



## TECHNICAL DATA

### MICROFAST® SR/QR EXTENDED COVERAGE HSW SPRINKLER VK612 (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 HP Sprinkler VK612 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 PTFE coatings can be used in decorative applications where colors are desired.

## 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: 250 psi (17 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 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 Sprinkler VK612 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 Black PTFE = N

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

For example, sprinkler VK612 with a Brass finish and a 155 °F (68 °C) temperature rating = Part No. 12295AB.

**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. Socket Wrench for recessed sprinklers: Part No. 13655W/B\*\* (available since 2006)

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

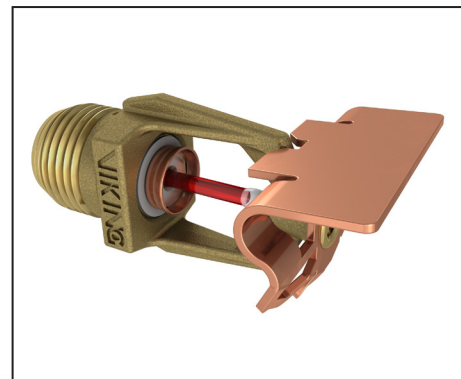
### Sprinkler Cabinets:

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.



### 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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**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 VK612 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.

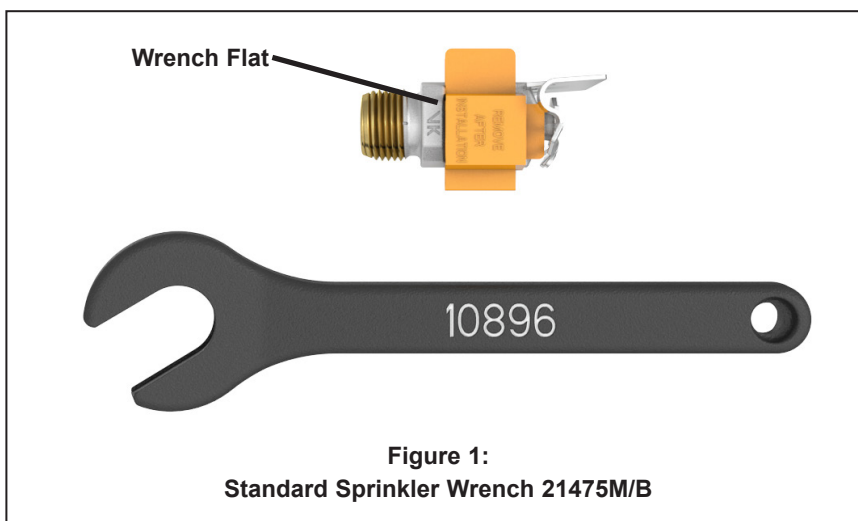
**TABLE 1: AVAILABLE SPRINKLER TEMPERATURE RATINGS AND FINISHES**

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>3</sup>, Black Polyester<sup>3</sup>, and Black PTFE<sup>3</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 coatings indicated are applied to the exposed exterior surfaces only. For PTFE coated open sprinklers only, the waterway is coated. Note that the spring is exposed on sprinklers with PTFE and Polyester coatings.





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Approval Chart								
Microfast® EC/QREC Horizontal Sidewall HP Sprinkler VK612 For Light Hazard Occupancies Only								
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
12295	VK612	1/2	15	5.6	80.6	250 psi (17 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 250 PSI WWP</b>								
<b>For Installation with the deflector located 6" to 12" (152 mm to 305 mm) below smooth, flat, horizontal ceilings only.</b>								
12295	VK612	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		
12295	VK612	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		
12295	VK612	16' Wide x 20' Throw (4.9 m x 6.1 m)	32 gpm @ 32.7 psi (121.1 L/min @ 2.25 Bar)			B1W		
<b>Quick Response - Maximum 250 PSI WWP</b>								
<b>For Installation with the deflector located 6" to 12" (152 mm to 305 mm) below smooth, flat, horizontal ceilings only.</b>								
12295	VK612	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		
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12295	VK612	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		
<b>Approved Temperature Ratings</b> A - 135 °F (57 °C) and 175 °F (79 °C) B - 155 °F (68 °C)		<b>Approved Finishes</b> 1 - Brass, Chrome, White Polyester, Black Polyester, and Black PTFE		<b>Approved Escutcheons</b> 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				
<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.								



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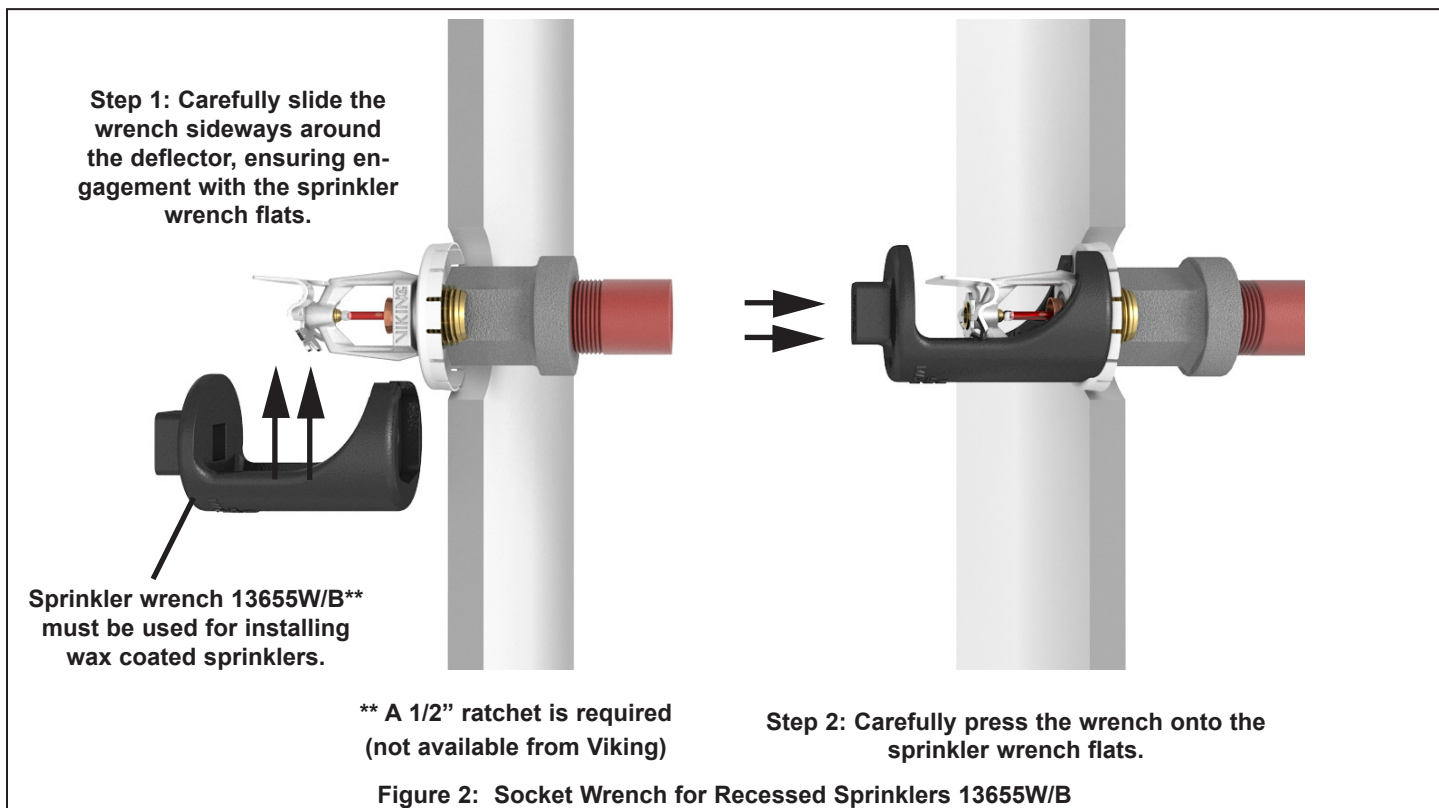
#### DESIGN CRITERIA

(Also refer to the Approval Chart.)

**cULus Listing Requirements:** Microfast® EC/QREC Horizontal Sidewall Sprinkler VK612 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 VK612 is limited to Light Hazard occupancies with smooth, flat, horizontal ceilings only.
- 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, FM Global, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.

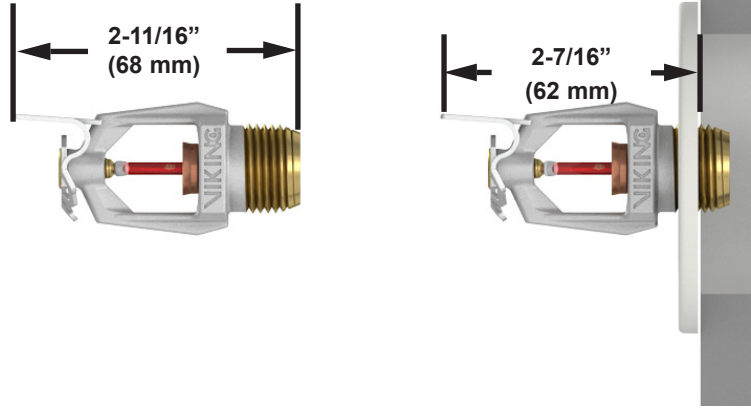




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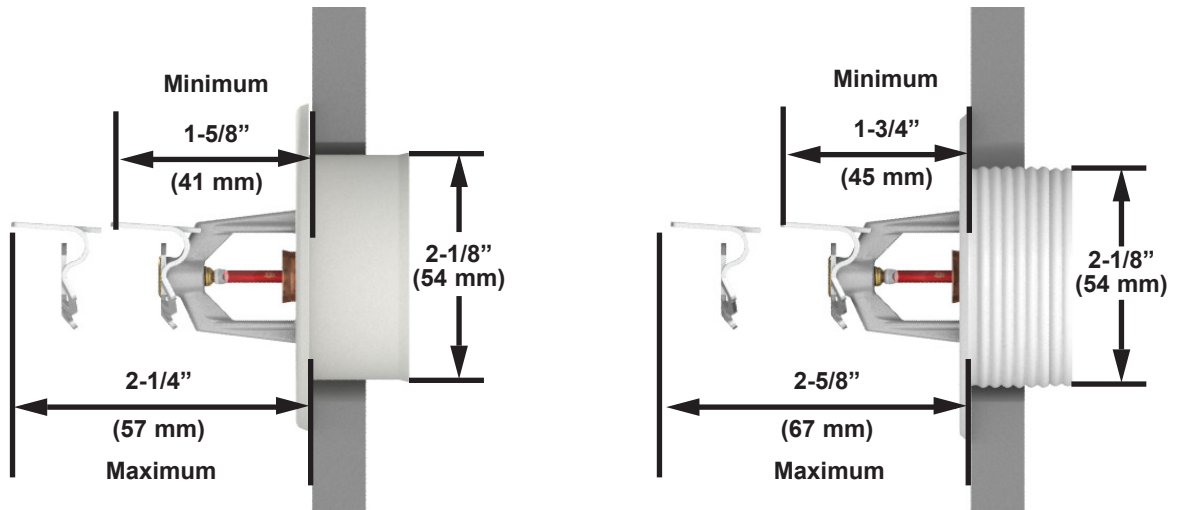
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**Wall Opening Size:**  
 2-5/16" (58.7 mm) minimum  
 2-1/2" (63.5 mm) maximum

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

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



**Wall Opening Size:**  
 2-5/16" (58.7 mm) minimum  
 2-1/2" (63.5 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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