



TECHNICAL DATA

MICROMATIC® STANDARD RESPONSE VERTICAL SIDEWALL SPRINKLERS

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 Micromatic® Standard Response Vertical Sidewall Sprinklers are small thermosensitive glass bulb spray sprinklers designed for installation in either the upright or pendent position. They are available with 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. (Note: FM Global has no approval classification for PTFE and Polyester coatings as corrosion resistant.)

Viking standard response sprinklers may be ordered and/or used as open sprinklers (glass bulb and pip cap assembly removed) on deluge systems. Refer to Ordering Instructions on page 14b.



2. LISTINGS AND APPROVALS



FM Approved: Class 2012



VdS: Certificate G412005



CE Certified: Standard EN 12259-1, EC-certificate of conformity 0786-CPD-40286

Refer to the Approval Chart and Design Criteria on page 14d for FM Approval requirements that must be followed.

3. TECHNICAL DATA

Specifications:

Available since 1992.

Minimum Operating Pressure: 7 psi (0.5 bar)

Rated to 175 psi (12 bar) water working pressure.

Factory tested hydrostatically to 500 psi (34.5 bar)

Thread size: Refer to the Approval Chart

Nominal K-Factor: Refer to the Approval Chart

Glass-bulb fluid temperature rated to -65 °F (-55 °C)

Overall Length: 2-1/4" (58 mm)

Material Standards:

Frame Casting: Brass UNS-C84400 or QM Brass for Sprinkler 10226. Brass UNS-C84400 for all other sprinklers.

Deflector: Brass UNS-C23000

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 Vertical Sidewall 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 Black PTFE = N, Wax Coated = C, Wax Over Polyester = V-/W

Temperature Suffix: 135 °F (57 °C) = A, 155 °F (68 °C) = B, 175 °F (79 °C) = D, 200 °F (93 °C) = E, 212 °F (100 °C) = M, 286 °F (141 °C) = G, 360 °F (182 °C) = H, OPEN = Z (PTFE only).

For example, sprinkler VK106 with a 1/2" NPT thread, Brass finish and a 155 °F (68 °C) temperature rating = Part No. 10226AB

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 wax coated sprinklers: Part No. 13577W/B** (available since 2006)

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

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.



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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.

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

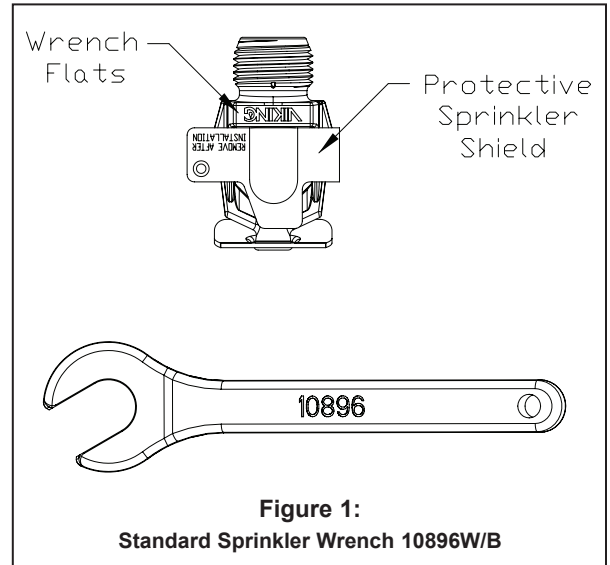
Refer to NFPA 25 for Inspection, Testing and Maintenance requirements.

7. AVAILABILITY

Viking Standard Response Vertical Sidewall 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**

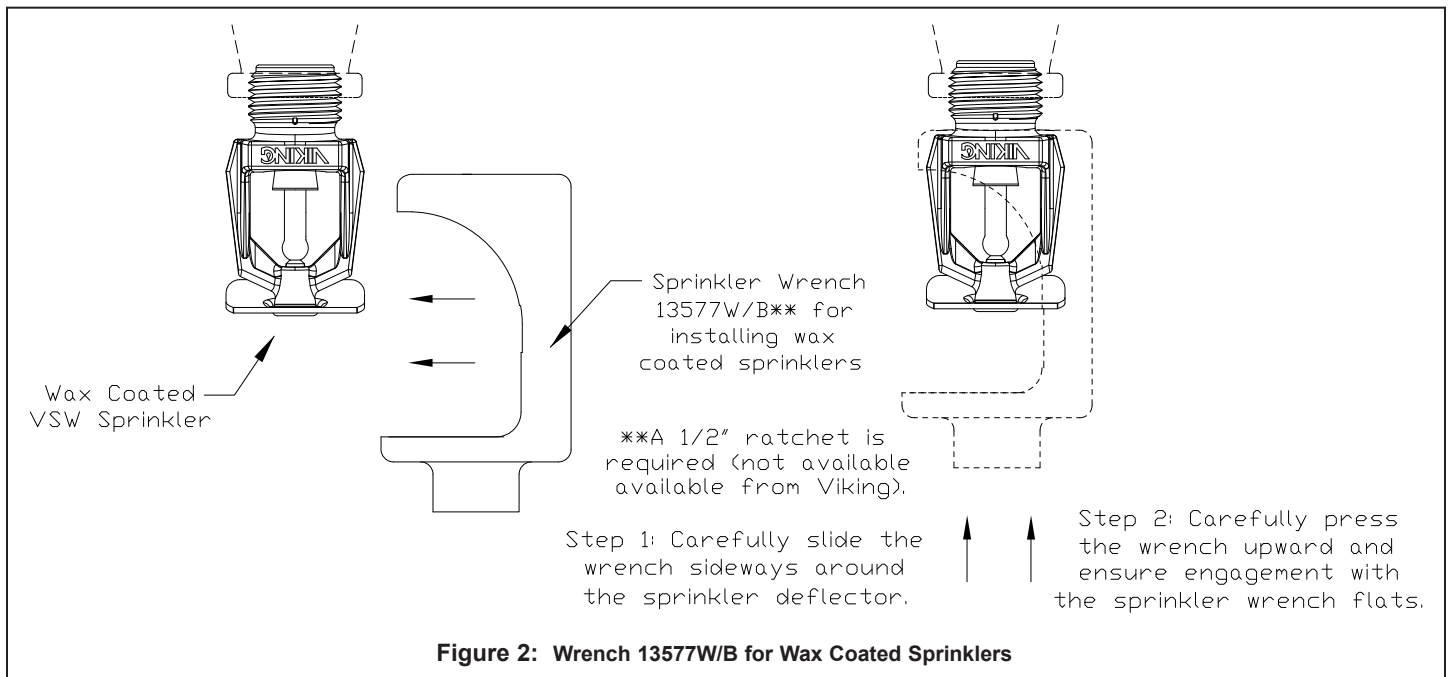



Figure 2: Wrench 13577W/B for Wax Coated Sprinklers

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TABLE 1: AVAILABLE SPRINKLER TEMPERATURE RATINGS AND FINISHES

Sprinkler Temperature Classification	Sprinkler Nominal Temperature Rating ¹	Maximum Ambient Ceiling Temperature ²	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
Intermediate	212 °F (100 °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

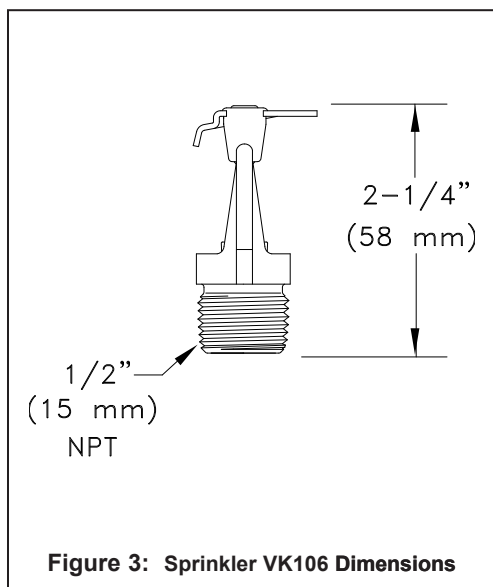
Sprinkler Finishes: Brass, Chrome, White Polyester, Black Polyester, and Black PTFE


Corrosion-Resistant Coatings³: White Polyester, Black Polyester, and Black PTFE in all temperature ratings. Wax-Coated Brass and Wax over Polyester for sprinklers with the following temperature ratings:

135 °F (57 °C) Off-White Wax 155 °F (68 °C) Lt. Brown Wax 175 °F (79 °C) Brown Wax 200 °F (93 °C) Brown Wax
 212 °F (100 °C) Dk. Brown Wax⁴ 286 °F (141 °C) Dk. Brown Wax⁴



Footnotes

- ¹ The sprinkler temperature rating is stamped on the deflector.
- ² 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.
- ³ 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 PTFE coatings. For PTFE coated open sprinklers only, the waterway is coated.
- ⁴ Wax melting point is 170 °F (76 °C) for 212 °F (100 °C) and 286 °F (141 °C) temperature rated sprinklers.



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Approval Chart															
Micromatic® Standard Response Vertical Sidewall Sprinklers															
Base Part Number ¹	SIN	Maximum Pressure	Thread Size		Nominal K-Factor		Overall Length		Listings and Approvals ³ (Refer also to Design Criteria below.)						
			NPT	BSP	U.S.	metric ²	Inches	mm	cULus	FM ⁴	NYC	VdS	LPCB	CE	
Standard Orifice															
10226	VK106	175 psi	1/2"	15 mm	5.6	80.6	2-1/4	58	--	A1X	See Footnote 4.	B1	--	B1 ⁶	--
17496	VK106	175 psi	1/2"	15 mm	5.6	80.6	2-1/4	58	--	A1X	See Footnote 4.	B1	--	B1 ⁶	--
10186 ⁵	VK106	175 psi	--	15 mm	5.6	80.6	2-1/4	58	--	A1X	--	B1	--	B1 ⁶	--
Small Orifice															
09127	VK018	175 psi	3/8"	10 mm	4.2	57	2-1/4	58	--	--	--	--	--	--	--
Approved Temperature Ratings A - 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), and 286 °F (141 °C) B - 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), and 286 °F (141 °C)					Approved Finishes 1 - Brass and Chrome					Approved Escutcheons X - Installed with standard surface-mounted escutcheons					
Footnotes															
¹ Base part number shown. For complete part number, refer to Viking's current price schedule. ² 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. ³ This table shows the listings and approvals available at the time of printing. Other approvals may be in process. ⁴ Meets New York City requirements, effective July 1, 2008. ⁵ Sprinkler 10186 is available on special order. ⁶  Certified: Standard EN 12259-1, EC-certificate of conformity 0786-CPD-40286															

DESIGN CRITERIA
(Also refer to the Approval Chart above.)

FM Approval Requirements:
 Vertical Sidewall Sprinkler VK106 is FM Approved as a standard response sidewall **Non-Storage** sprinkler, as indicated in the FM Approval Guide. For specific application and installation requirements, reference the latest applicable FM Loss Prevention Data Sheets (including 2-0) and Technical Advisory Bulletins. FM Global Loss Prevention Data Sheets and Technical Advisory Bulletins 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.

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, FM Global, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.