



## TECHNICAL DATA

### MICROFAST® QUICK RESPONSE FUSIBLE ELEMENT CONVENTIONAL SPRINKLER VK311 (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

#### 1. DESCRIPTION

The Viking Microfast® Quick Response Fusible Element Conventional Sprinkler VK311 is a small, thermosensitive, solder link spray sprinkler available in several different finishes, temperature ratings, and K-Factors to meet design requirements. The special Polyester coatings can be used in decorative applications where colors are desired.



#### 2. LISTINGS AND APPROVALS

 cULus Listed: Category VNIV

Refer to Approval Chart 1 and Design Criteria on for cULus Listing requirements.

#### 3. TECHNICAL DATA

##### Specifications:

Minimum Operating Pressure: 7 psi (0.5 bar)\*  
 Maximum Working Pressure: 175 psi (12 bar)  
 Factory tested hydrostatically to 500 psi (34.5 bar)  
 Testing: U.S.A. Patent No. 4,831,870  
 Thread size: Refer to the Approval Chart  
 Nominal K-Factor: 5.6 U.S. (80.6 metric\*\*)  
 Overall Length: 2-3/16" (56 mm)

\* cULus Listing, FM Approval, and NFPA 13 installs require a minimum of 7 psi (0.5 bar). The minimum operating pressure for LPCB and CE Approvals ONLY is 5 psi (0.35 bar).

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

##### Material Standards:

Frame Casting: 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  
 Screw: Brass UNS-C36000

For Polyester Coated Sprinklers: Belleville Spring-Exposed

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

Order Quick Response Fusible Element Conventional Sprinklers 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 (°F/°C): 165°/74° = C, 205°/96° = E, and 280°/138° = G

For example, sprinkler VK311 with a Brass finish and a 165 °F/74 °C temperature rating = Part No. 19392AC

##### Available Finishes And Temperature Ratings:

Refer to Table 1

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

##### Sprinkler Wrenches:

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.

(Added QM Brass to Frame Casting)



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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 Microfast® Quick Response Fusible Element Conventional Sprinkler VK311 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>	Frame Paint Color
Ordinary	165 °F (74 °C)	100 °F (38 °C)	None
Intermediate	205 °F (96 °C)	150 °F (65 °C)	White
High	280 °F (138 °C)	225 °F (107 °C)	Blue

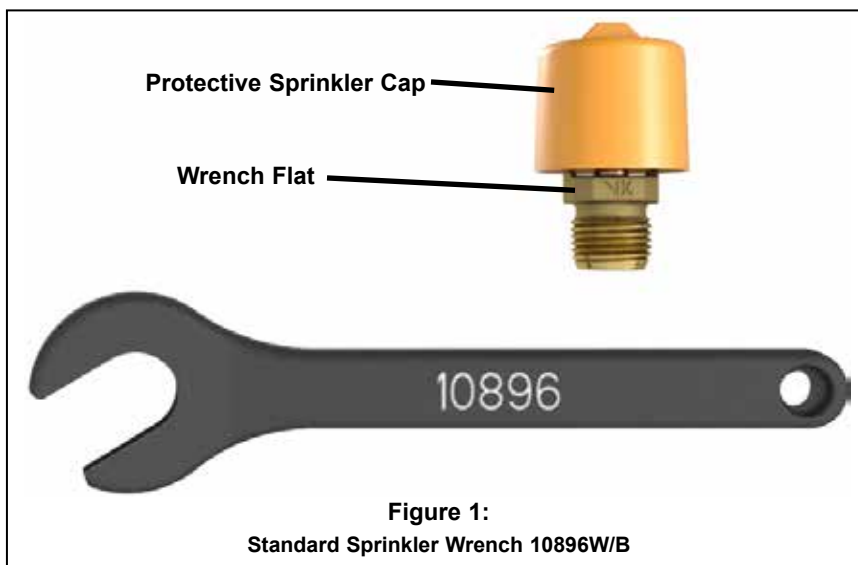
**Sprinkler Finishes:** Brass, Chrome, White Polyester<sup>3</sup>, and Black Polyester<sup>3</sup>

#### 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.

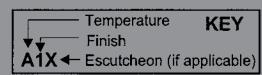
<sup>3</sup> For automatic sprinklers, the coatings indicated are applied to the exposed exterior surfaces only. Note that the spring is exposed on sprinklers with Polyester and PTFE coatings.



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<b>Approval Chart 1 (UL)</b> Microfast® Quick Response Fusible Element Conventional Sprinkler VK311 Maximum 175 PSI (12 bar) WWP								
Base Part Number <sup>1</sup>	SIN	Thread Size		Nominal K-Factor		Overall Length		Listings and Approvals <sup>3</sup> (Refer also to Design Criteria below.)
		NPT	BSP	U.S.	metric <sup>2</sup>	Inches	mm	cULus <sup>4</sup>
Conventional-Standard Orifice								
19392	VK311	1/2"	15 mm	5.6	80.6	2-3/16	56	A1
NOTICE - Product Below - Limited Availability (Contact Local Viking Office)								
13952	VK311	1/2"	15 mm	5.6	80.6	2-3/16	56	A1
<b>Approved Temperature Ratings</b> A - 165 °F (74 °C), 205 °F (96 °C), and 280 °F (138 °C)				<b>Approved Finishes</b> 1 - Brass, Chrome, White Polyester <sup>5</sup> , and Black Polyester <sup>5</sup>				
Footnotes								
<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 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 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. <sup>5</sup> Other colors are available on request with the same Listings and Approvals as the standard colors.								



<b>DESIGN CRITERIA - UL</b> (Also refer to Approval Chart 1 above.)
<p><b>cULus Listing Requirements:</b></p> <p>Quick Response Fusible Element Conventional (Old Style) Sprinkler VK311 is cULus Listed as indicated in the Approval Chart for installation in accordance with the latest edition of NFPA 13 for old style (conventional) sprinklers.</p> <ul style="list-style-type: none"> <li>• Designed for use in Light and Ordinary Hazard occupancies</li> <li>• The sprinkler installation rules contained in NFPA 13 for standard spray old style (conventional) 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, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.</b></p>