



TECHNICAL DATA

MICROFAST® AND MicrofastHP® EC/QREC PENDENT SPRINKLERS VK604 AND VK610

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® EC/QREC Pendent Sprinklers are small thermostatic spray sprinklers available in several different finishes and temperature ratings to meet varying design requirements. These sprinklers have both standard response and quick response listings. The fast response type glass bulb and special deflector combine speed of operation and area of coverage to meet quick response extended coverage standards.

The special Polyester coating can be used in decorative applications where colors are desired.

2. LISTINGS AND APPROVALS

cULus Listed: Category VNIV

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

Refer to the Approval Chart on page 90h and Design Criteria on page 90i for cULus Listing requirements that must be followed.

3. TECHNICAL DATA

Specifications:

Minimum Operating Pressure: Refer to the Approval Chart.

Maximum Working Pressure: Sprinkler VK610 is rated to a maximum 250 psi (17 bar) wwp for high-pressure systems. High-pressure (HP) sprinklers can be identified by locating "250" stamped on the deflector. Sprinkler VK604 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

Thread size: 1/2" (15 mm) NPT

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: 2-1/4 (58 mm)

Material Standards:

Sprinkler Frame: Brass UNS-C84400

Deflector: Brass UNS-C26000

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 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® EC/QREC Pendent 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, and White Polyester = M-/W

Temperature Suffix (°F/°C): 135°/57° = A, 155°/68° = B, 175°/79° = D

For example, sprinkler VK604 with a Brass finish and a 155 °F/68 °C temperature rating = Part No. 10335AB

Available Finishes And Temperature Ratings:

Refer to Table 1

Accessories: (Also refer to the "Sprinkler Accessories" section of the Viking data book.)



For Light Hazard Occupancies Only

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 Wrenches:

- A. Standard Wrench: Part No. 10896W/B (available since 2000)
 - B. Wrench for recessed pendent 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

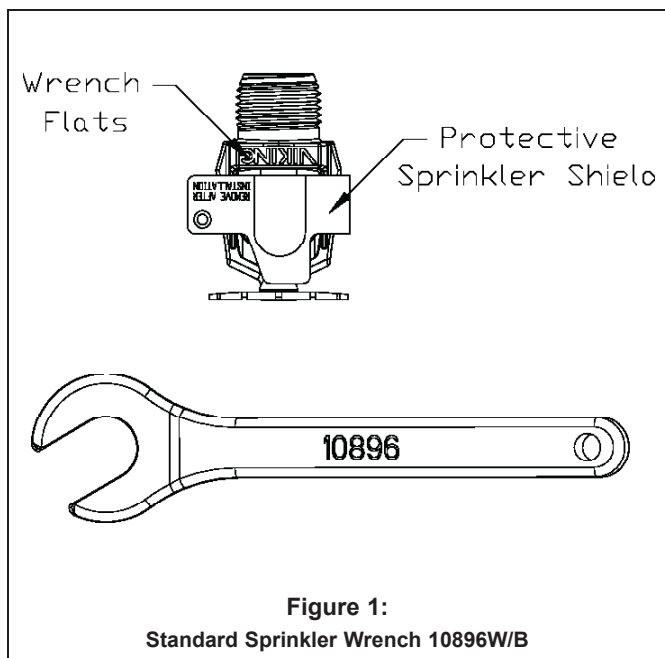
Refer to NFPA 25 for Inspection, Testing and Maintenance requirements.

7. AVAILABILITY

Viking Model VK604 and VK610 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

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

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.

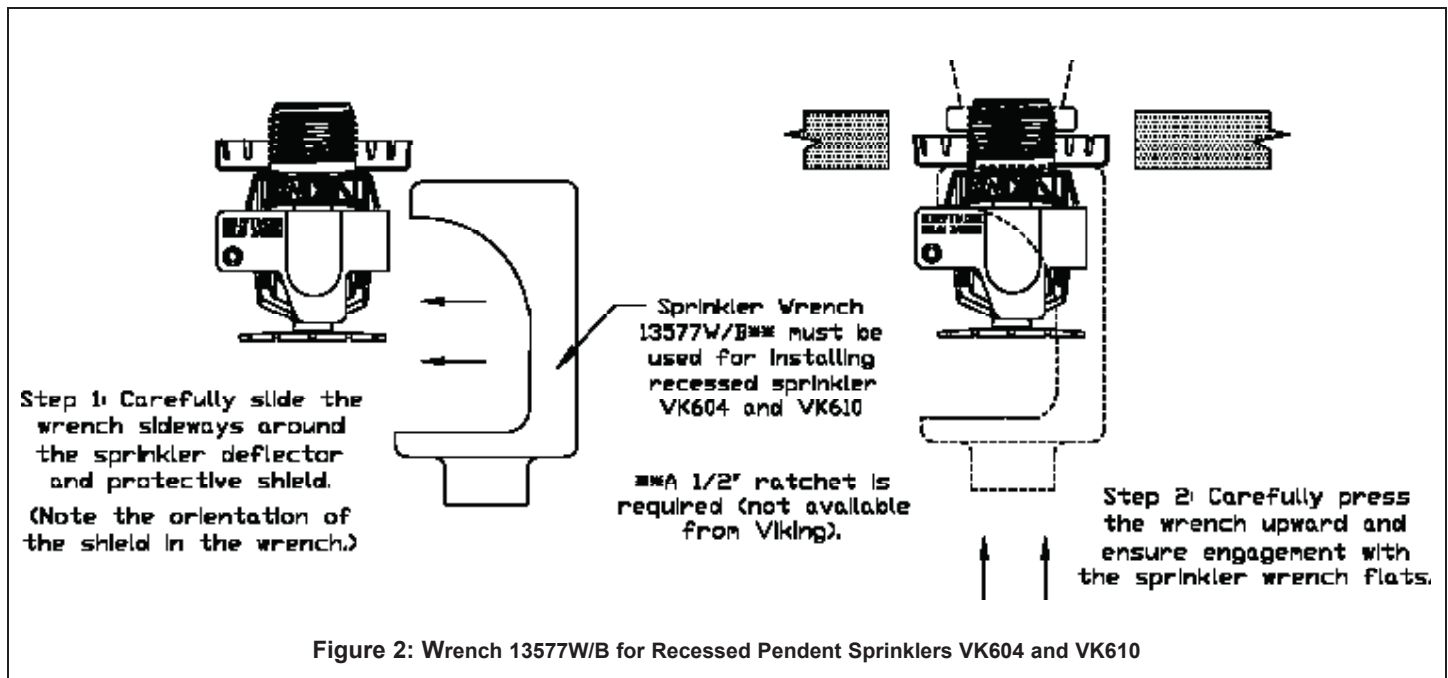


Figure 2: Wrench 13577W/B for Recessed Pendent Sprinklers VK604 and VK610

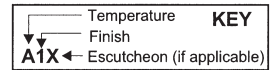
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Sprinkler Base Part Number ¹	SIN	NPT Thread Size		Nominal K-Factor		Maximum Water Working Pressure	Overall Length	
		Inches	mm	U.S.	metric ²		Inches	mm
10335	VK604	1/2	15	5.6	80.6	175 psi (12 Bar)	2-1/4	58
12294	VK610	1/2	15	5.6	80.6	250 psi (17 Bar)	2-1/4	58

Approval Chart

Microfast® and MicrofastHP® EC/QREC Pendent Sprinklers
For Light Hazard Occupancies Only



Sprinkler Base Part Number	SIN	Maximum Areas of Coverage ⁷	Minimum Water Supply Requirements ⁷	Listings and Approvals ³		
				cULus ⁴	FM	NYC ⁶
Standard Response⁵ Maximum 175 PSI WWP						
10335	VK604	18' Wide x 18' Throw (5.5 m x 5.5 m)	33 gpm @ 34.7 psi (124.9 L/min @ 2.40 Bar)	D1Z	--	--
10335	VK604	20' Wide x 20' Throw (6.1 m x 6.1 m)	40 gpm @ 51.0 psi (151.4 L/min @ 3.52 Bar)	D1X, E1Z	--	--
Quick Response Maximum 175 PSI WWP						
10335	VK604	16' Wide x 16' Throw (4.9 m x 4.9 m)	26 gpm @ 21.6 psi (98.4 L/min @ 1.49 Bar)	A1X	--	A1X
10335	VK604	18' Wide x 18' Throw (5.5 m x 5.5 m)	33 gpm @ 34.7 psi (124.9 L/min @ 2.40 Bar)	A1Y, B1X	--	B1X, D1Y
10335	VK604	20' Wide x 20' Throw (6.1 m x 6.1 m)	40 gpm @ 51.0 psi (151.4 L/min @ 3.52 Bar)	B1Y, C1X	--	B1Y, C1Z
Standard Response⁵ High Pressure Maximum 250 PSI WWP						
12294	VK610	18' Wide x 18' Throw (5.5 m x 5.5 m)	33 gpm @ 34.7 psi (124.9 L/min @ 2.40 Bar)	D1Z	--	--
12294	VK610	20' Wide x 20' Throw (6.1 m x 6.1 m)	40 gpm @ 51.0 psi (151.4 L/min @ 3.52 Bar)	D1X, E1Z	--	--
Quick Response High Pressure Maximum 250 PSI WWP						
12294	VK610	16' Wide x 16' Throw (4.9 m x 4.9 m)	26 gpm @ 21.6 psi (98.4 L/min @ 1.49 Bar)	A1X	--	A1X
12294	VK610	18' Wide x 18' Throw (5.5 m x 5.5 m)	33 gpm @ 34.7 psi (124.9 L/min @ 2.40 Bar)	A1Y, B1X	--	B1X, D1Y
12294	VK610	20' Wide x 20' Throw (6.1 m x 6.1 m)	40 gpm @ 51.0 psi (151.4 L/min @ 3.52 Bar)	B1Y, C1X	--	B1Y, C1Z

Approved Temperature Ratings A - 135 °F (57 °C), 155 °F (68 °C), and 175 °F (79 °C) B - 135 °F (57 °C) and 175 °F (79 °C) C - 135 °F (57 °C) D - 155 °F (68 °C) E - 175 °F (79 °C)	Approved Finishes 1 - Brass, Chrome-Enloy®, and White Polyester	Approved Escutcheons X - Standard surface-mounted escutcheons, including the Microfast® Model F-1 Adjustable Escutcheon®, or recessed with the Micromatic® Model E-1 or E-2 Recessed Escutcheon Y - Standard surface-mounted escutcheons or the Microfast® Model F-1 Adjustable Escutcheon® Z - Recessed with the Micromatic® Model E-1 or E-2 Recessed Escutcheon only
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Footnotes

- ¹ Part number shown is the base part number. For complete part number, refer to current Viking price list 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 chart shows listings and approvals available at time of printing. Check with the manufacturer for any additional approvals.
- ⁴ cULus Listed for use in the U.S. and Canada for Light-Hazard occupancies with smooth, flat, horizontal ceilings only.
- ⁵ Listings are limited to Light Hazard Occupancies where allowed by the installation standards being applied.
- ⁶ Accepted for use, City of New York Department of Buildings, MEA 89-92 Vol. 16.
- ⁷ For areas of coverage smaller than shown, use the "Minimum Water Supply Requirement" for the next larger area listed. Flows and pressures listed are per sprinkler.
- ⁸ The 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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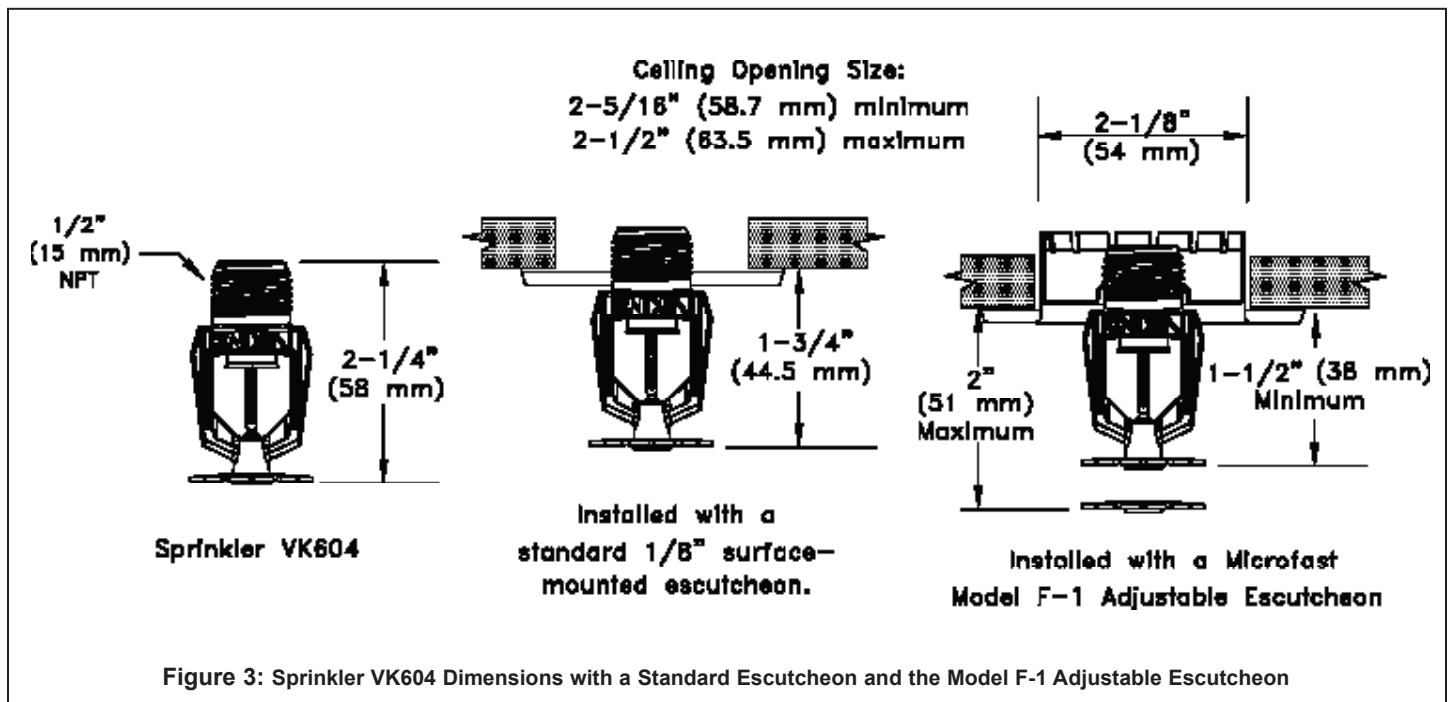
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DESIGN CRITERIA
 (Also refer to the Approval Chart on page 90h.)

cULus Listing Requirements: Microfast® and MicrofastHP® EC/QREC Pendent Sprinklers VK604 and VK610 are cULus Listed as indicated in the Approval Chart for installation in accordance with the latest edition of NFPA 13 for extended coverage pendent spray sprinklers:

- Limited to Light Hazard occupancies, where allowed by the installation standards being applied, with smooth, flat, horizontal ceilings only.
- Minimum spacing allowed is 8 ft. (2.4 m) unless baffles are installed in accordance with NFPA 13.
- Minimum distance from walls is 4 in. (102 mm).
- 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 extended coverage pendent spray sprinklers must be followed.

IMPORTANT: Always refer to Bulletin Form No. F_091699 - Care and Handling of Sprinklers. Also refer to pages EC1-3 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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