



TECHNICAL DATA

QUICK RESPONSE CONCEALED HORIZONTAL SIDEWALL SPRINKLER

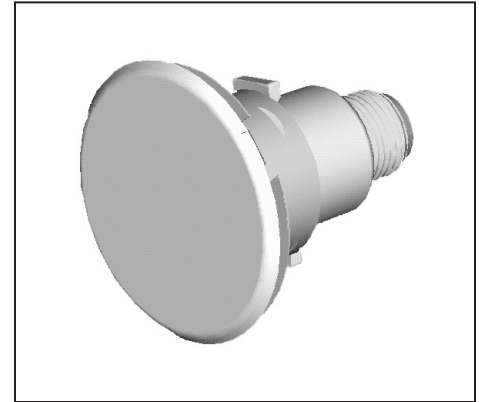
The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

1. DESCRIPTION

Viking Quick Response Concealed Horizontal Sidewall Sprinkler VK408 is a small solder link and lever spray sprinkler designed for installation on concealed pipe systems. The sprinkler is hidden from view by a low profile, small diameter cover plate installed flush with the wall. Some installations may require the use of the optional conical adapter with the cover assembly to achieve a flush appearance. The cover plate and adapter are available in several decorative finishes to meet design requirements.

The multi-piece design allows installation and testing of the sprinkler prior to installation of the cover plate. The "push-on", "pull-off" design of the concealed cover plate assembly allows easy installation of the cover plate after the system has been tested and finish has been applied to the wall, while also permitting up to 1/2" (12.7 mm) of horizontal adjustment. The cover assembly and conical adapter can be removed and reinstalled, allowing access behind the wall without taking the sprinkler system out of service and removing the sprinkler.



2. LISTINGS AND APPROVALS

cULus Listed: Category VNIV

NYC Approved: MEA 89-92-E, Volume 21

LPC Approved: Ref. No. 096e/11

CE Certified: Standard EN 12259-1, EC-certificate of conformity 0832-CPD-2030

Refer to the Approval Chart on page 63c and Design Criteria on page 63d for cULus Listing requirements that must be followed.

3. TECHNICAL DATA

Specifications:

Available since 2001.

Minimum Operating Pressure: 7 psi (0.5 bar)*

Rated to 175 psi (1 207 kPa) water working pressure.

Spring: U.S.A. Patent No. 4,570,720

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

Nominal K-Factor: 5.6 U.S. (80.6 metric†)

*cULus Listing and NFPA 13 installs require a minimum of 7 psi (0.5 bar). The minimum operating pressure for LPCB and CE Approvals ONLY is 5 psi (0.35 bar).

†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.

Available Cover Plate Horizontal Adjustment: 1/2" (12.7 mm) +/- 1/4" (6.4 mm)

Overall Length (Sprinkler Body): 2-11/32" (60 mm)

Material Standards:

Sprinkler Body: Brass UNS-C84400

Body Cap: Brass UNS-C26000

Deflector: Copper UNS-C19500

Deflector Pins: Stainless Steel UNS-S30300

Screw: Brass UNS-C36000

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

Fusible Link Assembly: Nickel Alloy and Eutectic Solder

Fusible Link Levers: Stainless Steel UNS-S31600

Lever Bar: Copper Alloy UNS-C72500

Lever Bar Ejector: Stainless Steel UNS-S30400

Cover Assembly Materials:

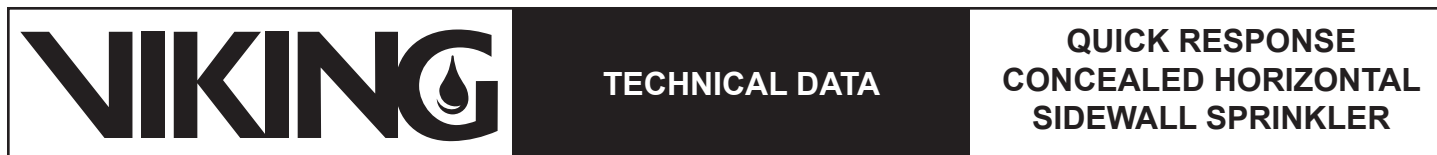
Cover Plate Assembly: Brass UNS-C26000 or UNS-C26800

Spring: Nickel Alloy

Solder: Eutectic

Cover Adapter: 27 ga. (0.42 mm) thick 1010-1018 Mild Steel

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

Viking Quick Response Concealed Horizontal Sidewall Sprinklers and Cover Plate Assemblies must be ordered separately:

Sprinkler: Part No. 11262AC, 165°F (74°C) rated

Cover Plate Assembly: Base Part No. 11451

Specify finish and temperature rating of the cover plate assembly by adding the appropriate suffixes for the finish and the cover temperature rating to the base part number:

Finish Suffix: Polished Chrome = F, Brushed Chrome = F-/B, Bright Brass = B, Antique Brass = B-/A, Brushed Brass = B-/B, Brushed Copper = E-/B, Painted White = M-/W, Painted Ivory = M-/I, Painted Black = M-/B

Temperature Suffix (°F/°C): 135°/57° = A, 165°/74° = C

For example, cover 11451 with a Polished Chrome finish and a 165°F/74°C temperature rating = 11451FC.

Available Finishes And Temperature Ratings: Refer to Table 1.

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

Optional Conical Cover Adapter (see Figure 2): Base Part No. 11436, specify finish

Sprinkler Wrenches*:

A. Heavy Duty Wrench Part Number 08336W/B (available since 1983), or

B. Head Cabinet Wrench Part Number 10366W/B** (available since 1998)

*Requires a ½” ratchet (not available from Viking).

**Ideal for sprinkler cabinets.

Sprinkler Cabinet: Part No. 01731A (available since 1971)

4. INSTALLATION

Refer to appropriate NFPA Installation Standards.

5. OPERATION

During fire conditions, when the temperature around the sprinkler approaches its operating temperature, the cover plate detaches. Continued heating of the sprinkler causes the heat-sensitive fusible link to disengage, releasing the deflector and sealing assembly. Water flowing through the sprinkler orifice strikes the 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 concealed 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	Temperature Rating of Cover Assembly (Required)	Cover Plate Base Part Number ³
Ordinary	165°F (74°C)	100°F (38°C)	135°F (57°C)	11451
			165°F (74°C)	

Cover Plate Finishes: Polished Chrome, Brushed Chrome, Bright Brass, Antique Brass, Brushed Brass, Brushed Copper, Painted White, Painted Ivory, and Painted Black.

Footnotes

¹ The sprinkler temperature rating is stamped on the sprinkler body.

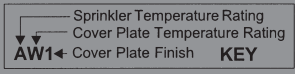
² Based on NFPA-13. Other limits may apply, depending on fire loading, sprinkler location, and other requirements of the Authority Having Jurisdiction. Refer to specific installation standards.

³ Base part number is shown. For complete part number, refer to Viking’s current price list schedule.

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Approval Chart												
Quick Response Concealed Horizontal Sidewall Sprinkler												
Sprinkler Base Part Number ¹	SIN	NPT Thread Size		Nominal K-Factor		Maximum Water Working Pressure	Overall Length (Sprinkler Body)		Listings and Approvals ^{3,4} (Refer also to Design Criteria on page 63d.)			
		Inch	mm	U.S.	metric ²		Inches	mm	cULus ⁵	NYC ⁶	LPCB	CE ⁹
11262	VK408	1/2"	15	5.6	80.6	175 psi (12 bar)	2-11/32"	60	AX1, AY1	AX1, AY1	AX1, AY1	AX1, AY1
Sprinkler Temperature Ratings A - 165°F (74°C)				Cover Plate Assembly Temp. Ratings⁷ X - 135°F (57°C) Y - 165°F (74°C)				Finishes of the Cover Plate Assembly⁸ 1 - Polished Chrome, Brushed Chrome, Bright Brass, Antique Brass, Brushed Brass, Brushed Copper, Painted White, Painted Ivory, or Painted Black				



Footnotes

- ¹Part number shown is the base part number. For complete part number, refer to current Viking price list schedule.
 - ²Metric 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.
 - ³This chart shows the listings and approvals available at the time of printing. Other approvals may be in process. Check with the manufacturer for any additional approvals.
 - ⁴Listed for use in Light or Ordinary Hazard Occupancies for use below smooth, flat, horizontal ceilings only. Position the deflector 4" to 12" (102 mm to 304 mm) below the ceiling and flush with the wall.
 - ⁵Listed by Underwriter's Laboratories for use in the U.S. and Canada.
 - ⁶Accepted for use, City of New York Department of Buildings, MEA Number 89-92-E, Vol. 27.
 - ⁷The 135°F cover has an orange label. The 165°F cover has a white label.
 - ⁸Painted finish consists of Polyester Baked Enamel. Other paint colors are available on request with the same listings as the standard paint colors. Listings and approvals apply for any paint manufacturer. Contact Viking for additional information.
 - ⁹CE Certified, Standard EN 12259-1, EC-certificate of conformity 0832-CPD-2030.
- NOTE: Custom colors are indicated on a label inside the cover assembly. Refer to Figure 3.

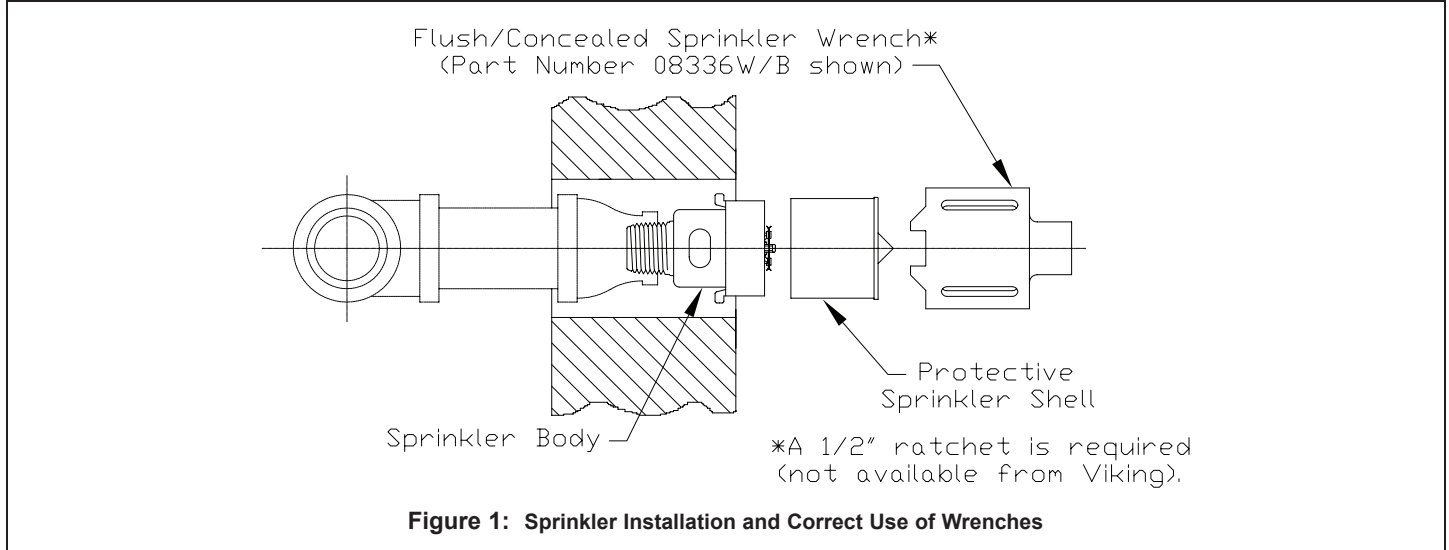


Figure 1: Sprinkler Installation and Correct Use of Wrenches



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DESIGN CRITERIA

(Also refer to the Approval Chart on page 63c.)

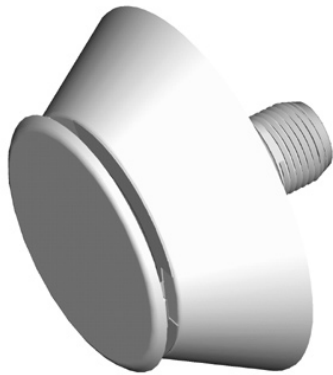
cULus Listing Requirements:

Quick Response Concealed Horizontal Sidewall Sprinklers are cULus Listed for installation in accordance with the latest edition of NFPA 13 for standard coverage sidewall spray sprinklers as indicated below:

- Designed for use in Light or Ordinary Hazard Occupancies for use below smooth, flat, horizontal ceilings only.
- Position deflector 4" to 12" (102 mm to 304 mm) below the ceiling. Align the top of the deflector parallel to the ceiling. The wrench ear on the top of the sprinkler is marked "top".
- This sprinkler must be installed flush with the wall. The optional conical adapter may be installed between the cover plate and the surface of the wall, when a gap exists, to provide a flush appearance.
- Protection areas and maximum spacing shall be in accordance with the tables provided in NFPA 13 for standard sidewall sprinklers. Minimum spacing allowed is 6 ft. (1.8 m).
- 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 standard coverage sidewall spray sprinklers must be followed.

NOTE: Concealed sprinklers must be installed in neutral or negative pressure plenums only.

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.



**Figure 2: Sprinkler VK408 with
Optional Conical Cover Adapter**



Identification of Custom Paint Color:
All custom color painted cover plates will have an identifying label affixed to the inside of the cover that indicates custom color and will have a representative sample (a paint dot) of the paint on the label.

Figure 3: Identification of Custom Paint Color for Concealed Covers



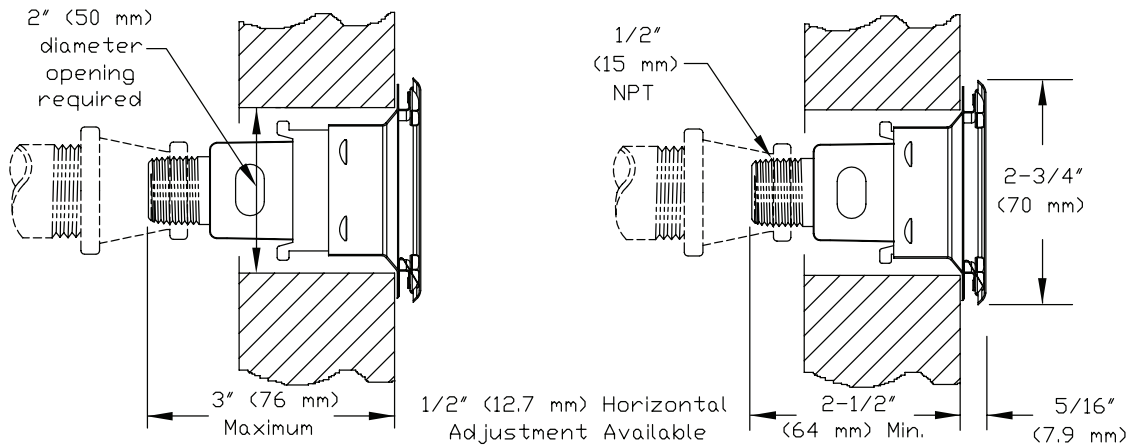
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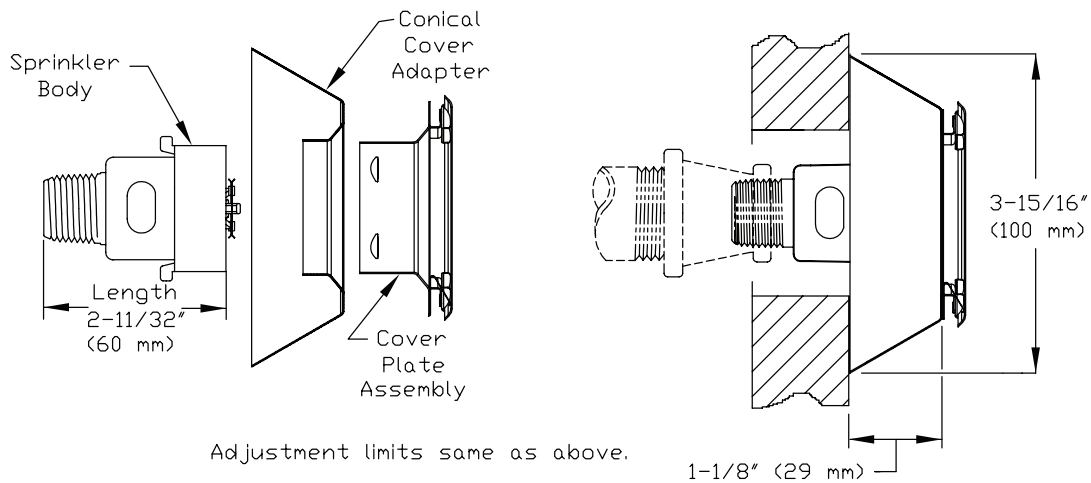
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Installed without the conical adapter.



The wrench ear on the top of the sprinkler is marked the the word "top".
Align the horizontal sidewall sprinkler deflector parallel with the ceiling.
NOTE: Upon sprinkler activation, the deflector extends approximately 13/16" (20.6 mm) beyond the sprinkler body.



Adjustment limits same as above.

Installed with the optional conical cover adapter.

Figure 4: Sprinkler Dimensions and Cover Installation

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