



TECHNICAL DATA

QUICK RESPONSE FUSIBLE ELEMENT PENDENT SPRINKLERS VK318, VK330, VK332, VK343, AND VK353

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 Quick Response Fusible Element Pendent Sprinklers VK330, VK332, VK353 and HP Sprinklers VK318 and VK343 are small, thermosensitive, solder link spray sprinklers available in several different finishes, temperature ratings and K-Factors to meet design requirements. The special Polyester and Teflon® coatings can be used in decorative applications where colors are desired.

2. LISTINGS AND APPROVALS



cULus Listed: Category VNIV



FM Approved: Classes 2002 and 2020

Refer to Approval Chart 1 and Design Criteria on page 40c for cULus Listing requirements, and refer to Approval Chart 2 and Design Criteria on page 40d for FM Approval requirements that must be followed.



3. TECHNICAL DATA

Specifications:

Available since 2007.

Minimum Operating Pressure: 7 psi (0.5 bar)

Maximum Working Pressure: Sprinklers VK318 and VK343 are 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. Sprinklers VK330, VK332, and VK353 are rated to a maximum 175 psi (12 bar) wwp.

Factory tested hydrostatically to 500 psi (34.5 bar)

Thread size: Refer to the Approval Charts

Nominal K-Factor: Refer to the Approval Charts

Overall Length: Refer to the Approval Charts

Material Standards:

Frame Casting: Brass UNS-C84400

Deflector: Phosphor Bronze UNS-C51000 or Copper UNS-C19500 for Sprinkler VK353. Copper UNS-C19500 for Sprinkler VK318. Brass UNS-C26000 for all other Sprinklers.

Bushing (for Sprinkler VK330): Brass UNS-C36000

Fusible Element Assembly: Nickel Alloy

Trigger and Support: Stainless Steel UNS-S31600

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

Screw: 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 Fusible Element 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, White Polyester = M-/W, Black Polyester = M-/B, and Black Teflon® = N

Temperature Suffix: 165 °F (74 °C) = C, 205 °F (96 °C) = E, and 280 °F (138 °C)

For example, sprinkler VK330 with a Brass finish and a 165 °F (74 °C) temperature rating = Part No. 13960AC

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 Pendent Sprinklers: Part No. 16036W/B** (available since 2011)

C. Optional Protective Sprinkler Cap Remover/Escutcheon Installer Tool† Part No. 15915 (available since 2010)

**A ½" ratchet is required (not available from Viking).

†Allows use from the floor by attaching a length of 1" diameter CPVC tubing to the tool. Ideal for sprinkler cabinets. Refer to Bulletin F_051808.

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.



TECHNICAL DATA

**QUICK RESPONSE FUSIBLE
ELEMENT PENDENT
SPRINKLERS VK318, VK330,
VK332, VK343, AND VK353**

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

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 fusible element assembly disengages, releasing the seat and spring assemblies to open the waterway. 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 Quick Response Fusible Element Pendent 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.

TABLE 1: AVAILABLE SPRINKLER TEMPERATURE RATINGS AND FINISHES

Sprinkler Temperature Classification	Sprinkler Nominal Temperature Rating ¹	Maximum Ambient Ceiling Temperature ²	Frame Paint Color
Ordinary	165 °F (74 °C)	100 °F (38 °C)	None
Intermediate	205 °F (96 °C)	150 °F (65 °C)	White
High	280 °F (138 °C)	225 °F (107 °C)	Blue

Sprinkler Finishes: Brass, Chrome-Enloy[®], White Polyester³, Black Polyester³, and Black Teflon^{®3}

Footnotes

¹ Decorative sprinklers may not be color coded. The 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 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. For Teflon[®] coated open sprinklers only, the waterway is coated.

	<h2 style="margin: 0;">TECHNICAL DATA</h2>	<h3 style="margin: 0;">QUICK RESPONSE FUSIBLE ELEMENT PENDENT SPRINKLERS VK318, VK330, VK332, VK343, AND VK353</h3>
---	--	---

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

Approval Chart 1 (UL)													
Quick Response Fusible Element Pendent Sprinklers Maximum 175 PSI (12 bar) WWP													
Base Part Number ¹	SIN	Thread Size		Nominal K-Factor		Overall Length		Listings and Approvals ³ (Refer also to Design Criteria below.)					
		NPT	BSP	U.S.	metric ²	Inches	mm	cULus ⁴	NYC	VdS	LPCB	CE	UL
Large Orifice													
13975	VK353	3/4"	20 mm	8.0	115.2	2-3/8"	60	A1X, B1Y	See Footnote 5.	--	--	--	--
13967	VK353	1/2"	15 mm	8.0	115.2	2-3/8"	60	A1X, B1Y	See Footnote 5.	--	--	--	--
Small Orifice⁶													
13960 ⁷	VK330	1/2"	15 mm	2.8	40.3	2-1/4"	58	A1X, B1Y	See Footnote 5.	--	--	--	--
13961 ⁷	VK332	1/2"	15 mm	4.2	57	2-1/4"	58	A1X, B1Y	See Footnote 5.	--	--	--	--
Maximum 250 PSI (17 bar) WWP Standard Orifice													
Base Part Number ¹	SIN	Thread Size		Nominal K-Factor		Overall Length		Listings and Approvals ³ (Refer also to Design Criteria below.)					
		NPT	BSP	U.S.	metric ²	Inches	mm	cULus ⁴	NYC	VdS	LPCB	CE	UL
13954	VK318	1/2"	15 mm	5.6	80.6	2-1/4"	58	A1X, B1Y	See Footnote 5.	--	--	--	--
Maximum 250 PSI (17 bar) WWP Small Orifice⁶													
13964 ⁷	VK343	1/2"	15 mm	2.8	40.3	2-3/16"	56	A1X, B1Y	See Footnote 5.	--	--	--	--
Approved Temperature Ratings A - 165 °F (74 °C), 205 °F (96 °C), 280 °F (138 °C) B - 165 °F (74 °C) and 205 °F (96 °C)				Approved Finishes 1 - Brass, Chrome-Enloy®, White Polyester®, Black Polyester®, and Black Teflon®				X - Standard surface-mounted escutcheon or the Viking Microfast® Model F-1 Adjustable Escutcheon Y - Standard surface-mounted escutcheon or the Viking Microfast® Model F-1 Adjustable Escutcheon or recessed with the Viking Micromatic® Model E-1 or E-2 Recessed Escutcheon					
Footnotes													
¹ Base part number is 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. Check with the manufacturer for any additional approvals. ⁴ Listed by Underwriters Laboratories Inc. for use in the U.S. and Canada. ⁵ Meets New York City requirements, effective July 1, 2008. ⁶ Listings and Approvals limited to Light Hazard Occupancies where allowed by the installation standards being applied, with hydraulically calculated wet systems only. Exception: 4.2K sprinklers may be installed on hydraulically calculated dry pipe systems where piping is corrosion resistant or internally galvanized. ⁷ The sprinkler orifice is bushed. ⁸ Other colors are available on request with the same Listings and Approvals as the standard colors.													

DESIGN CRITERIA - UL

(Also refer to Approval Chart 1 above.)

cULus Listing Requirements:
 Quick Response Fusible Element Pendent Sprinklers are cULus Listed as indicated in the Approval Chart for installation in accordance with the latest edition of NFPA 13 for standard spray sprinklers.

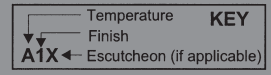
- Designed for use in Light and Ordinary Hazard occupancies. (Small orifice sprinklers are limited to Light Hazard where allowed by the installation standards being applied, with hydraulically calculated wet systems only. Exception: 4.2K sprinklers may be installed on hydraulically calculated dry pipe systems where piping is corrosion resistant or internally galvanized.)
- The sprinkler installation rules contained in NFPA 13 for standard spray pendent sprinklers must be followed.

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.

	<h2 style="margin: 0;">TECHNICAL DATA</h2>	<h3 style="margin: 0;">QUICK RESPONSE FUSIBLE ELEMENT PENDENT SPRINKLERS VK318, VK330, VK332, VK343, AND VK353</h3>
---	--	---

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

Approval Chart 2 (FM)								
Quick Response Fusible Element Pendent Sprinklers Maximum 175 PSI (12 bar) WWP								
Base Part Number ¹	SIN	Thread Size		Nominal K-Factor		Overall Length		FM Approvals ³ (Refer also to Design Criteria below.)
		NPT	BSP	U.S.	metric ²	Inches	mm	
Large Orifice								
13975	VK353	3/4"	20 mm	8.0	115.2	2-3/8"	60	A1X, B1Y
Small Orifice⁴								
13960 ⁵	VK330	1/2"	15 mm	2.8	40.3	2-1/4"	58	A1X
Approved Temperature Ratings A - 165 °F (74 °C), 205 °F (96 °C), 280 °F (138 °C) B - 165 °F (74 °C) and 205 °F (96 °C)			Approved Finishes 1 - Brass and Chrome-Enloy®			Approved Escutcheons X - Standard surface-mounted escutcheon or the Viking Micro-fast® Model F-1 Adjustable Escutcheon Y - Standard surface-mounted escutcheon or the Viking Micro-fast® Model F-1 Adjustable Escutcheon or recessed with the Viking Micromatic® Model E-1 or E-2 Recessed Escutcheon		
Footnotes								
¹ Base part number is 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. Check with the manufacturer for any additional approvals. ⁴ FM Approved as a quick response pendent Non-Storage sprinkler. For specific application and installation requirements, reference the latest applicable FM Loss Prevention Data Sheets (including Data Sheet 2-0). ⁵ The sprinkler orifice is bushed.								



DESIGN CRITERIA- FM
(Also refer to Approval Chart 2 above.)

FM Approval Requirements:
 Sprinklers VK330 and VK353 are FM Approved as quick response **Non-Storage** 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 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.



TECHNICAL DATA

QUICK RESPONSE FUSIBLE
ELEMENT PENDENT
SPRINKLERS VK318, VK330,
VK332, VK343, AND VK353

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

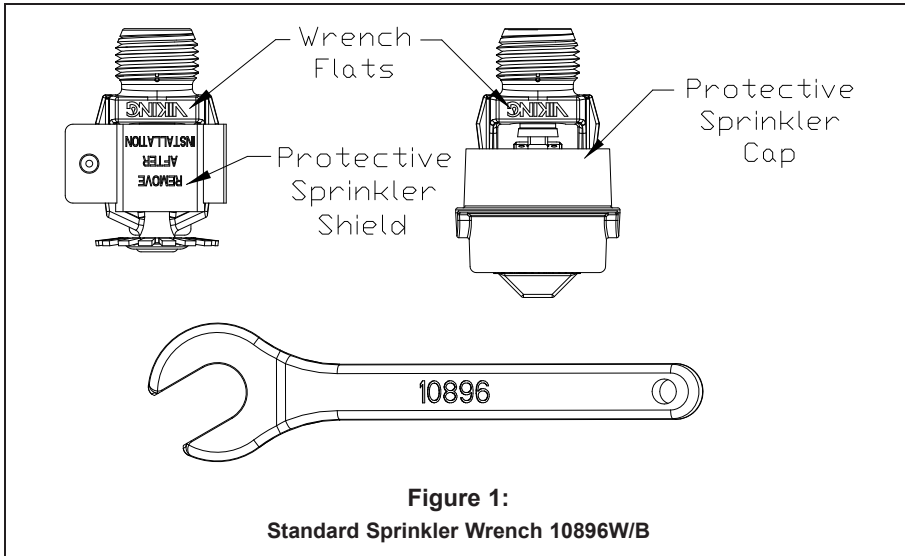


Figure 1:
Standard Sprinkler Wrench 10896W/B

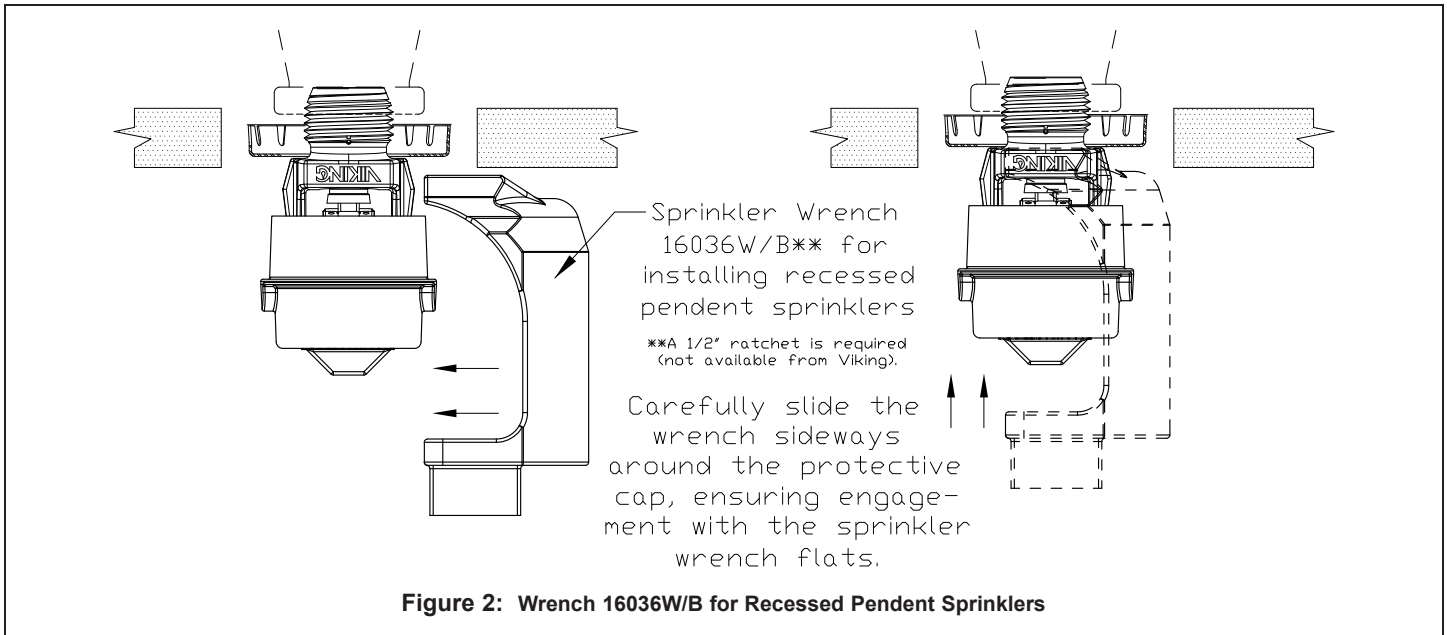


Figure 2: Wrench 16036W/B for Recessed Pendent Sprinklers



TECHNICAL DATA

**QUICK RESPONSE FUSIBLE
ELEMENT PENDENT
SPRINKLERS VK318, VK330,
VK332, VK343, AND VK353**

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

