



## TECHNICAL DATA

### MICROFAST® QUICK RESPONSE STAINLESS STEEL SPRINKLERS VK338 AND VK339

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

#### 1. DESCRIPTION

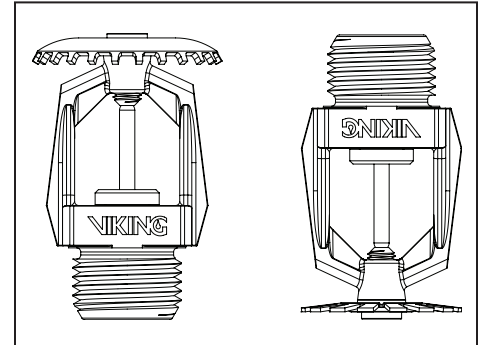
Viking Microfast® Quick Response Stainless Steel Sprinklers are small, corrosion-resistant, thermosensitive, glass-bulb spray sprinklers. The design consists of a solid stainless steel frame and deflector, with a nominal 3 mm glass-bulb operating element. These sprinklers can withstand many harsh corrosive environments that may cause regular brass sprinklers to deteriorate.

#### 2. LISTINGS AND APPROVALS

 **cULus Listed:** Category VNIV

 **FM Approved:** Class 2042

Refer to the Approval Chart and Design Criteria on page 46c for cULus listing requirements, and refer to Approval Chart 2 and Design Criteria on page 46d for FM Approval requirements that must be followed.



#### 3. TECHNICAL DATA

##### Specifications:

Available since 2007.

Minimum Operating Pressure: 7 psi (0.5 bar)

Maximum Working Pressure: 175 psi (12 bar)

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 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: 2-3/16" (55 mm)

##### Material Standards:

Frame Casting: Stainless Steel UNS-J92800

Deflector: Stainless Steel UNS-N08367

Bulb: Glass, nominal 3 mm diameter

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

Screw: Stainless Steel UNS-S31603

Pip Cap: Monel UNS-N04400

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

Order Microfast® Quick Response Stainless Steel Sprinklers by first adding the appropriate suffix for the temperature rating to the sprinkler base part number.

Temperature Suffix: 155 °F (68 °C) = B, 175 °F (79 °C) = D, 200 °F (93 °C) = E, 286 °F (141 °C) = G

For example, sprinkler VK338 with a 155 °F (68 °C) temperature rating = Part No. 14692B

##### Available Finishes And Temperature Ratings:

Refer to Table 1.

**Accessories:** (Also refer to the "Sprinkler Accessories" section of the Viking data book.)

##### Sprinkler Wrench:

Standard Wrench: Part No. 10896W/B (available since 2000).

##### Sprinkler Cabinets:

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

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

Viking Technical Data may be found on  
The Viking Corporation's Web site at  
<http://www.vikinggroupinc.com>.  
The Web site may include a more recent  
edition of this Technical Data Page.

#### 4. INSTALLATION

Refer to appropriate NFPA Installation Standards.

	<h2 style="margin: 0;">TECHNICAL DATA</h2>	<h3 style="margin: 0;">MICROFAST® QUICK RESPONSE STAINLESS STEEL SPRINKLERS VK338 AND VK339</h3>
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**5. OPERATION**

During fire conditions, the heat-sensitive liquid in the glass bulb expands, causing the glass 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**

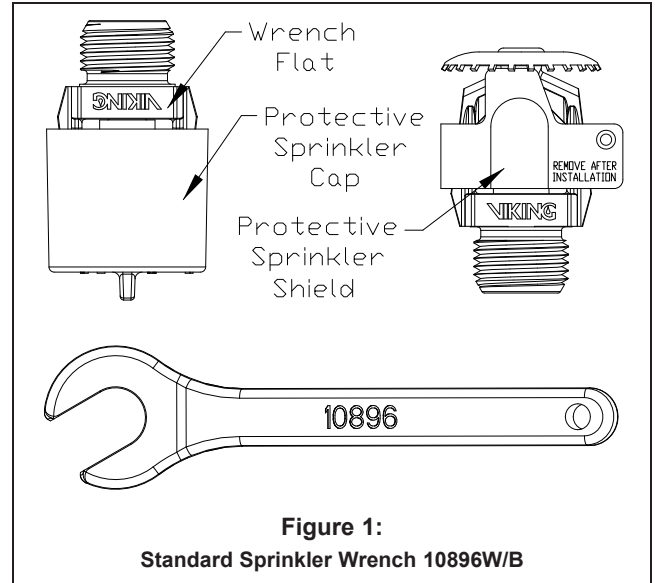
Refer to NFPA 25 for Inspection, Testing and Maintenance requirements.

**7. AVAILABILITY**

The Viking Microfast® Quick Response Stainless Steel Sprinklers are 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 10896W/B

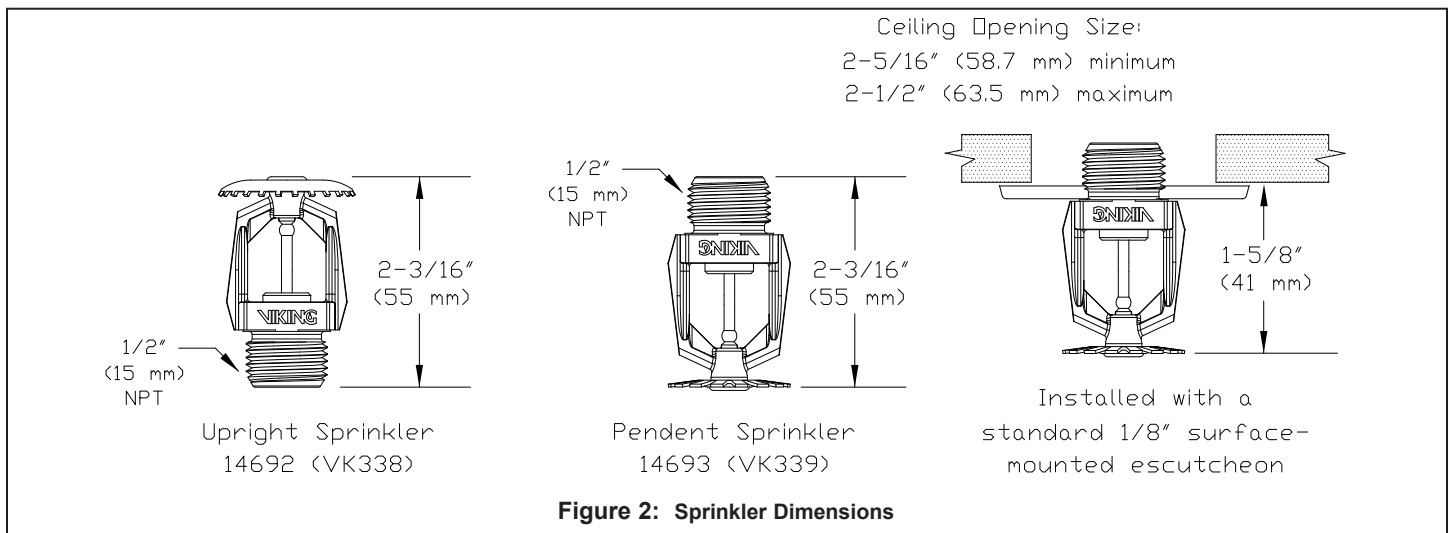
**TABLE 1: AVAILABLE SPRINKLER TEMPERATURE RATINGS AND FINISHES**

Sprinkler Temperature Classification	Sprinkler Nominal Temperature Rating <sup>1</sup>	Maximum Ambient Ceiling Temperature <sup>2</sup>	Bulb Color
Ordinary	155 °F (68 °C)	100 °F (38 °C)	Red
Intermediate	175 °F (79 °C)	150 °F (65 °C)	Yellow
Intermediate	200 °F (93 °C)	150 °F (65 °C)	Green
High	286 °F (141 °C)	225 °F (107 °C)	Blue


**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.

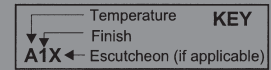


**Figure 2: Sprinkler Dimensions**

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<b>Approval Chart 1 (UL)</b> Microfast® Quick Response Stainless Steel Sprinklers Maximum 175 PSI (12 bar) WWP																
Sprinkler Base Part Number <sup>1</sup>	Style	SIN	Thread Size		Nominal K-Factor		Order Length Increment		Listings and Approvals <sup>3</sup> (Refer also to Design Criteria on page 46d.)							
			NPT	BSP	U.S.	metric <sup>2</sup>	Inches	mm	cULus <sup>4</sup>	FM	NYC	VdS	LPCB	CE		
14692	Upright	VK338	1/2"	15 mm	5.6	80.6	2-3/16"	55	A1	--	--	--	--	--	--	--
14693	Pendent	VK339	1/2"	15 mm	5.6	80.6	2-3/16"	55	A1X	--	--	--	--	--	--	--
<b>Approved Temperature Ratings</b> A - 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), and 286 °F (141 °C)					<b>Approved Finish</b> 1 - Stainless Steel			<b>Approved Escutcheons</b> X - Standard surface-mounted escutcheons								
<b>Footnotes</b>																
<sup>1</sup> Base part number is shown. For complete part number, refer to Viking's current price schedule. <sup>2</sup> Metric K-factor shown is for use 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 table shows the listings and approvals available at the time of printing. Check with the manufacturer for any additional approvals. <sup>4</sup> Listed by Underwriters Laboratories Inc. for use in the U.S. and Canada. <b>NOTE:</b> The stainless steel sprinklers have passed the standard corrosion test required by the listed approving agencies. These tests cannot and do not represent all possible corrosive environments. Prior to installation, consult the end-user to verify that the sprinkler components are compatible with or suitable for the proposed environment.																

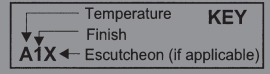


<b>DESIGN CRITERIA - UL</b> (Also refer to the Approval Chart on page 46c.)
<p><b>cULus Listing Requirements:</b></p> <p>Microfast® Stainless Steel Quick Response Sprinklers are cULus Listed as indicated in the Approval Chart for installation in accordance with the latest edition of NFPA 13 for standard spray upright and pendent sprinklers.</p> <ul style="list-style-type: none"> <li>• Designed for use in Light and Ordinary Hazard occupancies.</li> <li>• Protection areas and maximum spacing shall be in accordance with the tables provided in NFPA 13.</li> <li>• Minimum spacing allowed is 6 ft. (1.8 m) unless baffles are installed in accordance with NFPA 13.</li> <li>• Locate no less than 4" (102 mm) from walls.</li> <li>• 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.</li> <li>• The sprinkler installation and obstruction rules contained in NFPA 13 for standard spray upright and pendent sprinklers must be followed.</li> </ul>
<p><b>IMPORTANT: Always refer to Bulletin Form No. F_091699 - Care and Handling of Sprinklers. Also refer to page QR1-3 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.</b></p>

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<b>Approval Chart 2 (FM)</b> Microfast® Quick Response Stainless Steel Sprinklers Maximum 175 PSI (12 bar) WWP										
Sprinkler Base Part Number <sup>1</sup>	Style	SIN	Thread Size		Nominal K-Factor		Order Length Increment		FM Approvals <sup>3</sup> (Refer also to Design Criteria below.)	
			NPT	BSP	U.S.	metric <sup>2</sup>	Inches	mm		
14692	Upright	VK338	1/2"	15 mm	5.6	80.6	2-3/16"	55	A1	
14693	Pendent	VK339	1/2"	15 mm	5.6	80.6	2-3/16"	55	A1X	
<b>Approved Temperature Ratings</b> A - 155 °F (68 °C), 175 °F (79 °C), and 200 °F (93 °C)					<b>Approved Finishes</b> 1 - Stainless Steel			<b>Approved Escutcheons</b> X - Standard surface-mounted escutcheons		
<b>Footnotes</b>										
<sup>1</sup> Base part number is shown. For complete part number, refer to Viking's current price schedule.										
<sup>2</sup> Metric K-factor shown is for use 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. Check with the manufacturer for any additional approvals.										
<b>NOTE:</b> The stainless steel sprinklers have passed the standard corrosion test required by the approving agencies. These tests cannot and do not represent all possible corrosive environments. Prior to installation, consult the end-user to verify that the sprinkler components are compatible with or suitable for the proposed environment.										



<b>DESIGN CRITERIA - FM</b> (Also refer to Approval Chart 2 above.)
<b>FM Approval Requirements:</b> Microfast® Stainless Steel Sprinklers VK338 and VK339 are FM Approved as <b>Special Protection</b> upright and pendent sprinklers for corrosive environments, and as quick response <b>Non-Storage</b> upright and 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. <b>NOTE: The FM installation guidelines may differ from cULus and/or NFPA criteria.</b>
<b>IMPORTANT: Always refer to Bulletin Form No. F_091699 - Care and Handling of Sprinklers. Also refer to page QR1-3 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.</b>