



## TECHNICAL DATA

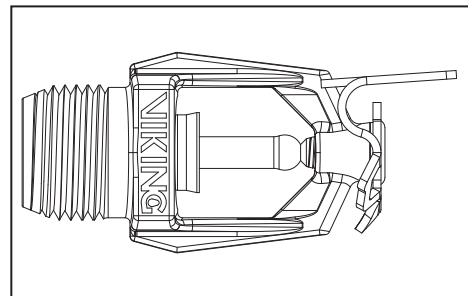
### MicromaticHP® STANDARD RESPONSE HORIZONTAL SIDEWALL HIGH PRESSURE SPRINKLER VK116 (K5.6)

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 MicromaticHP® Viking Standard Response Horizontal Sidewall High Pressure Sprinkler VK116 is a small thermosensitive glass bulb spray sprinkler available with various finishes and temperature ratings to meet design requirements. The special Polyester and PTFE coatings can be used in decorative applications where colors are desired. In addition, these coatings have been investigated for installation in corrosive atmospheres and are cULus listed as corrosion resistant as indicated in the Approval Chart.



#### 2. LISTINGS AND APPROVALS

 cULus Listed: Category VNIV

Refer to Approval Chart 1 and Design Criteria for cULus Listing requirements that must be followed.

#### 3. TECHNICAL DATA

##### Specifications:

Minimum Operating Pressure: 7 psi (0.5 bar)  
Rated to 250 psi (17 bar) water working pressure  
Factory tested hydrostatically to 500 psi (34.5 bar)  
Nominal K-Factor: 5.6 U.S. (80.6 metric\*)

\* 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.

Glass-bulb fluid temperature rated to -65 °F (-55 °C)  
Overall Length: 2-11/16" (68 mm)

##### Material Standards:

Frame Casting: Brass UNS-C84400  
Deflector: Copper UNS-C19500  
Bulb: Glass, nominal 5 mm diameter  
Belleville Spring Sealing Assembly: Nickel Alloy, coated on both sides with PTFE Tape

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 Standard Response Sidewall High Pressure 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, Black Polyester = M-/B, and ENT = JN

Temperature Suffix: 135 °F / 57 °C = A, 155 °F / 68 °C = B, 175 °F / 79 °C = D, 200 °F / 93 °C = E, 286 °F / 141 °F = G, 360 °F / 182 °C = H

For example, sprinkler VK116 with a 1/2" thread, Brass finish and a 155 °F / 68 °C temperature rating = Part No. 09849AB

**Available Finishes And Temperature Ratings:** Refer to Table 1.

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

##### Sprinkler Wrenches:

- A. Standard Wrench: Part No. 10896W/B (available since 2000).
  - B. Wrench for recessed sprinklers with protective shields: Part No. 13655W/B\*\* (available since 2003)
  - C. Wrench for wax coated sprinklers: Part No. 13577W/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)

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.

	<b>TECHNICAL DATA</b>	<b>MicromaticHP® STANDARD RESPONSE HORIZONTAL SIDEWALL HIGH PRESSURE SPRINKLER VK116 (K5.6)</b>
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**4. INSTALLATION**

Refer to appropriate NFPA Installation Standards.

**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**

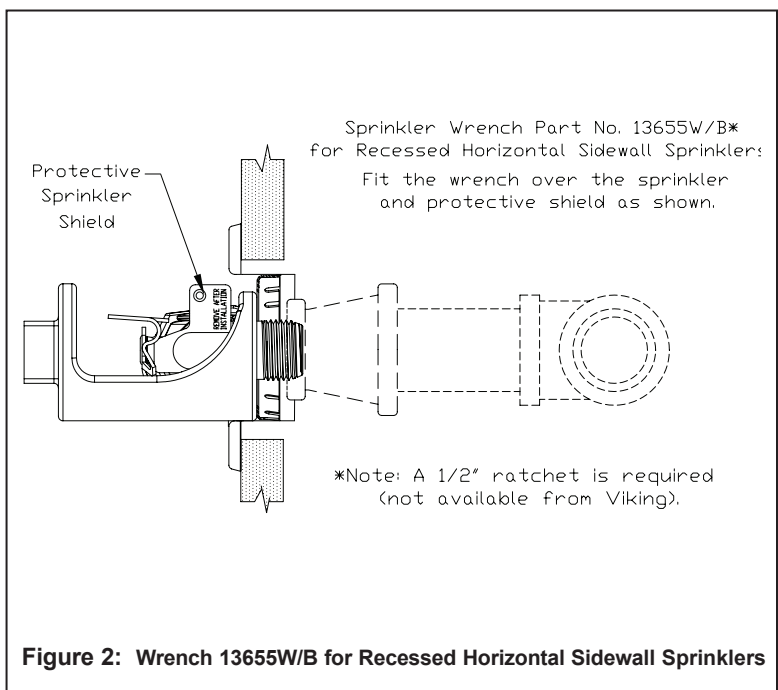
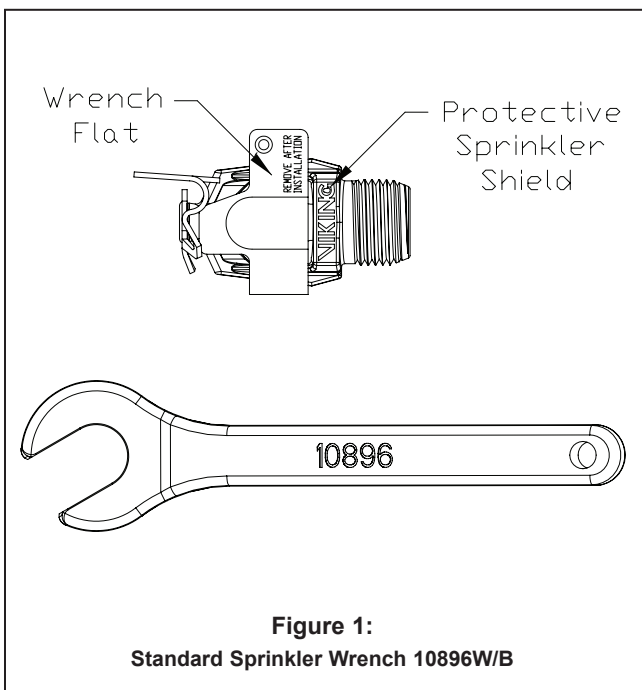
Refer to NFPA 25 for Inspection, Testing and Maintenance requirements.

**7. AVAILABILITY**

The MicromaticHP® Viking Standard Response Horizontal Sidewall High Pressure Sprinkler VK116 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.





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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
Intermediate	200 °F (93 °C)	150 °F (65 °C)	Green
High	286 °F (141 °C)	225 °F (107 °C)	Blue
Extra High	360 °F (182 °C)	300 °F (149 °C)	Mauve

**Sprinkler Finishes:** Brass, Chrome, White Polyester, Black Polyester, and ENT

**Corrosion-Resistant Coatings<sup>3</sup>:** White Polyester, and Black Polyester in all temperature ratings. ENT in all temperature ratings except 135°F (57°C).

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 test required by the approving agencies 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 automatic sprinklers, the coatings indicated are applied to the exposed exterior surfaces only. Note that the spring is exposed on sprinklers with Polyester and ENT coatings. For all ENT coated sprinklers, the waterway is coated.

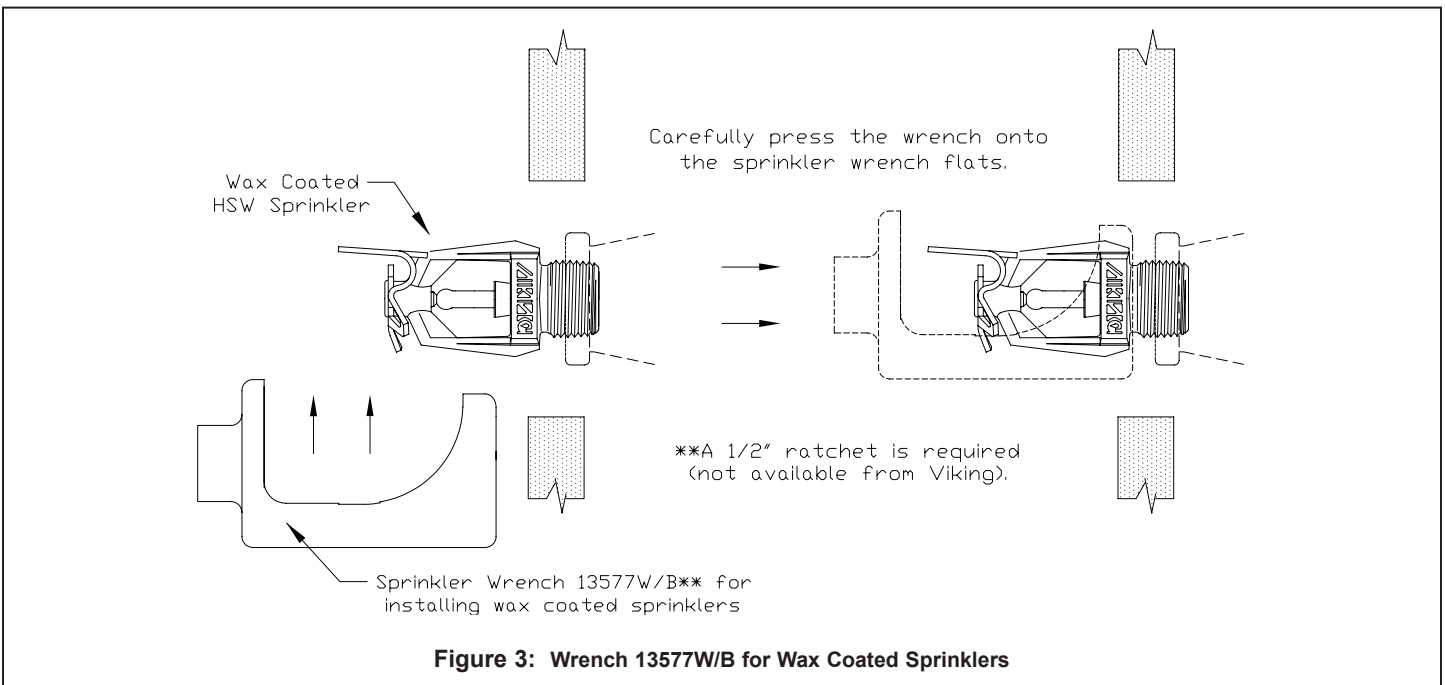


Figure 3: Wrench 13577W/B for Wax Coated Sprinklers



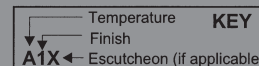
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**Approval Chart 1 (UL)**

MicromaticHP® Viking Standard Response Horizontal Sidewall  
 High Pressure Sprinkler VK116  
 For Light Hazard Occupancies Only  
 Maximum 175 PSI (12 Bar) WWP



Base Part Number <sup>1</sup>	SIN	Sprinkler Style	Thread Size		Nominal K-Factor		Overall Length		Listings and Approvals <sup>3</sup> (Refer also to Design Criteria.)			
			NPT	BSP	U.S.	metric <sup>2</sup>	Inches	mm	cULus <sup>4,5</sup>	VdS	LPCB	CE

**Horizontal Sidewall**

09849	VK116	HSW	1/2"	15 mm	5.6	80.6	2-1/2	64	A1Y, B1X, C2Z, D2W	--	--	--
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<p><b>Approved Temperature Ratings</b></p> <p>A - 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), 286 °F (141 °C), and 360 °F (182 °C)</p> <p>B - 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), and 200 °F (93 °C)</p> <p>C - 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), 286 °F (141 °C), and 360 °F (182 °C)</p> <p>D - 155 °F (68 °C), 175 °F (79 °C), and 200 °F (93 °C)</p>	<p><b>Approved Finishes</b></p> <p>1 - Brass, Chrome, White Polyester<sup>6,7</sup>, Black Polyester<sup>6,7</sup></p> <p>2 - ENT<sup>6</sup></p>	<p><b>Approved Escutcheons</b></p> <p>W - Installed with standard surface-mounted escutcheons, the Viking Microfast® Model E-1 Adjustable Escutcheon</p> <p>X - Installed with standard surface-mounted escutcheons, the Viking Microfast® Model F-1 Adjustable Escutcheon, or recessed with the Viking MicromaticHP® Model E-1, E-2, or E-3 Recessed Escutcheon</p> <p>Y - Installed with standard surface-mounted escutcheons or the Viking Microfast® Model F-1 Adjustable Escutcheon</p> <p>Z - Installed with standard surface-mounted escutcheons only.</p>
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**Footnotes**

- <sup>1</sup> Base part number 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. Other approvals may be in process.
- <sup>4</sup> Listings and Approvals are limited to Light Hazard Occupancies where allowed by the installation standards being applied.
- <sup>5</sup> Listed by Underwriters Laboratories Inc. for use in the U.S. and Canada.
- <sup>6</sup> cULus Listed as corrosion-resistant.
- <sup>7</sup> Other colors are available on request with the same Listings and Approvals as the standard colors.

**DESIGN CRITERIA - UL**

(Also refer to Approval Chart 1 above.)

**cULus Listing Requirements:**

The MicromaticHP® Viking Standard Response Horizontal Sidewall High Pressure Sprinkler VK116 is cULus Listed as indicated in the Approval Chart for installation in accordance with the latest edition of NFPA 13 for sidewall standard spray sprinklers.

- For use in Light Hazard occupancies only where allowed by the installation standards being applied.
- Locate the deflector 4" to 12" (102 mm to 305 mm) below the ceiling.
- Protection areas and maximum spacing shall be in accordance with the tables provided in NFPA 13.
- Minimum spacing allowed is 6 ft. (1.8 m).
- Align the top of the deflector parallel with the ceiling.
- Locate no less than 4" (102 mm) from end walls.
- Maximum distance from end 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 sidewall standard spray sprinklers must be followed.

**IMPORTANT: Always refer to Bulletin Form No. F\_091699 - Care and Handling of Sprinklers. Also refer to page SR1-3 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.**



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