



TECHNICAL DATA

MicrofastHP® QUICK RESPONSE FUSIBLE ELEMENT HSW HIGH PRES- SURE SPRINKLER VK346 (K2.8)

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 MicrofastHP® Quick Response Fusible Element Horizontal Sidewall Sprinkler VK346 is a small thermosensitive solder link spray sprinkler available with various finishes and temperature ratings to meet design requirements. The special Polyester and Electroless Nickel PTFE (ENT) coatings can be used in decorative applications where colors are desired. In addition, the ENT coating has been investigated for installation in corrosive environments and is listed/approved as indicated in the Approval Charts.

2. LISTINGS AND APPROVALS

 cULus Listed: Category VNIV

Refer to Approval Chart 1 and Design Criteria for cULus Listing requirements that must be followed.

3. TECHNICAL DATA

Specifications:

Minimum Operating Pressure: 7 psi (0.5 bar)
Maximum Working Pressure: 250 psi (17 bar)
Factory tested hydrostatically to 500 psi (34.5 bar)
Nominal K-Factor: 2.8 U.S. (40.3 metric)[†]
Thread size: 1/2" NPT, 15 mm BSPT

[†] 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.

Overall Length: 2-1/2" (64 mm)

Material Standards:

Frame Casting: Brass UNS-C84400
Deflector: Copper UNS-C19500
Bushing: Brass UNS-C36000
Fusible Element Assembly: Nickel Alloy
Trigger and Support: Stainless Steel UNS-S31600
Seat and Insert Assembly: Copper UNS-C11000 and Stainless Steel UNS-S30400
Belleville Spring Sealing Assembly: Nickel Alloy, coated on both sides with PTFE Tape
Screw: Brass UNS-C36000
For Polyester Coated Sprinklers: Belleville Spring-Exposed
For ENT Coated Sprinklers: Belleville Spring-Exposed, Screw and Pip Cap ENT Plated

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

Order Quick Response Fusible Link 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 = F, White Polyester = M-/W, Black Polyester = M-/B, and ENT = JN

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

For example, sprinkler VK346 with a Brass finish and a 165 °F/74 °C temperature rating = Part No. 13965AC

Available Finishes And Temperature Ratings:

Refer to Table 1.

Accessories: (Also refer to the Viking website.)

Sprinkler Wrenches:

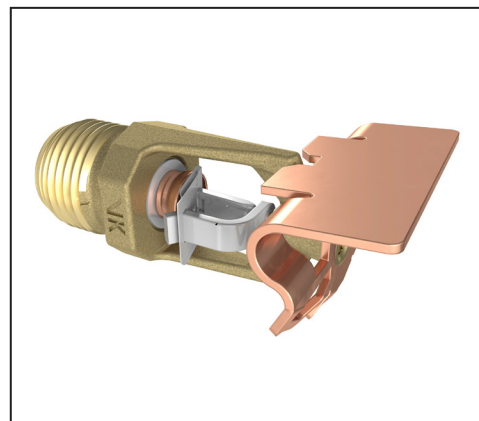
- A. Standard Wrench: Part No. 21475M/B (available since 2017).
 - B. Wrench for recessed sprinklers with protective shields: Part No. 13655W/B** (available since 2003)
- **A 1/2" ratchet is required (not available from Viking).

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.



WARNING: Cancer and Reproductive Harm-
www.P65Warnings.ca.gov



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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

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.

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, White Polyester⁵, Black Polyester⁵, and ENT^{3,4}

Corrosion Resistant Sprinkler Coatings: ENT^{3,4}

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 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. Note that the spring is exposed on sprinklers with ENT coatings. For ENT coated automatic sprinklers, the waterway is coated.

⁴ cULus Listed as corrosion resistant.

⁵ 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.

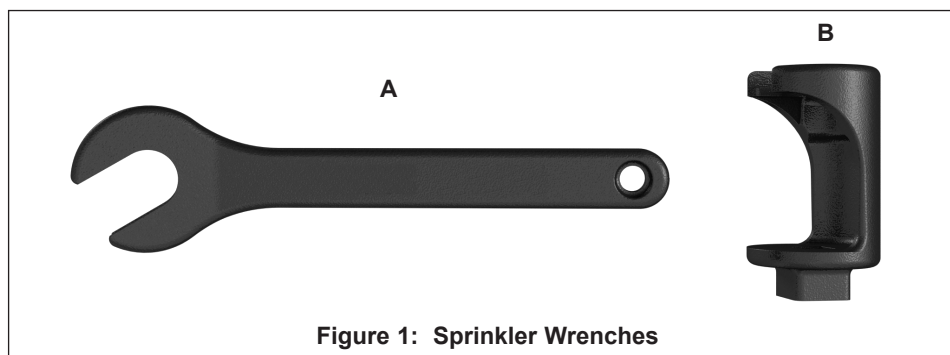


Figure 1: Sprinkler Wrenches



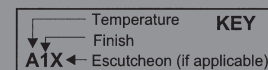
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Approval Chart 1 (UL)

MicrofastHP® Quick Response Fusible Element
 HSW Sprinkler VK346



Maximum 250 PSI WWP
For Light or Ordinary Hazard Occupancies
 Deflector must be located 4" to 6" (102 mm to 152 mm) below the ceiling.

Base Part Number ¹	SIN	Maximum Pressure	Thread Size		Nominal K-Factor		Overall Length		Listings and Approvals ³ (Refer also to Design Criteria below.)			
			NPT	BSPT	U.S.	metric ²	Inches	mm	cULus ⁴	LPCB	CE	⚙️
13965 ⁷	VK346	250 psi	1/2"	15 mm	2.8	40.3	2-1/2	64	A1X, B1Y	--	--	--
20996	VK346	250 psi	1/2"	15 mm	2.8	40.3	2-1/2	64	A1X, B1Y, A2X, B2Z	--	--	--

Approved Temperature Ratings	Approved Finishes	Approved Escutcheons
A - 165 °F (74 °C), 205 °F (96 °C), 280 °F (138 °C) B - 165 °F (74 °C) and 205 °F (96 °C)	1 - Brass, Chrome, White Polyester ⁶ , and Black Polyester ⁶ 2 - ENT ⁸	X - Installed with standard surface-mounted escutcheons Y - Installed with standard surface-mounted escutcheons or recessed with the Viking Micromatic® Model E-1, E-2, or G-1 Recessed Escutcheon Z - Installed with standard surface-mounted escutcheons or recessed with the Viking Micromatic® Model E-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 Meets New York City requirements, effective July 1, 2008.
- ⁶ Other colors are available on request with the same Listings and Approvals as the standard colors.
- ⁷ The sprinkler orifice is bushed.
- ⁸ cULus Listed as corrosion resistant.

DESIGN CRITERIA - UL

(Also refer to Approval Chart 1 above.)

cULus Listing Requirements:

Quick Response Horizontal Sidewall Sprinkler VK346 is cULus Listed as indicated in the Approval Chart for installation in accordance with the latest edition of NFPA 13 for sidewall standard spray sprinklers.

- Small orifice sprinklers are limited to Light Hazard Occupancies with hydraulically calculated wet systems only.
- 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).
- Refer to the Approval Chart for allowable deflector distance below the ceiling. Align with the leading edge of the deflector parallel to the ceiling.
- 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. Minimum distance from end walls is 4 in. (102 mm).
- The sprinkler installation and obstruction rules contained in NFPA 13 for sidewall standard spray sprinklers must be followed.

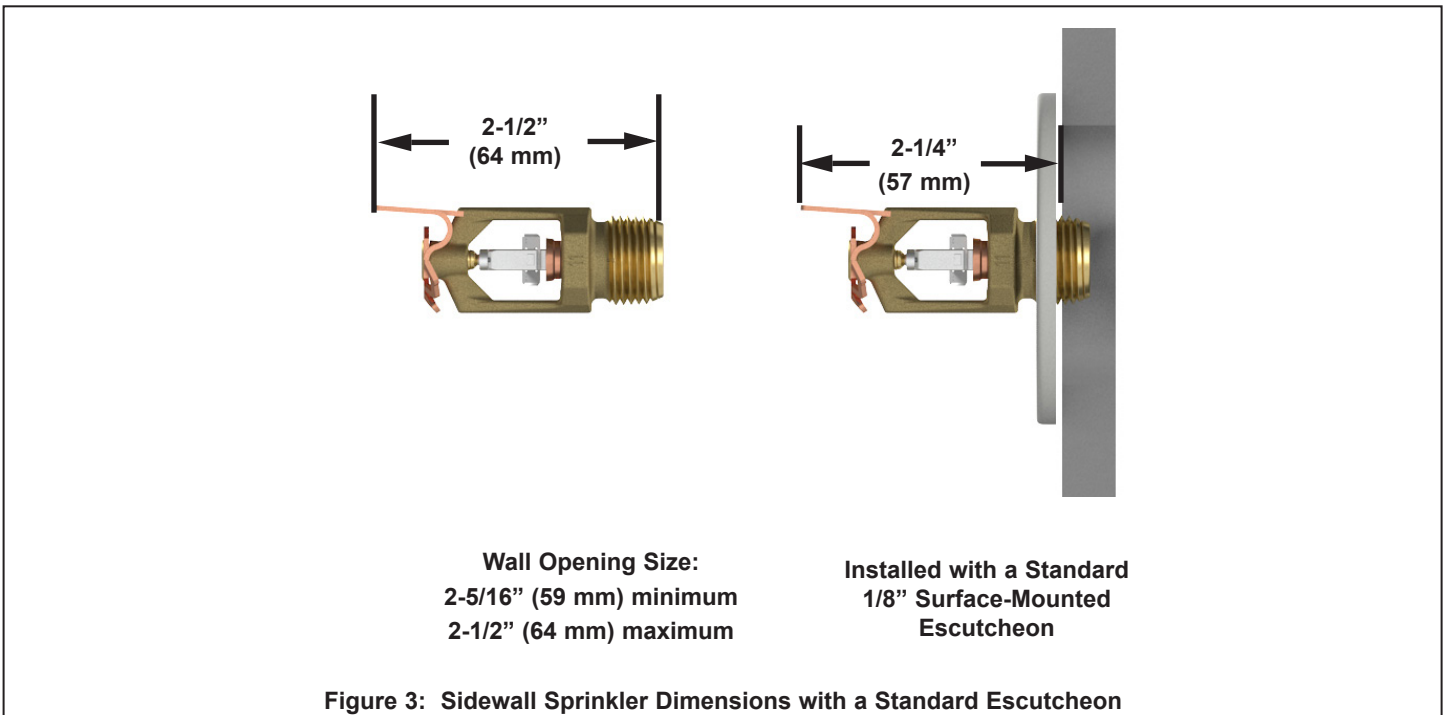
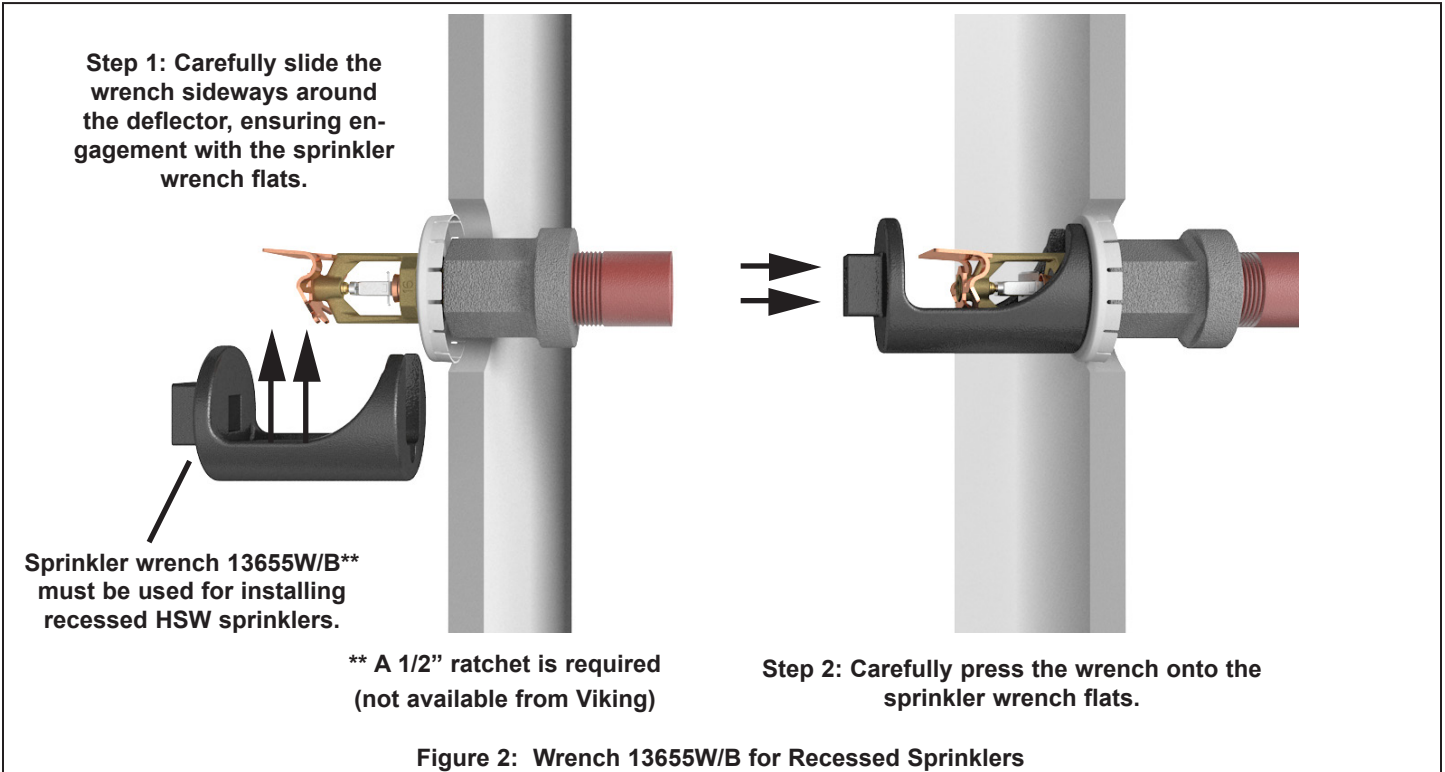
IMPORTANT: Always refer to Bulletin Form No. F_091699 - Care and Handling of Sprinklers. Also refer to Form No. F_080614 for general care, installation, and maintenance information. Viking sprinklers are to be installed in accordance with the latest edition of Viking technical data, the appropriate standards 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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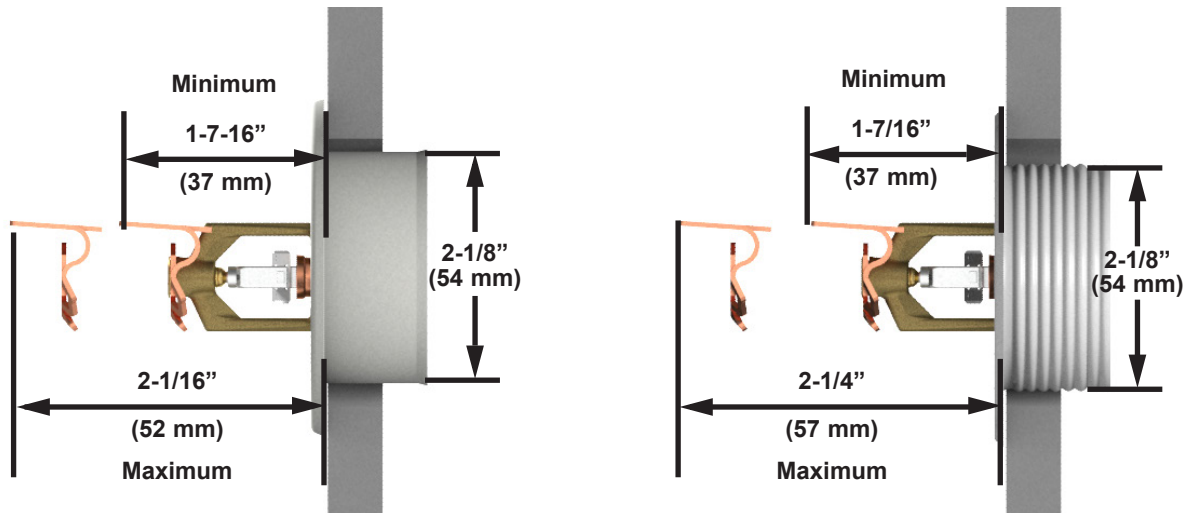




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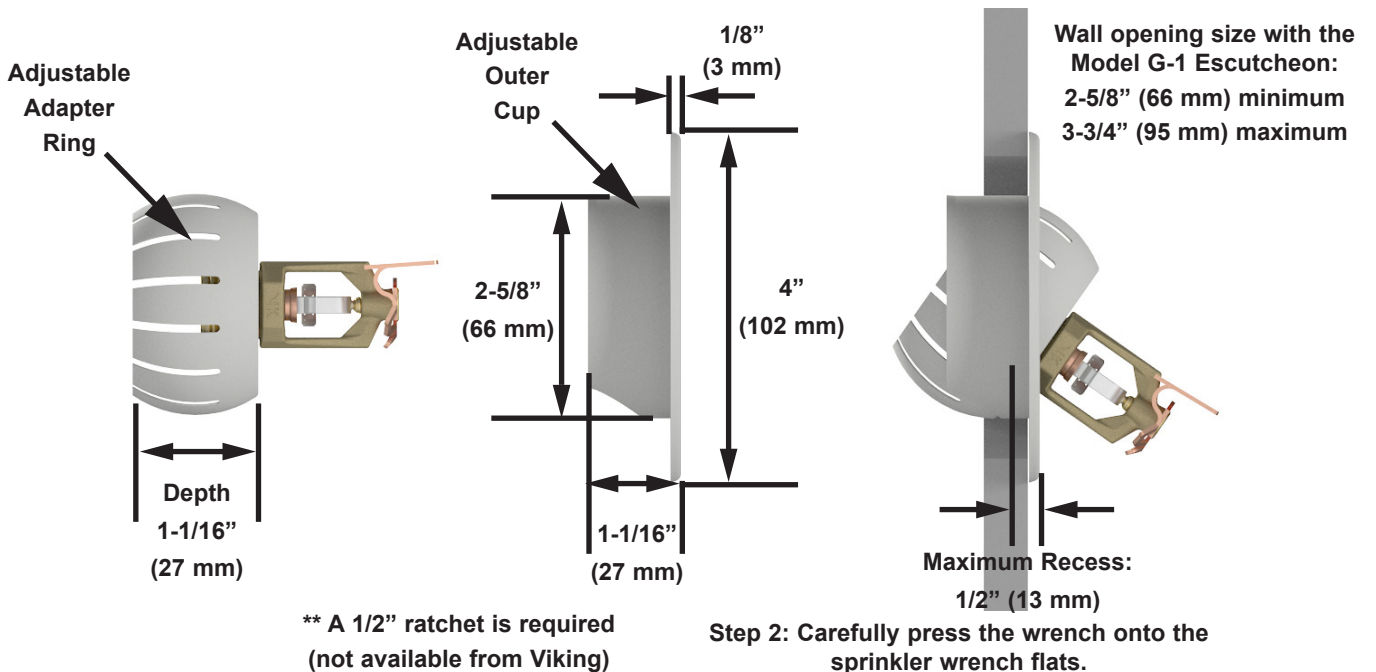


Wall Opening Size:
 2-5/16" (59 mm) minimum
 2-1/2" (64 mm) maximum

**Installed with the
 Micromatic Model E-1
 Recessed Escutcheon**

**Installed with the
 Threaded Model E-2
 Recessed Escutcheon**

Figure 4: Sidewall Sprinkler Dimensions with the Model E-1 and E-2 Recessed Escutcheons



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

**Step 2: Carefully press the wrench onto the
 sprinkler wrench flats.**

Figure 5: Sidewall Sprinkler Dimensions with the Model G-1 Escutcheon