



TECHNICAL DATA

MICROFAST® AND MICRO-FASTHP® QUICK RESPONSE HORIZONTAL SIDEWALL SPRINKLERS (VK305 & VK319)

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 Microfast® and MicrofastHP® Quick Response Horizontal Sidewall Sprinklers are small thermosensitive glass bulb spray sprinklers available with various finishes and temperature ratings to meet design requirements. The special Polyester and Teflon® 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. (Note: FM Global has no approval classification for Teflon® and Polyester coatings as corrosion resistant.)



2. LISTINGS AND APPROVALS

cULus Listed: Category VNIV

FM Approved: Class 2020

NYC Approved: MEA 89-92-E, Volume 16

Refer to the Approval Chart on page 43d and Design Criteria on page 43e for cULus and FM approval requirements that must be followed.

3. TECHNICAL DATA

Specifications:

Available since 2003.

Minimum Operating Pressure: 7 psi (0.5 bar)

Maximum Working Pressure: Sprinkler VK319 is rated for use with water working pressures ranging from the minimum 7 psi (0.5 bar) up to 250 psi (17 bar) for high-pressure systems. High-pressure (HP) sprinklers can be identified by locating "250" stamped on the deflector. Sprinkler VK305 is rated to a maximum 175 psi (12 bar) wwp.

Factory tested hydrostatically to 500 psi (34.5 bar)

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

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 3 mm diameter

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

Screw: Brass UNS-C36000

Pip Cap: Copper UNS-C11000 and Stainless Steel UNS-S30400

Pip Cap Attachment: Brass UNS-C36000

For Teflon® Coated Sprinklers: Belleville Spring-Exposed, Screw-Nickel Plated, Pip Cap-Teflon® Coated

For Polyester Coated Sprinklers: Belleville Spring-Exposed

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

Order Quick Response Horizontal 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-Enloy® = F, White Polyester = M-/W, Black Polyester = M-/B, and Black Teflon® = N

Temperature Suffix (°F/°C): 135°/68° = A, 155°/68° = B, 175°/79° = D, 200°/93° = E, and 286°/141° = G

For example, sprinkler VK305 with a Brass finish and a 155 °F/68 °C temperature rating = Part No. 12121AB

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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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)

**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

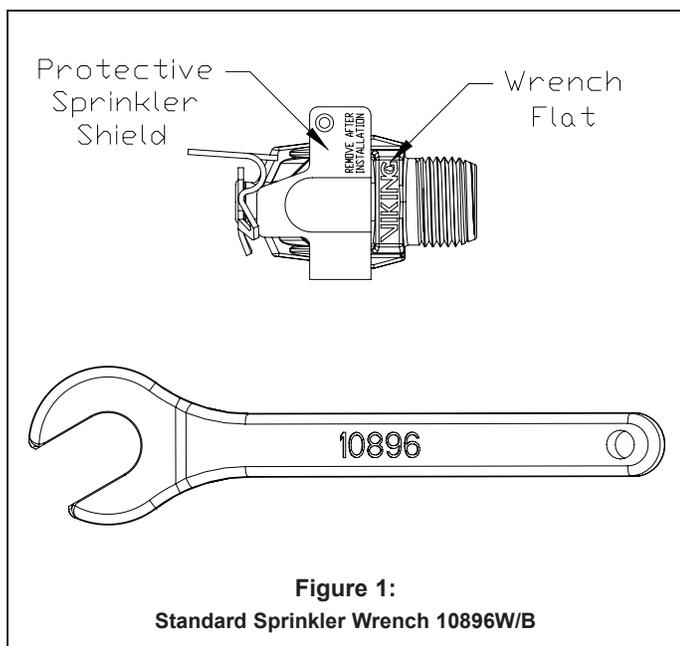
Refer to NFPA 25 for Inspection, Testing and Maintenance requirements.

7. AVAILABILITY

Viking Quick Response Horizontal 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.





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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
High	286 °F (141 °C)	225 °F (107 °C)	Blue

Sprinkler Finishes: Brass, Chrome-Enloy®, White Polyester, Black Polyester, and Black Teflon®

Corrosion-Resistant Coatings³: White Polyester, Black Polyester, and Black Teflon®

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 Teflon® coatings.

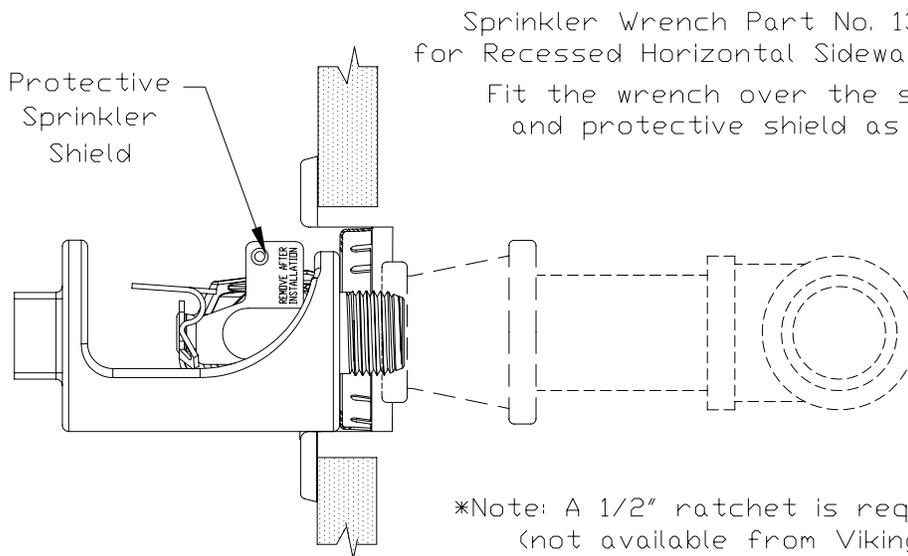
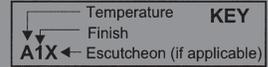


Figure 2: Wrench 13655W/B for Recessed Horizontal Sidewall Sprinklers

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Approval Chart														
Microfast® and MicrofastHP® Quick Response Horizontal 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 on pg 43e.)					
			NPT	BSP	U.S.	metric ²	Inches	mm	cULus ⁴	FM	NYC ⁵	LPCB	CE	⚙️
Maximum 175 PSI (12 Bar) WWP For Light or Ordinary Hazard Occupancies. Deflectors must be located 4" to 12" (102 mm to 305 mm) below the ceiling.														
12121	VK305	175 psi	1/2"	15 mm	5.6	80.6	2-11/16	68	A1Y, B1X	--	A1Y	--	--	--
Maximum 175 PSI WWP For Light Hazard Occupancies Only. Deflectors must be located 4" to 6" (102 mm to 152 mm) below the ceiling.														
12121	VK305	175 psi	1/2"	15 mm	5.6	80.6	2-11/16	68	cULus	FM ⁶	NYC	LPCB	CE	⚙️
									A1Y, B1X	A2Y, B2Z	--	--	--	--
Maximum 250 PSI WWP For Light or Ordinary Hazard Occupancies. Deflectors must be located 4" to 12" (102 mm to 305 mm) below the ceiling.														
12285	VK319	250 psi	1/2"	15 mm	5.6	80.6	2-11/16	68	cULus ⁴	FM	NYC ⁵	LPCB	CE	⚙️
									A1Y, B1X	--	A1Y	--	--	--
Approved Temperature Ratings			Approved Finishes						Approved Escutcheons					
A - 135 °F (57 °C), 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), and 200 °F (93 °C)			1 - Brass, Chrome-Enloy®, White Polyester ⁷ , Black Polyester ⁷ , and Black Teflon ⁶⁷ 2 - Brass						X - Installed with standard surface-mounted escutcheons or the Viking Microfast® Model F-1 Adjustable Escutcheon ⁸ , or recessed with the Viking Micromatic® Model E-1, E-2 or G-1 Recessed Escutcheon Y - Installed with standard surface-mounted escutcheons or the Viking Microfast® Model F-1 Adjustable Escutcheon ⁸ Z - Installed with the Viking Model G-1 Recessed Escutcheon					
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 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 89-92-E, Vol. 16. ⁶ FM Approved for installation in accordance with the latest applicable FM Loss Prevention Data Sheets and Technical Advisory Bulletins. ⁷ cULu s Listed as corrosion-resistant. Other colors are available on request with the same Listings and Approvals as the standard colors. ⁸ The Viking Microfast® Model F-1 Adjustable Escutcheon is considered a surface-mounted escutcheon because it does not allow the fusible element of the sprinkler to be recessed behind the face of the wall or ceiling.														



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DESIGN CRITERIA
 (Also refer to the Approval Chart on page 43d.)

cULus Listing Requirements:

Quick Response Horizontal Sprinklers VK305 and VK319 are cULus Listed as indicated in the Approval Chart for installation in accordance with the latest edition of NFPA 13 for sidewall standard spray sprinklers.

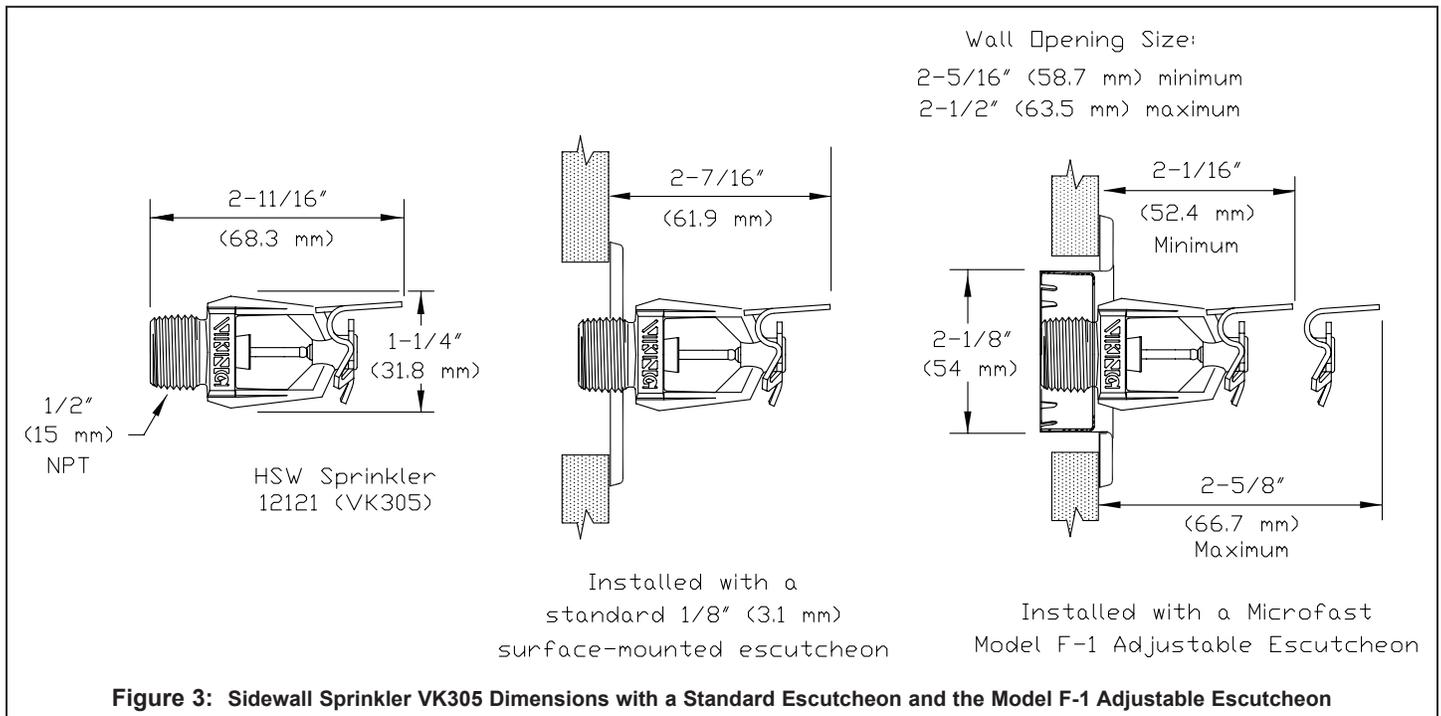
- Designed for use in Light and Ordinary Hazard occupancies.
- Locate the deflector 4" to 12" (102 mm to 305 mm) below the ceiling.
- Protection areas and maximum spacing shall be in accordance with the tables provided in NFPA 13.
- Minimum spacing allowed is 6 ft. (1.8 m).
- Align the top of the deflector 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.

FM Approval Requirements:

Install in accordance with the latest applicable FM Loss Prevention Data Sheets (including 2-8N) 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.

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 QR1-3 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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