



## TECHNICAL DATA

## MICROMATIC® STANDARD RESPONSE CONVENTIONAL SPRINKLER VK120 (K8.0)

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

Visit the Viking website for the latest edition of this technical data page [www.vikinggroupinc.com](http://www.vikinggroupinc.com).

### 1. DESCRIPTION

Viking Micromatic® Standard Response Conventional (Old Style) VK120 Sprinklers are small, thermosensitive, glass-bulb spray sprinklers available in several different finishes, temperature ratings, and K-factors to meet design requirements. The special Polyester, and Electroless Nickel PTFE (ENT) 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 listed as corrosion resistant as indicated in the Approval Chart.

### 2. LISTINGS AND APPROVALS



**cULus Listed:** Category VNIV



**VdS Approved:** Certificate G414012 and G4980008



**LPCB Approved:** Certificate 096e/06



**CE Certified:** Standard EN 12259-1, EC-certificate of constancy of performance 0832-CPR-S0021, EC-Certificate of Conformity 0832-CPD-2001



**MED Certified:** Standard EN 12259-1, EC-certificate 0832-MED-1003

**NOTE:** Other International approval certificates are available upon request.

Refer to Approval Chart 1 and Design Criteria 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: 3/4" NPT, 20 mm BSP

Nominal K-Factor: 8.0 U.S. (115.2 metric\*\*)

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

Overall Length: 2-3/16" (56 mm)

\*cULus Listing 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

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 Polyester Coated Sprinklers: Belleville Spring-Exposed

For ENT Coated Sprinklers: Belleville Spring - Exposed, Screw and Pipcap - ENT plated

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

Order Micromatic® Standard Response Conventional Sprinkler VK120 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, Wax Coated = C, Wax Over Polyester = V-/W, and ENT = JN

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



**NOTE:** As of May 2018 all logos have been removed from the wrench boss.



**WARNING:** Cancer and Reproductive Harm-  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



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For example, sprinkler VK120 with a 1/2" thread, Brass finish and a 155 °F/68 °C temperature rating = Part No. 18270AB

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

**Accessories:** (Also refer to the Viking website.)

### Sprinkler Wrenches:

A. Standard Wrench: Part No. 21475M/B (available since 2017).

B. Standard Wrench for Wax Coated Sprinklers: Part No. 10896W/B (available since 2000)

C. Socket 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)

## 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

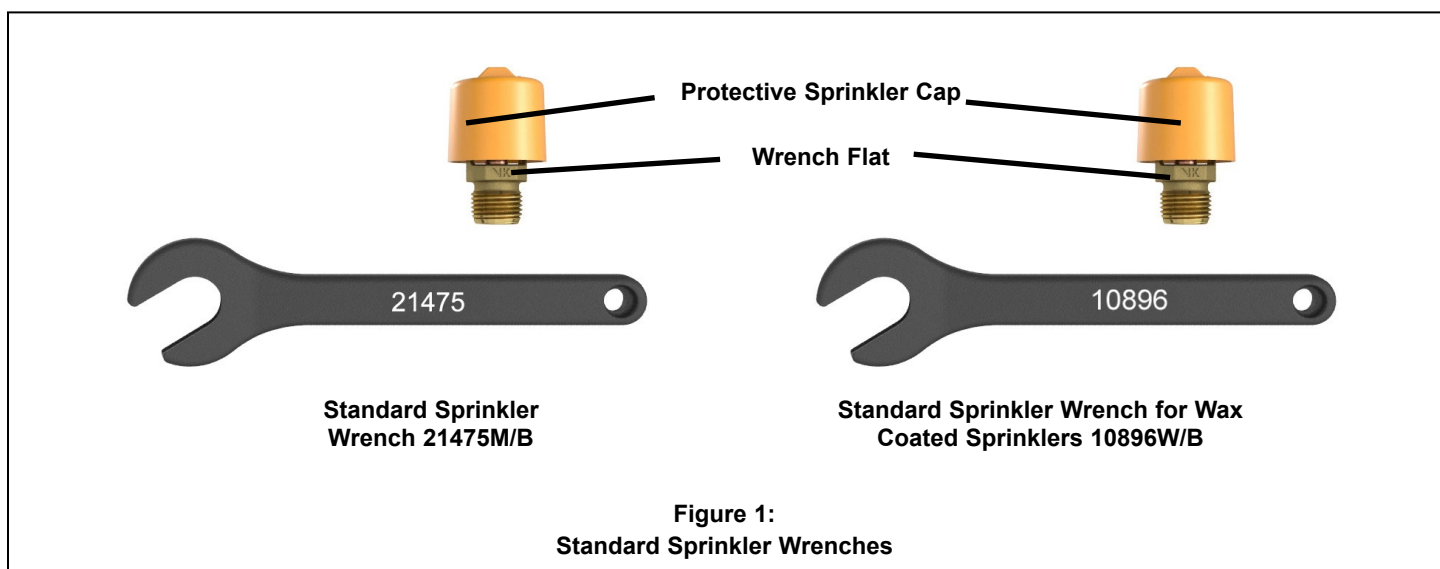
Refer to NFPA 25 for Inspection, Testing and Maintenance requirements.

## 7. AVAILABILITY

The Viking Micromatic® Standard Response Conventional Sprinkler VK120 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>4</sup>:** White Polyester and Black Polyester. ENT in all temperature ratings except 135 °F (57 °C). Wax-Coated Brass and Wax over Polyester<sup>5</sup> 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

### 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> 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.

<sup>4</sup> The corrosion-resistant coatings have passed the standard corrosion test required by the approving agencies indicated in the Approval Charts. 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 ENT coated automatic sprinklers, the waterway is coated.



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### Approval Chart

Micromatic® Standard Response Conventional Sprinkler VK120  
 Maximum 175 PSI (12 bar) WWP

Temperature	KEY
↓	Finish
A1X ←	Escutcheon (if applicable)

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>	VdS	LPCB	CE <sup>7</sup>	⊗ <sup>8</sup>
18270	VK120	3/4"	20 mm	8.0	115	2-3/16	56	A1, C5	A2	A2, B3	C4	C4 <sup>8</sup>
18265	VK120	--	20 mm	8.0	115	2-3/16	56	A1, C5	A2	A2, B3	C4	C4 <sup>8</sup>

#### NOTICE - Product Below - Limited Availability (Contact Local Viking Office)

10228	VK120	3/4"	20 mm	8.0	115	2-5/16	59	A1	A2	A2	C4	C4 <sup>8</sup>
10168	VK120	--	20 mm	8.0	115	2-5/16	59	A1	A2	A2	C4	C4 <sup>8</sup>

#### Approved Temperature Ratings

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)  
 B - 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), and 200 °F (93 °C)  
 C - 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), 286 °F (141 °C), and 360 °F (182 °C)

#### Approved Finishes

- 1 - Brass, Chrome, White Polyester<sup>5,6</sup>, and Black Polyester<sup>5,6</sup>
- 2 - Brass, Chrome, White Polyester<sup>5,6</sup>, and Black Polyester<sup>5,6</sup>
- 3 - Wax-Coated Brass and Wax over Polyester<sup>5</sup>
- 4 - Brass and Chrome
- 5 - ENT<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 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.
- <sup>5</sup> cULus Listed as corrosion resistant.
- <sup>6</sup> Other colors are available on request with the same Listings and Approvals as the standard colors.
- <sup>7</sup> CE Certified, Standard EN 12259-1, EC-certificate of conformity 0832-CPD-2001 and EC-certificate of constancy of performance 0832-CPR-S0021.
- <sup>8</sup> MED Certified, Standard EN 12259-1, EC-certificate 0832-MED-1003.

### DESIGN CRITERIA - UL

(Also refer to Approval Chart 1)

#### cULus Listing Requirements:

Micromatic® Standard Response Conventional Sprinkler VK120 is cULus Listed as indicated in the Approval Chart 1 for installation in accordance with the latest edition of NFPA 13 for old style (conventional) sprinklers.

- Designed for use in Light, Ordinary, and Extra Hazard occupancies.
- The sprinkler installation rules contained in NFPA 13 for standard spray old style (conventional) sprinklers must be followed.

**IMPORTANT: Always refer to Bulletin Form No. F\_091699 - Care and Handling of Sprinklers. Also refer to Bulletin Form No. F\_080614 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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