



TECHNICAL DATA

STANDARD RESPONSE FUSIBLE LINK UPRIGHT SPRINKLER VK204 (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

1. DESCRIPTION

Viking Standard Response Fusible Link Upright Sprinkler VK204 is a small thermostatic solder link spray sprinkler available with various finishes and temperature ratings 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 environments and are listed as indicated in Approval Chart 1.

2. LISTINGS AND APPROVALS



cULus Listed: Category VNIV



FM Approved: Class 2001

Refer to Approval Charts and Design Criteria for Listing and 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)

Thread size: 1/2" NPT, 15 mm BSP, 3/4" NPT, and 20 mm BSP

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

Overall Length: 2-1/4" (58 mm)

** 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

Deflector: Copper UNS-C23000

Fusible Link Assembly: UNS-C51000

NOTE: For chrome sprinklers, the fusible link assembly is painted silver for decorative purposes only.

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

Screw: Stainless Steel UNS-S30300

Seat: Copper UNS-S31600 and UNS-S30400

For Polyester Coated Sprinklers: Belleville Spring-Exposed

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

Viking Standard Response Fusible Link Upright Sprinkler VK204 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

Temperature Suffix: 165 °F (74 °C) = C, 220 °F (104 °C) = F, 286 °F (141 °C) = G

For example, sprinkler VK204 with a 3/4" thread, Brass finish and a 165 °F (74 °C) temperature rating = Part No. 18253AC

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)

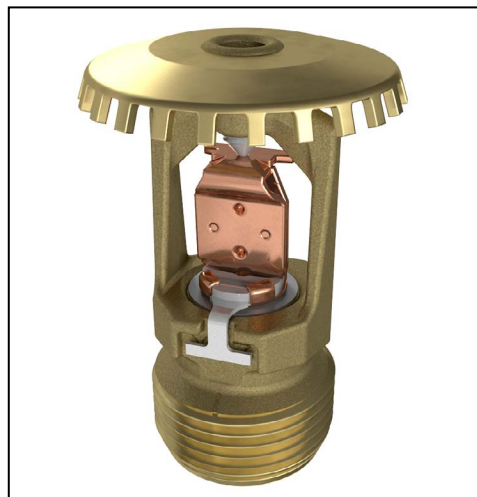
C. Socket Wrench for Wax Coated Sprinklers: Part No. 13577W/B* (available since 2006)

*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)





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4. INSTALLATION

Refer to appropriate NFPA Installation Standards.

5. OPERATION

During fire conditions, the heat-sensitive fusible link disengages, the pip cap and spring are released, and the waterway is opened. 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

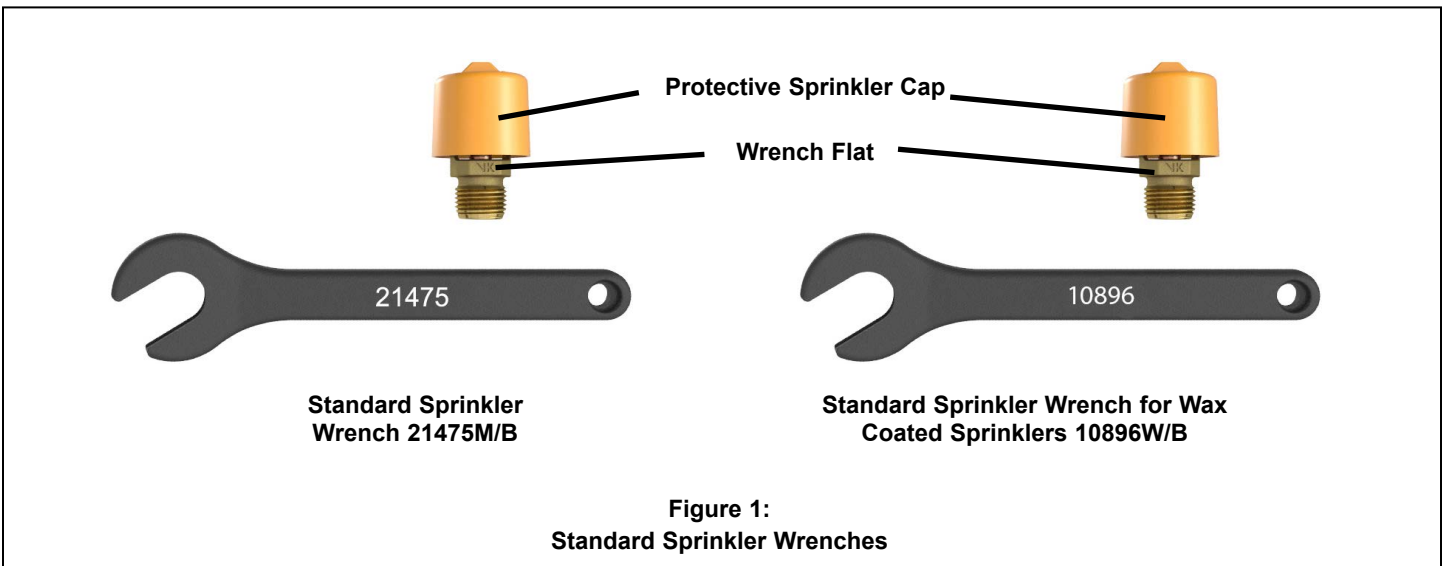
Refer to NFPA 25 for Inspection, Testing and Maintenance requirements.

7. AVAILABILITY

The Viking Standard Response Fusible Link Upright Sprinkler VK204 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.



**Figure 1:
Standard Sprinkler Wrenches**



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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
Ordinary	165 °F (74 °C)	100 °F (38 °C)
Intermediate	220 °F (104 °C)	150 °F (65 °C)
High	286 °F (141 °C)	225 °F (107 °C)

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

Corrosion-Resistant Coatings⁴: White Polyester, and Black Polyester in all temperature ratings. Wax-Coated Brass for sprinklers with the following temperature ratings:

165 °F (74 °C) Lt. Brown Wax 220 °F (104 °C) Dark Brown Wax⁵

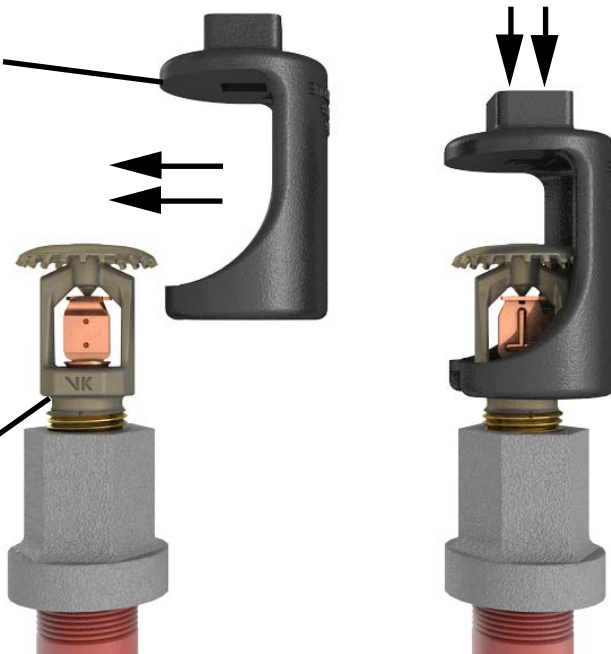
Footnotes

- 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.
- ⁴ 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 coatings.
- ⁵ Wax melting point is 170 °F (76 °C) for 220 °F (104 °C) temperature-rated sprinklers.

Sprinkler wrench 13577W/B must be used for installing wax coated sprinklers.**

Step 1: Carefully slide the wrench sideways around the deflector, ensuring engagement with the sprinkler wrench flats.

Wax Coated Upright Sprinkler



**** A 1/2" ratchet is required (not available from Viking)**

Step 2: Carefully press the wrench downward and ensure engagement with the sprinkler wrench flats.

Figure 2: Socket Wrench for Wax Coated Sprinklers 13577W/B



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Approval Chart 1 (UL)

Standard Response Upright Sprinkler VK204
 Maximum 175 PSI (12 bar) WWP

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

Sprinkler Base Part Number ¹	SIN	Thread Size		Nominal K-Factor		Overall Length		Listings and Approvals ³ (Refer also to UL Design Criteria.)			
		NPT	BSP	U.S.	metric ²	Inches	mm	cULus ⁴	VdS	LPCB	CE
Standard Orifice											
18253	VK204	3/4"	20 mm	8.0	115.2	2-1/4"	58	A2, B1	--	--	--
18255 ⁷	VK204	1/2"	15 mm	8.0	115.2	2-1/4"	58	A2, B1	--	--	--
NOTICE - Product Below - Limited Availability (Contact Local Viking Office)											
05514	VK204	3/4"	20 mm	8.0	115.2	2-5/16	59	A2, B1	--	--	--
05576 ⁷	VK204	1/2"	15 mm	8.0	115.2	2-5/16	59	A2, B1	--	--	--
Approved Temperature Ratings A - 165 °F (74 °C), 220 °F (104 °C), and 286 °F (141 °C) B - 165 °F (74 °C) and 220 °F (104 °C)						Approved Finishes 1 - Wax-Coated Brass (corrosion resistant) 2 - Brass, Chrome, White Polyester ^{5,6} , and Black Polyester ^{5,6}					
Footnotes											
¹ Base part number is shown. For complete part number, refer to Viking's current price schedule. ² 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. 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 cULus Listed as corrosion resistant. ⁶ Other colors are available on request with the same Listings and Approvals as the standard colors. ⁷ The 1/2" NPT Large Orifice Sprinkler is Listed and Approved for retrofit only.											

DESIGN CRITERIA - UL

(Also refer to Approval Chart 1.)

cULus Listing Requirements:

Viking Standard Response Fusible Link Upright Sprinkler VK204 is cULus Listed as indicated in Approval Chart 1 for installation in accordance with the latest edition of NFPA 13 for standard spray sprinklers.

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

IMPORTANT: Always refer to Bulletin Form No. F_091699 - Care and Handling of Sprinklers. Also refer to 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)								
Standard Response Upright Sprinkler VK204								
Maximum 175 PSI (12 bar) WWP								
Sprinkler 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	
Standard Orifice								
18253	VK204	3/4"	20 mm	8.0	115.2	2-1/4"	58	A1
NOTICE - Product Below - Limited Availability (Contact Local Viking Office)								
05514	VK204	3/4"	20 mm	8.0	115.2	2-5/16"	59	A1
Approved Temperature Ratings A - 165 °F (74 °C), 220 °F (104 °C), and 286 °F (141 °C)				Approved Finishes 1 - Brass, White Polyester ⁴ , and Black Polyester ⁴				
Footnotes								
¹ Base part number is shown. For complete part number, refer to Viking's current price schedule. ² 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. ³ This table shows the listings and approvals available at the time of printing. Check with the manufacturer for any additional approvals. ⁴ Other colors are available on request with the same Approvals as the standard colors.								

KEY	
Temperature	→
Finish	→
Escutcheon (if applicable)	→
A1X	←

DESIGN CRITERIA - FM

(Also refer to Approval Chart 2.)

FM Approval Requirements:

Sprinkler VK204 is FM Approved as a standard 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 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.