



## TECHNICAL DATA

### MICROFAST® SR/QR EXTENDED COVERAGE HSW SPRINKLER VK605 (K5.6)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

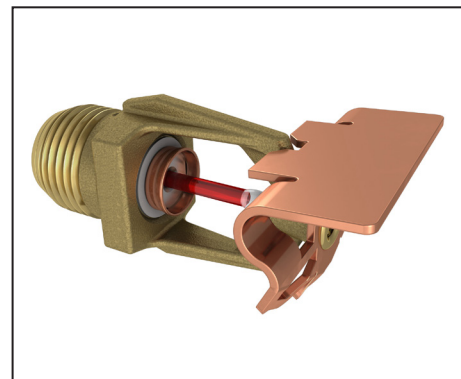
Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

Visit the Viking website for the latest edition of this technical data page [www.vikinggroupinc.com](http://www.vikinggroupinc.com).

## 1. DESCRIPTION

The Viking Microfast® Standard/Quick Response Extended Coverage Horizontal Sidewall Sprinkler VK605 is thermosensitive spray sprinklers available in several different finishes and temperature ratings to meet varying design requirements. The orifice design allows efficient use of available water supplies for hydraulically designed fire-protection systems. The glass bulb operating element and special deflector characteristics meet the challenges of quick response extended coverage standards.

The special Polyester and Electroless Nickel PTFE (ENT) coatings can be used in decorative applications where colors are desired. In addition, the Electroless Nickel PTFE (ENT) coating has been investigated for installation in corrosive environments and is listed/approved as indicated in the Approval Chart(s).



**For Light Hazard Occupancies Only**



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

## 2. LISTINGS AND APPROVALS



**cULus Listed:** Category VNIV

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

## 3. TECHNICAL DATA

### Specifications:

Minimum Operating Pressure: Refer to the Approval Chart.

Maximum Working Pressure: 175 psi (12 bar) wwp.

Factory tested hydrostatically to 500 psi (34.5 bar).

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

Nominal K-Factor: 5.6 U.S. (80.6 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: 2-11/16" (68 mm)

### Material Standards:

Sprinkler Frame: Brass UNS-C84400

Deflector: Copper UNS-C19500

Bulb: Glass, nominal 3 mm diameter

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

Compression Screw: Brass UNS-C36000

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

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 Sprinkler VK605 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: 135 °F (57 °C) = A, 155 °F (68 °C) = B, 175 °F (79 °C) = D

For example, sprinkler VK605 with a Brass finish and a 155 °F (68 °C) temperature rating = Part No. 12120AB.

**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)

## 4. INSTALLATION

Refer to appropriate NFPA Installation Standards.

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**5. OPERATION**

During fire conditions, 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 Model VK605 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.

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

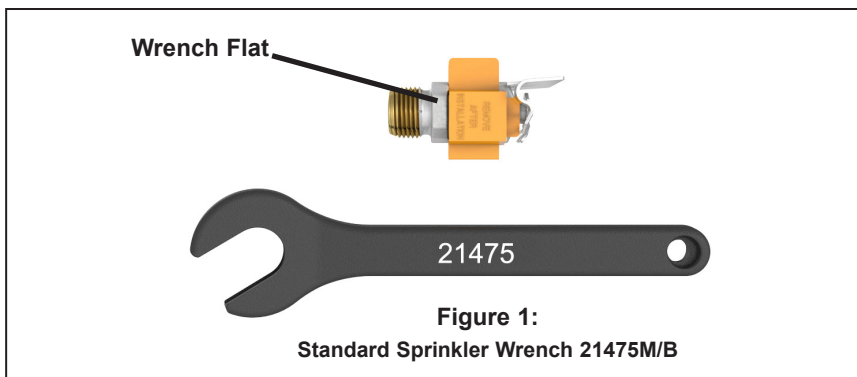
Sprinkler Temperature Classification	Sprinkler Nominal Temperature Rating <sup>1</sup>	Maximum Ambient Ceiling Temperature <sup>2</sup>	Bulb Color
Ordinary	135 °F (57 °C)	100 °F (38 °C)	Orange
Ordinary	155 °F (68 °C)	100 °F (38 °C)	Red
Intermediate	175 °F (79 °C)	150 °F (65 °C)	Yellow

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

**Corrosion Resistant Sprinkler Coating:** ENT<sup>3,4</sup>

**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 tests required by the approving agencies as 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 ENT automatic sprinklers, the waterway is coated. Note that the spring is exposed on sprinklers with ENT coatings.
- <sup>4</sup> cULus Listed as corrosion resistant.
- <sup>5</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								KEY	
Microfast® EC/QREC Horizontal Sidewall Sprinkler VK605 For Light Hazard Occupancies Only								Temperature	Finish
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	
12120	VK605	1/2	15	5.6	80.6	175 psi (12 Bar)	2-11/16	68	
Sprinkler Base Part Number	SIN	Maximum Areas of Coverage <sup>6</sup>	Minimum Water Supply Requirements <sup>6</sup>	Listings and Approvals <sup>3</sup>					
				cULus <sup>4</sup>					
<b>Standard Response<sup>5</sup> - Maximum 175 PSI WWP</b>									
For Installation with the deflector located 6" to 12" (152 mm to 305 mm) below smooth, flat, horizontal ceilings only.									
12120	VK605	16' Wide x 16' Throw (4.9 m x 4.9 m)	26 gpm @ 21.6 psi (98.4 L/min @ 1.49 Bar)		B1W, B2Y				
12120	VK605	16' Wide x 18' Throw (4.9 m x 5.5 m)	29 gpm @ 26.8 psi (109.8 L/min @ 1.85 Bar)		B1W, B2Y				
12120	VK605	16' Wide x 20' Throw (4.9 m x 6.1 m)	32 gpm @ 32.7 psi (121.1 L/min @ 2.25 Bar)		B1X, B2X				
<b>Quick Response - Maximum 175 PSI WWP</b>									
For Installation with the deflector located 6" to 12" (152 mm to 305 mm) below smooth, flat, horizontal ceilings only.									
12120	VK605	16' Wide x 16' Throw (4.9 m x 4.9 m)	26 gpm @ 21.6 psi (98.4 L/min @ 1.49 Bar)		B1W, B2Y				
12120	VK605	16' Wide x 18' Throw (4.9 m x 5.5 m)	29 gpm @ 26.8 psi (109.8 L/min @ 1.85 Bar)		B1W, B2Y				
12120	VK605	16' Wide x 20' Throw (4.9 m x 6.1 m)	32 gpm @ 32.7 psi (121.1 L/min @ 2.25 Bar)		A1W, C2Y				
<b>Quick Response - QREC Specific Application - Maximum 175 PSI WWP</b>									
For Installation with the deflector located 4" to 6" (102 mm to 152 mm) below sloped <sup>7</sup> ceilings with slopes from 2/12 through 4/12 (9.5° to 18.4°) pitch. Sprinkler must be located at the high-point intersection of the wall and the ceiling with spray directed down the slope. Refer to Figure 6.									
12120	VK605	16' Wide x 16' Throw (4.9 m x 4.9 m)	26 gpm @ 21.6 psi (98.4 L/min @ 1.49 Bar)		B1W, B2Y				
12120	VK605	16' Wide x 18' Throw (4.9 m x 5.5 m)	29 gpm @ 26.8 psi (109.8 L/min @ 1.85 Bar)		B1W, B2Y				
12120	VK605	16' Wide x 20' Throw (4.9 m x 6.1 m)	32 gpm @ 32.7 psi (121.1 L/min @ 2.25 Bar)		A1W, C2Y				
<b>Approved Temperature Ratings</b>		<b>Approved Finishes</b>		<b>Approved Escutcheons</b>					
A - 135 °F (57 °C) and 175 °F (79 °C) B - 155 °F (68 °C) C - 155 °F (68 °C)		1 - Brass, Chrome, White Polyester, and Black Polyester 2 - ENT <sup>8</sup>		W - Standard surface-mounted escutcheons or recessed with the Micromatic® Model E-1, E-2, or G-1 Recessed Escutcheon X - Recessed with the Micromatic® Model E-1 Recessed Escutcheon only Y - Standard surface-mounted escutcheons or recessed with the Micromatic Model E-1 Recessed Escutcheon.					
<b>Footnotes</b>									
<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. Check with the manufacturer for any additional approvals. <sup>4</sup> cULus Listed for use in the U.S. and Canada for Light-Hazard occupancies only. <sup>5</sup> Listings are limited to Light Hazard Occupancies where allowed by the installation standards being applied. <sup>6</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>7</sup> Listed area of coverage measured along ceiling slope. Consult Figure 6 for installation notes. <sup>8</sup> cULus Listed as corrosion resistant.									



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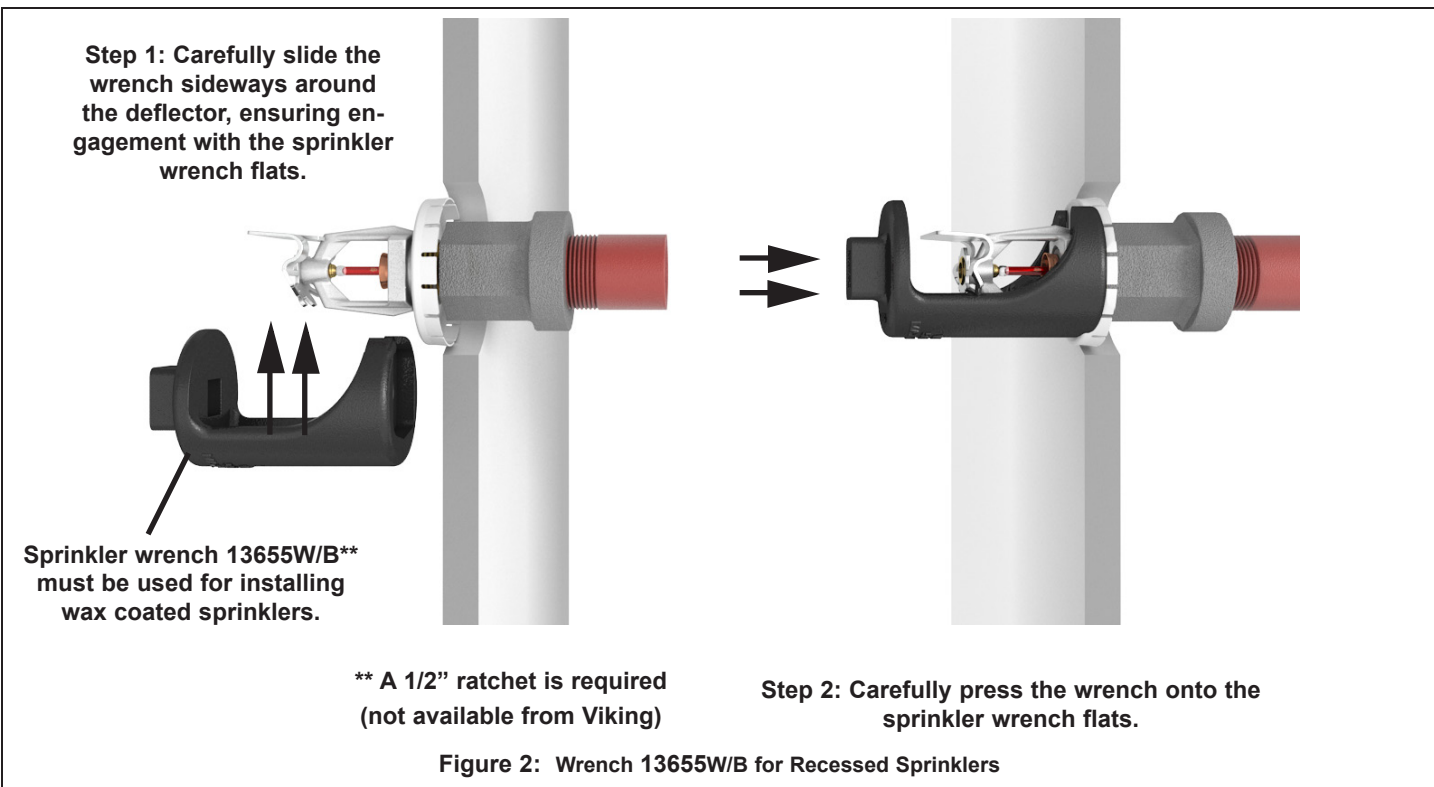
**DESIGN CRITERIA**

(Also refer to the Approval Chart.)

**cULus Listing Requirements:** Microfast® EC/QREC Horizontal Sidewall Sprinkler VK605 is cULus Listed as indicated in the Approval Chart for installation in accordance with the latest edition of NFPA 13 for extended coverage sidewall spray sprinklers:

- Sprinkler VK605 is cULus Listed for Light Hazard occupancies with smooth, flat, horizontal ceilings. Sprinkler VK605 is also listed for ceilings with slopes to 4/12 (18.4°), as a QREC “Specific Application Sprinkler”.
- For sprinkler VK605 in sloped ceiling applications, Sections 11.2.3.2.3 and 11.2.3.2.4 of the 2007 Edition of NFPA-13 do not apply regarding System Area of Operation. Sprinkler VK605 should be installed according to the areas of coverage, and flows and pressures listed in the Approval Chart.
- In sloped ceiling installations, sprinkler VK605 is listed for installation at the high-point intersection of the wall and the ceiling. In sloped ceiling installations, the spray must be directed down the slope. Spray may NOT be directed across the slope. Refer to Figure 6.
- Listed area of coverage for sloped ceilings corresponds to ceiling slope. (For sloped ceiling applications, actual floor coverage will be less than the listed area.)
- Refer to the Approval Chart for required deflector distance below the ceiling. Install with the leading edge of the deflector oriented parallel to the ceiling (see Figure 4).
- Minimum distance from end walls is 4 in. (102 mm).
- Maximum distance from the end wall 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 sidewall 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.

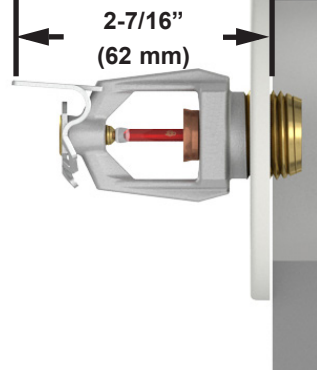
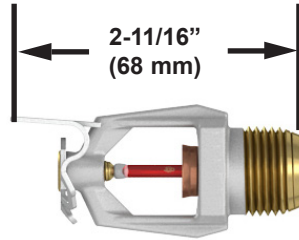




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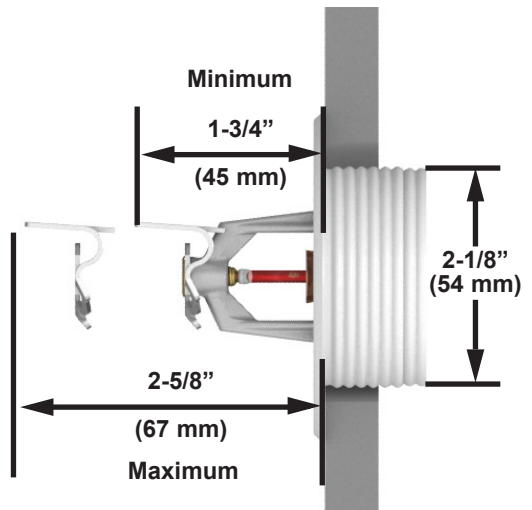
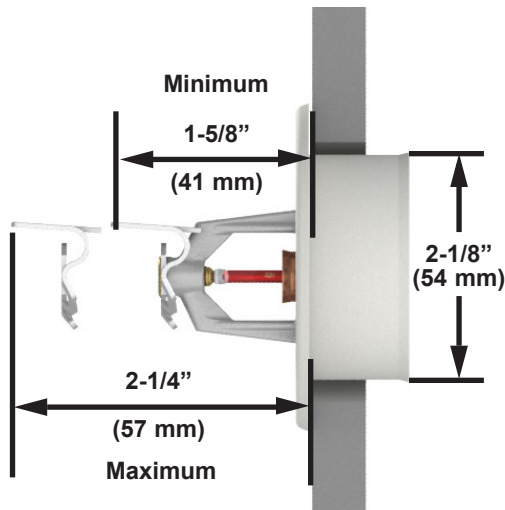
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**Wall Opening Size:**  
 2-5/16" (59 mm) minimum  
 2-1/2" (64 mm) maximum

**Installed with a Standard  
 1/8" Surface-Mounted  
 Escutcheon**

**Figure 3: Sidewall Sprinkler Dimensions with a Standard Escutcheon**



**Wall Opening Size:**  
 2-5/16" (59 mm) minimum  
 2-1/2" (64 mm) maximum

**Installed with the  
 Micromatic Model E-1  
 Recessed Escutcheon**

**Installed with the  
 Threaded Model E-2  
 Recessed Escutcheon**

**Figure 4: Sidewall Sprinkler Dimensions with the Model E-1 and E-2 Recessed Escutcheons**



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