

	TECHNICAL DATA	MICROMATIC® STANDARD RESPONSE STAINLESS STEEL SPRINKLERS
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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 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 5 mm glass-bulb operating element. These sprinklers can withstand many harsh corrosive environments that may cause regular brass sprinklers to deteriorate. They are available and listed with wax coating and various temperature ratings to meet design requirements.

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 15b.

2. LISTINGS AND APPROVALS



cULus Listed: Category VNIV



FM Approved: Class 2042

NYC Approved: MEA 89-92-E, Volume 3



LPCB Approved: Ref. No. 096e/09



CE Certified: Standard EN 12259-1, EC-certificate of conformity 0832-CPD-2021

Refer to Approval Chart 1 and Design Criteria on page 15c for cULus Listing requirements, and refer to Approval Chart 2 and Design Criteria on page 15d for FM Approval requirements that must be followed.

3. TECHNICAL DATA

Specifications:

Available since 1987.

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**)

*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 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: 2-3/16" (55 mm)

Material Standards:

Frame Casting: Stainless Steel UNS-J92800

Deflector: Stainless Steel UNS-N08367

Bulb: Glass, nominal 5 mm diameter

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

Screw: Stainless Steel UNS-S31603

Pip Cap: Monel UNS-N04400

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

Order Micromatic® Standard Response Stainless Steel 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: Stainless Steel = B, Wax over Stainless Steel = BC

Temperature Suffix: 155 °F (68 °C) = B, 175 °F (79 °C) = D, 200 °F (93 °C) = E, 286 °F (141 °C) = G, 360 °F (182 °C) = H, 500 °F (260 °C) = L

For example, sprinkler VK130 with a 155 °F (68 °C) temperature rating = Part No. 05012BB

NOTE: For open sprinklers (glass bulb and pip cap assembly removed), refer to part number 06501BZ for upright VK130. For open pendent sprinkler VK132, refer to part number 06502BZ.

Available Finishes And Temperature Ratings: Refer to Table 1.



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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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 ½” 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.

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

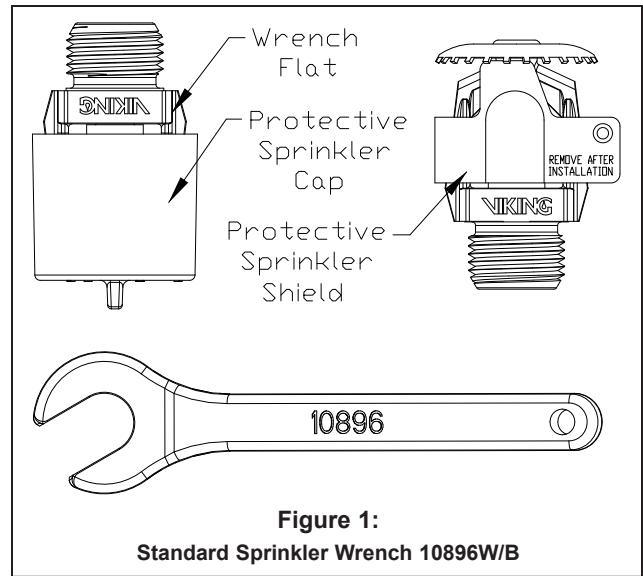
Refer to NFPA 25 for Inspection, Testing and Maintenance requirements.

7. AVAILABILITY

The Viking Micromatic® Standard 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 ¹	Maximum Ambient Ceiling Temperature ²	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
Extra High	360 °F (182 °C)	300 °F (149 °C)	Mauve
Ultra High ³	500 °F (260 °C)	465 °F (240 °C)	Black

Wax Coating⁴: Available for sprinklers with the following temperature ratings: 155 °F (68 °C) Lt. Brown Wax, 175 °F (79 °C) Brown Wax, 200 °F (93 °C) Brown Wax, 286 °F (141 °C) Dk. Brown Wax⁵


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 Sprinklers of Ultra-High temperature rating are intended for use inside ovens, dryers, or similar enclosures with normal operating temperatures above 300 °F (149 °C). Where the ambient temperature around the Ultra-High temperature rated sprinkler is significantly reduced below 300 °F (149 °C), response time may be severely retarded.
- ⁴ The corrosion-resistant wax coating has passed the standard corrosion test required by the approving agencies indicated on pages 15c-d. 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 wax coating is applied to the exposed exterior surfaces only.
- ⁶ Wax melting point is 170 °F (76 °C) for 286 °F (141 °C) temperature rated sprinklers.

	<h2 style="margin: 0;">TECHNICAL DATA</h2>	<h3 style="margin: 0;">MICROMATIC® STANDARD RESPONSE STAINLESS STEEL SPRINKLERS</h3>
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<h3 style="margin: 0;">Approval Chart 1 (UL)</h3> <p style="margin: 0;">Micromatic® Standard Response Stainless Steel Sprinklers Maximum 175 PSI (12 bar) WWP</p>	<table border="1" style="border-collapse: collapse;"> <tr> <td style="font-size: small;">Temperature</td> <td rowspan="3" style="text-align: center; vertical-align: middle;">KEY</td> </tr> <tr> <td style="font-size: small;">Finish</td> </tr> <tr> <td style="font-size: small;">A1X ← Escutcheon (if applicable)</td> </tr> </table>	Temperature	KEY	Finish	A1X ← Escutcheon (if applicable)
Temperature	KEY				
Finish					
A1X ← Escutcheon (if applicable)					

Sprinkler Base Part Number ¹	Style	SIN	Thread Size		Nominal K-Factor		Order Length Increment		Listings and Approvals ³ (Refer also to Design Criteria below.)					
			NPT	BSP	U.S.	metric ²	Inches	mm	cULus ⁴	NYC ⁵	VdS	LPCB	CE ⁶	
05012B	Upright	VK130	1/2"	15 mm	5.6	80.6	2-3/16"	55	A1, C2	B1	--	B1	B1	--
06483B	Pendent	VK132	1/2"	15 mm	5.6	80.6	2-3/16"	55	A1X, C2X	B1X	--	B1	B1	--

<p style="text-align: center; font-weight: bold; font-size: small;">Approved Temperature Ratings</p> <p>A - 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), 286 °F (141 °C), 360 °F (182 °C), and 500 °F (260 °C) B - 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), 286 °F (141 °C), and 360 °F (182 °C) C - 155 °F (68 °C) and 200 °F (93 °C)</p>	<p style="text-align: center; font-weight: bold; font-size: small;">Approved Finishes</p> <p>1 - Stainless Steel 2 - Wax-Coated Stainless Steel</p>	<p style="text-align: center; font-weight: bold; font-size: small;">Approved Escutcheons</p> <p>X - Standard surface-mounted escutcheons</p>
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Footnotes

¹ Base part number is shown. For complete part number, refer to Viking's current price schedule.
² 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.
³ This table shows the listings and approvals available at the time of printing. Check with the manufacturer for any additional approvals.
⁴ Listed by Underwriters Laboratories Inc. for use in the U.S. and Canada.
⁵ Accepted for use, City of New York Department of Buildings, MEA Number 89-92-E, Vol. 3.
⁶ CE Certified, Standard EN 12259-1, EC-certificate of conformity 0832-CPD-2021.

NOTE: 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.

DESIGN CRITERIA - UL
 (Also refer to Approval Chart 1 above.)

cULus Listing Requirements:

Micromatic® Stainless Steel Standard Sprinklers are cULus Listed as indicated in Approval Chart 1 for installation in accordance with the latest edition of NFPA 13 for standard spray upright and pendent sprinklers.

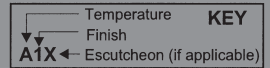
- Designed for use in Light, Ordinary, and Extra Hazard occupancies.
- Protection areas and maximum spacing shall be in accordance with the tables provided in NFPA 13.
- Minimum spacing allowed is 6 ft. (1.8 m) unless baffles are installed in accordance with NFPA 13.
- Locate no less than 4" (102 mm) from walls.
- 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.
- The sprinkler installation and obstruction rules contained in NFPA 13 for standard spray upright and pendent 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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Approval Chart 2 (FM) Micromatic® Standard Response Stainless Steel Sprinklers Maximum 175 PSI (12 bar) WWP									
Sprinkler Base Part Number ¹	Style	SIN	Thread Size		Nominal K-Factor		Order Length Increment		FM Approvals ³ (Refer also to Design Criteria below.)
			NPT	BSP	U.S.	metric ²	Inches	mm	
05012B	Upright	VK130	1/2"	15 mm	5.6	80.6	2-3/16"	55	A1
06483B	Pendent	VK132	1/2"	15 mm	5.6	80.6	2-3/16"	55	A1X
Approved Temperature Ratings A - 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), 286 °F (141 °C), 360 °F (182 °C), and 500 °F (260 °C)					Approved Finishes 1 - Stainless Steel		Approved Escutcheons X - Standard surface-mounted escutcheons		
Footnotes									
¹ Base part number is shown. For complete part number, refer to Viking's current price schedule. ² 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. ³ This chart shows the FM Approvals available at the time of printing. Check with the manufacturer for any additional approvals. NOTE: 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.									



DESIGN CRITERIA - FM (Also refer to Approval Chart 2 above.)
FM Approval Requirements: Micromatic® Stainless Steel Sprinklers VK130 and VK132 are FM Approved as Special Protection upright and pendent sprinklers for corrosive environments, and as standard response Non-Storage 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. NOTE: The FM installation guidelines may differ from cULus and/or NFPA criteria.
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.



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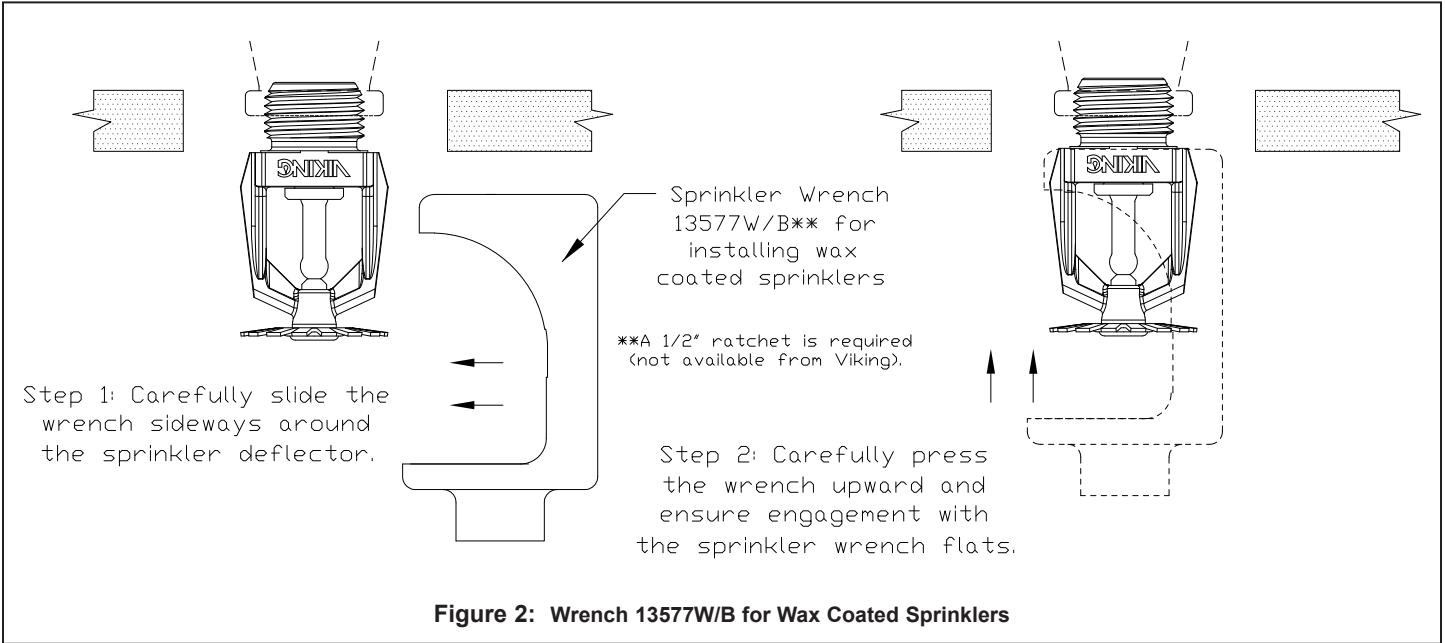


Figure 2: Wrench 13577W/B for Wax Coated Sprinklers

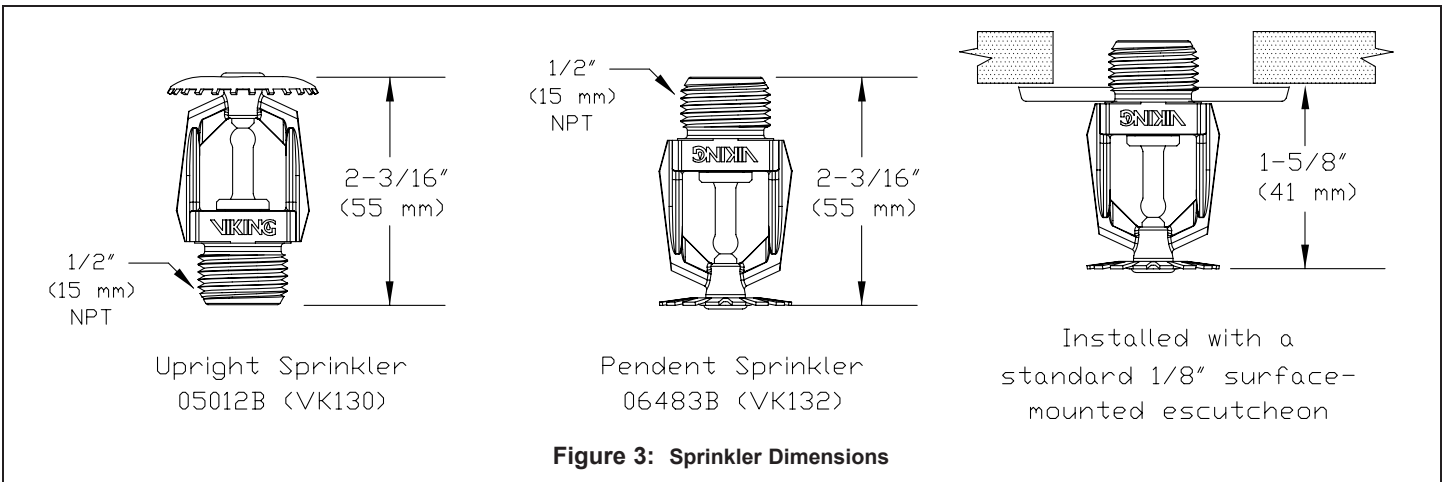


Figure 3: Sprinkler Dimensions

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