



## TECHNICAL DATA

### MICROFAST® QUICK RESPONSE UPRIGHT SPRINKLER VK345 (K5.6)

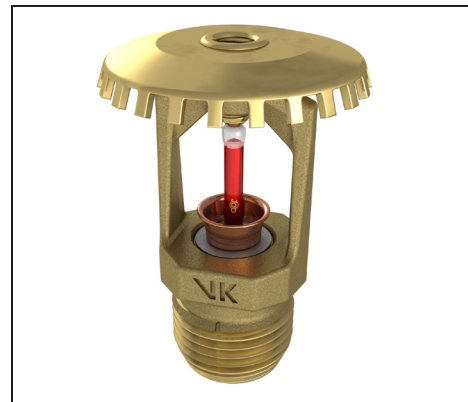
The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

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

#### 1. DESCRIPTION

The Viking Microfast® Quick Response Upright Sprinkler VK345 is a small, thermo-sensitive, glass-bulb 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. In addition, these coatings have been investigated for installation in corrosive atmospheres and are listed/approved as corrosion resistant as indicated in the Approval Charts. (Note: FM Global has no approval classification for Polyester coatings as corrosion resistant.)



#### 2. LISTINGS AND APPROVALS



**FM Approved:** Class Series 2000



**VdS Approved:** Certificates G414011 and G4880046



**LPCB Approved:** Certificate 096e/04



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



**CCC Approved:** Approved by the China Certification Center for Fire Products (CCC)



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

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

Refer to Approval Chart 2 and Design Criteria FM Approval requirements that must be followed.

#### 3. TECHNICAL DATA

##### Specifications:

Minimum Operating Pressure: 7 psi (0.5 bar)\*

Maximum Working Pressure: 175 psi (12 bar) wwp.

Factory tested hydrostatically to 500 psi (34.5 bar)

Testing: U.S.A. Patent No. 4,831,870

Thread size: 15 mm BSP

Nominal K-Factor: 5.6 U.S. (80.6 metric\*\*)

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

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).

##### Material Standards:

Frame Casting: Brass UNS-C84400

Deflector: Copper UNS-C19500

Bulb: Glass, nominal 3 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

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

Order Microfast® and MicrofastHP® Quick Response Upright and 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): 135°/57° = A, 155°/68° = B, 175°/79° = D, 200°/93° = E, and 286°/141° = G

For example, sprinkler VK345 with a 15 mm thread, Brass finish and a 155 °F/68 °C temperature rating = Part No. 12984AB

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

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

**Sprinkler Wrench:** 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)



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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 Viking Microfast® Quick Response Upright Sprinkler VK345 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**

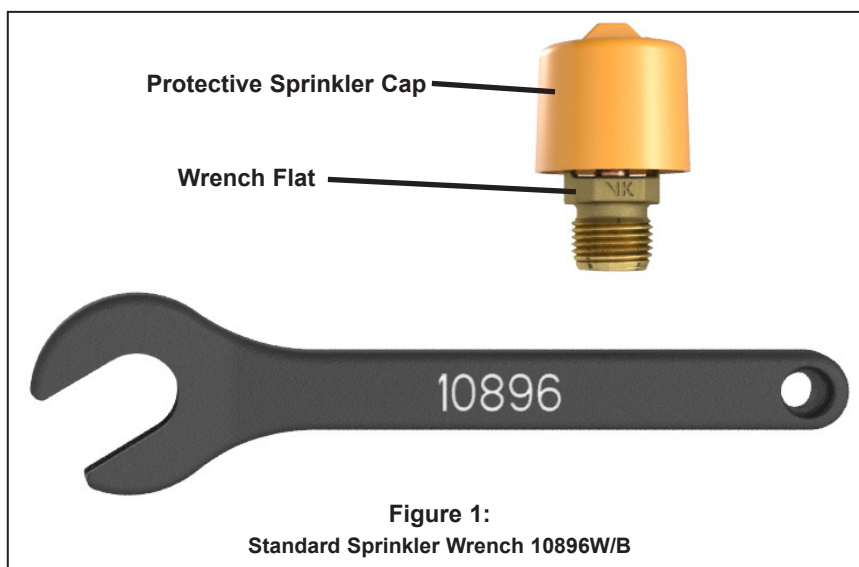
Sprinkler Temperature Classification	Sprinkler Nominal Temperature Rating <sup>1</sup>	Maximum Ambient Ceiling Temperature <sup>2</sup>	Bulb Color
Ordinary	135 °F (57 °C)	100 °F (38 °C)	Orange
Ordinary	155 °F (68 °C)	100 °F (38 °C)	Red
Intermediate	175 °F (79 °C)	150 °F (65 °C)	Yellow
Intermediate	200 °F (93 °C)	150 °F (65 °C)	Green
High	286 °F (141 °C)	225 °F (107 °C)	Blue

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

#### 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.



**Figure 1:**  
Standard Sprinkler Wrench 10896W/B



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#### Approval Chart 1

Microfast® Quick Response  
 Upright Sprinkler VK345

Maximum 175 PSI (12 bar) WWP

KEY	
Temperature	→
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>					
		NPT	BSP	U.S.	metric <sup>2</sup>	Inches	mm	cULus	VdS	LPCB	CE <sup>5</sup>	⚙ <sup>6</sup>	CCC
12984	VK345	--	15 mm	5.6	80.6	2-3/16	56	--	A1	A1	B1	B1	--
19783	VK345	1/2"	--	5.6	80.6	2-3/16	56	--	--	--	--	--	B2
21353	VK345	--	15 mm	5.6	80.6	2-3/16	56	--	--	--	--	--	B2

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

07060	VK345	--	15 mm	5.6	80.6	2-3/16	56	--	A1	A1	B1	B1	--
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#### Approved Temperature Ratings

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

#### Approved Finishes

1 - Brass, Chrome, White Polyester<sup>4</sup>, and Black Polyester<sup>4</sup>  
 2 - Chrome

#### 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> Other colors are available on request with the same Listings and Approvals as the standard colors.

<sup>5</sup> CE Certified, Standard EN 12259-1, EC-certificate of constancy of performance 0832-CPR-S0021.

<sup>6</sup> MED Certified, Standard EN 12259-1, EC-certificate 0832-MED-1003.

**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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### Approval Chart 2 (FM)

Microfast® Quick Response  
 Upright Sprinkler VK345  
 Maximum 175 PSI (12 bar) WWP

KEY	
Temperature	—
Finish	▼
A1X ← Escutcheon (if applicable)	←

Base Part Number <sup>1</sup>	SIN	Thread Size		Nominal K-Factor		Overall Length		FM Approvals <sup>3</sup> (Refer also to Design Criteria below.)
		NPT	BSP	U.S.	metric <sup>2</sup>	Inches	mm	
12984	VK345	--	15 mm	5.6	80.6	2-3/16	56	A1
<b>NOTICE - Product Below - Limited Availability (Contact Local Viking Office)</b>								
07060	VK345	--	15 mm	5.6	80.6	2-3/16	56	A1
<b>Approved Temperature Ratings</b>							<b>Approved Finishes</b>	
A - 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), and 286 °F (141°C)							1 - Brass, Chrome, White Polyester <sup>4</sup> , and Black Polyester <sup>4</sup>	
<b>Footnotes</b>								
<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 FM Approvals available at the time of printing. Check with the manufacturer for any additional approvals. <sup>4</sup> Other colors are available on request with the same Approvals as the standard colors.								

### DESIGN CRITERIA - FM

(Also refer to Approval Chart 2 above.)

#### FM Approval Requirements:

The Microfast® Quick Response Upright Sprinkler VK345 is FM Approved as a quick response **Non-Storage** upright sprinkler 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 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, FM Global, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.**