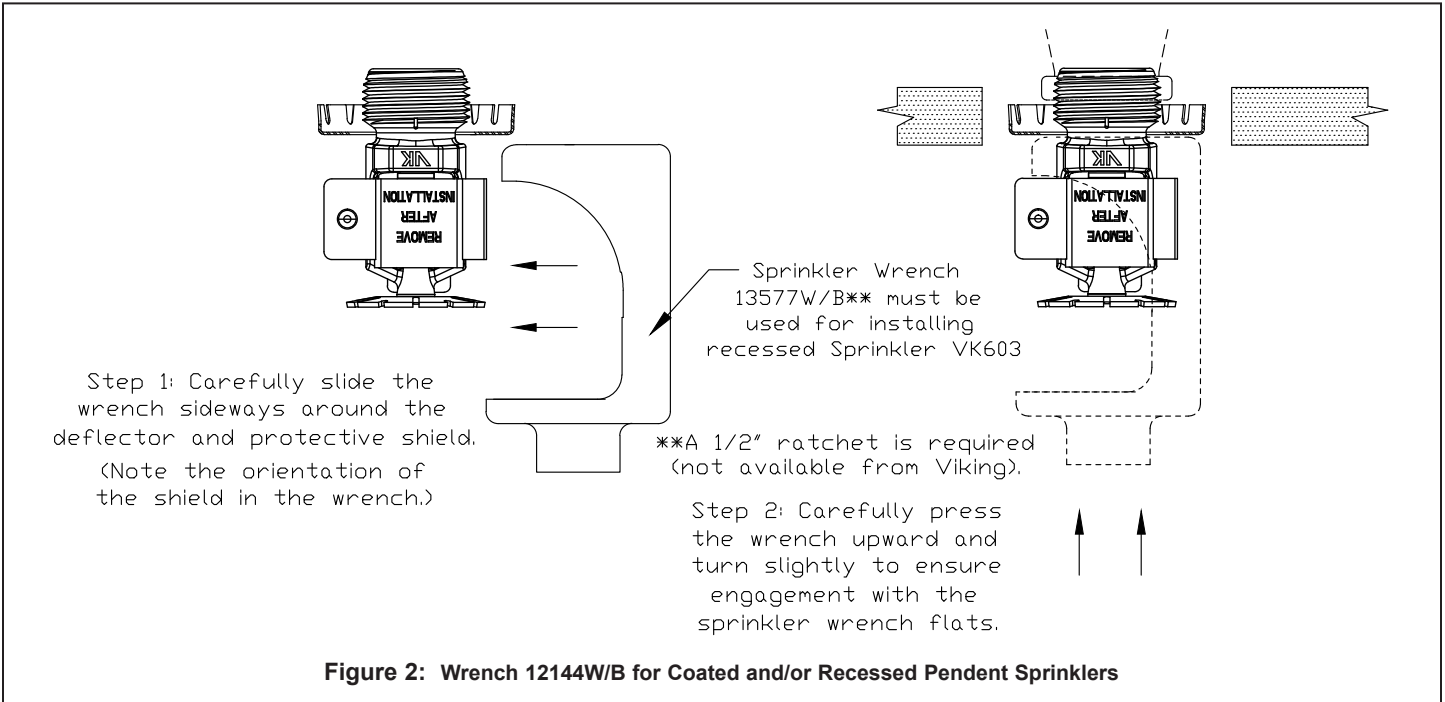
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