



TECHNICAL DATA

MODEL H-4 QUICK RESPONSE FLUSH HORIZONTAL SIDEWALL SPRINKLER

1. PRODUCT NAME

Viking Model H-4 Quick Response Flush Horizontal Sidewall Sprinkler

- Sprinkler Base Part No. 10741
- Escutcheon Ring Base Part Number 09390

Available since 2000.

2. MANUFACTURER

The Viking Corporation
210 N. Industrial Park Road
Hastings, Michigan 49058 U.S.A.
Telephone: (616) 945-9501
(877) 384-5464
Fax: (616) 945-9599
e-mail: techsvcs@vikingcorp.com

3. PRODUCT DESCRIPTION

The Viking Model H-4 Quick Response Flush Horizontal Sidewall Sprinkler is a small, flush, solder link and lever spray sprinkler specifically designed for use with concealed piping.

The sprinkler is recessed into the mounting surface, flush to the wall, with the fusible link assembly exposed. The concealed deflector is held inside the sprinkler body until the eutectic metal solder link is fused. When the sprinkler fuses, the deflector extends to discharge and distribute water.

The sprinkler assembly consists of the sprinkler body and a separate decorative "push-on, pull-off" escutcheon ring for ease of installation. The escutcheon ring has a 3" (76,2 mm) outside diameter and allows up to 1/2" (12,7 mm) of horizontal adjustment. The escutcheon ring can be removed and re-installed, allowing access behind the mounting surface without shutting down the sprinkler system and removing the sprinkler.

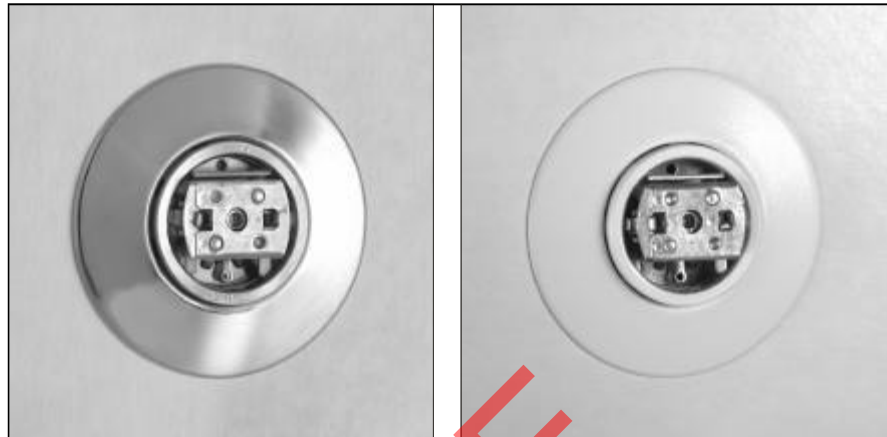
The sprinkler is available with a Polished Chrome or a White Painted finish, while the escutcheon ring is available with a Polished Chrome, Bright Brass, White Painted, or Navajo White Painted finish. Note: The fusible element and deflector are not painted.

4. TECHNICAL DATA

LISTINGS: UL and C-UL Listed as a Quick Response Flush Horizontal Sidewall Sprinkler for Light Hazard Occupancies below smooth, flat, horizontal ceilings only. (See Table 1 on this page.)

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

Spring: U.S.A. Patent No. 4,570,720
Thread Size: Nominal 1/2" (15 mm) NPT
Orifice Size: Nominal 1/2" (15 mm)
K-factor: Nominal 5.5 U.S. (7,9 metric*)



Model H-4 Flush Horizontal Sidewall Sprinkler
Shown above with a Polished Chrome finish (left) and White Painted finish (right)

For Light Hazard Occupancies Only

Figure 1

* Metric K-factor shown is for use when pressure is measured in kPa. When pressure is measured in BAR, multiply the metric K-factor shown by 10.0.
Overall Length: 2-1/4" (57, 2 mm)

SPRINKLER MATERIALS

Sprinkler Body: Brass Casting
UNS-C84400
Body Cap: Brass UNS-C26000
Deflector: Copper UNS-C19500
Pins: Stainless Steel UNS-S30300
Screw: Brass UNS-C36000
Fusible Link Assembly: Beryllium Nickel and Eutectic Solder

Fusible Link Levers: Stainless Steel
UNS-S31600

Lever Bar Ejector: Stainless Steel
UNS-S30400

Seal: Teflon® Tape

Spring: Nickel Alloy

Escutcheon Ring: Cold Rolled Steel
UNS-G10080

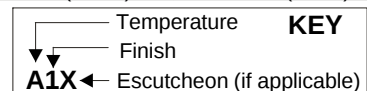
AVAILABLE FINISHES

Sprinkler: Polished Chrome or White Paint

Escutcheon Ring: (order separately)
Polished Chrome, Bright Brass,
White Paint, or Navajo White Paint

Sprinkler Temperature Classification	Nominal Temperature Rating	Highest Ambient Temperature Allowed at Ceiling ¹	Escutcheon Ring Temperature Rating
Ordinary	165 °F (74 °C)	100 °F (38 °C)	165 °F (74 °F)

Approval Chart Model H-4 Quick Response Flush Horizontal Sidewall Sprinkler



Thread Size		Nominal Orifice		Base P/N ²	Nominal K-factor		Overall Length		Listings ^{4,5,6}	
NPT	BSP	Inch	mm		U.S.	metric ³	Inch	mm	UL	C-UL
1/2"	15 mm	1/2	15	10741	5.5	7.9	2-1/4	57.2	A1	A1
Approved Temp.		Approved Finishes								
A - 165 °F (74 °C)		1 - Polished Chrome or White Painted sprinkler body with Polished Chrome, Bright Brass, White Painted, or Navajo White Painted escutcheon ring								

Footnotes

¹ 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.

² Base part number is shown. For complete part number, see Viking's current price list.

³ Metric K-Factor shown is for use when pressure is measured in kPa. When pressure is measured in BAR, multiply the metric K-Factor shown by 10.0

⁴ This table 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.

⁵ The Model H-4 Quick Response Flush Horizontal Sidewall Sprinkler is UL and C-UL Listed for Light Hazard Occupancies only, below smooth, flat, horizontal ceilings.

⁶ Horizontal sidewall (HSW) sprinklers must be located with deflectors 4" to 12" (102 mm to 304 mm) below smooth, flat, horizontal ceilings, and flush with the wall in which they are installed. Always install HSW sprinklers with the tops of the deflectors parallel with the ceiling.

Table 1

Note: Units of measure in parentheses may be approximations.

New page, issued March 2, 2000.



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ORDERING INSTRUCTIONS

To order the Viking Model H-4 Quick Response Flush Horizontal Sidewall Sprinkler, refer to the following:

- A. Sprinkler Base Part No. 10741
- B. Escutcheon Ring Base Part Number 09390: 3" (76,2 mm) outside diameter

The sprinklers and escutcheon rings must be ordered separately. Specify finish of sprinkler and escutcheon ring.

ACCESSORIES

Sprinkler Cabinet: Part No. 01731A

Capacity: six (6) sprinklers

Available since 1971.

Flush/Concealed Sprinkler Wrenches*:

- Heavy Duty Part No. 08336W/B
Available since 1993, or
- Light Duty Part No. 10366W/B**
Available since 1998.

* Requires a 1/2" ratchet (not available from Viking).

** Ideal for sprinkler cabinets.

5. AVAILABILITY AND SERVICE

Viking products are available through a network of domestic, Canadian, and international distributors. See the Yellow Pages of the telephone directory for a local distributor (listed under "Sprinklers-Automatic-Fire") or contact Viking.

Viking technical data may be found on The Viking Corporation's Web site at <http://www.vikingcorp.com>. The Web site may include a more recent edition of this technical data page.

6. GUARANTEES

For details of warranty, refer to Viking's current list price schedule or contact The Viking Corporation directly.

7. OPERATION AND DESIGN REQUIREMENTS

The Model H-4 Sprinkler is UL and C-UL Listed as a Quick Response Flush Horizontal Sidewall Sprinkler for standard areas of coverage with minimum flow and pressure requirements as specified in current NFPA Standards. The sprinkler must be installed in the horizontal sidewall position in fixed fire protection systems (wet, dry, deluge, or preaction systems).

The special escutcheon ring on the Model H-4 Quick Response Flush Horizontal Sidewall Sprinkler assembly is the only escutcheon ring that may be used with these sprinklers, and all of these sprinklers must be installed with this escutcheon ring.

8. INSTALLATION

(Refer to Figures 1, 2, and 3.)

WARNING: Viking sprinklers are manufactured and tested to meet the rigid requirements of the approving agency. The sprinklers are designed to be installed in accordance with recognized installation standards. Deviation from the standards or any alteration to the sprinkler after it leaves the factory including, but not limited to: painting, plating, coating, or modification, may render the sprinkler inoperative and will automatically nullify the approval and any guarantee made by The Viking Corporation.

A. Sprinklers are to be installed in accordance with the latest published standards of the National Fire Protection Association, Factory Mutual, Loss Prevention Council, Assemblée Plénière, Verband der Sachversicherer or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards whenever applicable. Flush sprinklers are decorative sprinklers and may be considered special purpose. As such, some Authorities may limit their use, depending on the occupancy classification. Refer to the Authority Having Jurisdiction prior to installation.

B. Sprinklers must be handled with care. They must be stored in a cool, dry place in their original shipping container. Never install sprinklers that have been dropped, damaged in any way, or exposed to temperatures in excess of maximum ambient temperature allowed. Such sprinklers should be destroyed immediately.

C. Viking Model H-4 Sprinklers are not intended for use in corrosive environments. Use only sprinklers listed for corrosive environments when subject to corrosive atmospheres.

D. Use care when locating sprinklers near fixtures that can generate heat. Do not install sprinklers where they would be exposed to temperatures that exceed the maximum recommended ambient temperature for the temperature rating used.

E. Adequate heat must be provided when Model H-4 Quick Response Flush Horizontal Sidewall Sprinklers are installed on wet-pipe systems.

F. The sprinklers must be installed after the piping is in place to prevent mechanical damage. Model H-4 Quick Response Flush Horizontal Sidewall Sprinklers **must be installed below smooth, flat, horizontal ceilings. The sprinklers must be installed with the deflectors between 4" and**

12" (102 mm and 304 mm) below the ceiling, and flush with the wall in which they are installed.

Horizontal sidewall sprinklers must be installed with the top of the deflector oriented parallel with the ceiling. The wrench flat on the top of the Model H-4 Quick Response Flush Horizontal Sidewall Sprinkler is marked with the word "top". Remove the plastic protective shell to verify correct sprinkler orientation, and then place the protective shell back onto the sprinkler.

Before installing, be sure to have the appropriate sprinkler model and style, with the correct orifice size, temperature rating, and response characteristics. Install the sprinklers according to the following sequence:

1. Install all piping and cut the sprinkler nipple so that the 1/2" (15 mm) NPT outlet of the reducing coupling is at the desired location and centered in a 2-1/4" (57,2 mm) diameter opening in the wall.
2. The internal diameter of the special Flush/Concealed Sprinkler Wrench is designed for use with the sprinkler contained in the protective plastic shell. With the sprinkler in the shell, apply a small amount of pipe-joint compound or tape to the external threads of the sprinkler only, taking care not to allow a build-up of compound in the sprinkler inlet.
3. Refer to Figure 2 and use only the special Flush/Concealed Sprinkler Wrench, which is designed for installing Viking Model H-4 Quick Response Flush Sprinklers. With the sprinkler in the plastic protective shell, place the unit into the wrench. DO NOT use the fusible link to start or thread the sprinkler into a fitting. Turn the unit clockwise to thread the sprinkler into the coupling, taking care not to over-tighten or damage the sprinkler operating parts.
- G. After installation, the entire system must be tested in accordance with recognized installation standards. The test is applied after sprinkler installation to ensure that no damage has occurred to the sprinkler during shipping and installation, and to make sure the unit has been properly tightened. If a thread leak occurs, normally the unit must be removed, new pipe-joint compound or tape applied, and then reinstalled. This is due to the fact that when the joint seal leaks, the sealing compound or tape is washed out of the joint.
- H. After testing, repairing of all leaks, and installation and painting of the



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wall, REMOVE THE PLASTIC PROTECTIVE SHELL from the sprinkler. (Recommendation: retain a protective shell in the spare sprinkler cabinet. The internal diameter of the special Model H-4 Quick Response Flush Horizontal Sidewall Sprinkler wrench is designed for use with the sprinkler contained within the shell.)

I. Install the escutcheon ring by aligning it with and pressing it onto the sprinkler body until the outer flange touches the wall surface. Note the maximum horizontal adjustment is 1/2" (12,7 mm). DO NOT MODIFY THE UNIT. If necessary, re-cut the sprinkler nipple as required.

J. DISASSEMBLY: The escutcheon ring can be removed and reinstalled without removing the sprinkler to allow access behind the mounting surface or to replace if necessary. The escutcheon ring can be removed by simply pulling it off the sprinkler body. If it is necessary to remove the entire unit, the system must be taken out of service. See Maintenance instructions and follow all warnings and instructions.

9. MAINTENANCE

(Refer to Figures 1, 2 and 3.)

NOTICE: The owner is responsible for maintaining the fire protection system and devices in proper operating condition. For minimum maintenance and inspection requirements, refer to the appropriate National Fire Protection Association's pamphlet that describes care and maintenance of sprinkler systems. In addition, the Authority Having Jurisdiction may have additional maintenance

requirements that must be followed.

A. Sprinklers must be inspected on a regular basis for corrosion, mechanical damage, obstructions, paint, etc. The frequency of the inspections may vary due to corrosive atmospheres, water supplies, and activity around the device.

B. Sprinklers that have been painted or mechanically damaged must be replaced immediately. Sprinklers showing signs of corrosion shall be tested and/or replaced immediately as required. Installation standards require sprinklers to be tested and, if necessary, replaced immediately after a specified term of service. Refer to the installation standards and the Authority Having Jurisdiction for the specified period of time after which testing and/or replacement is required. Sprinklers that have operated cannot be reassembled or reused, but must be replaced. When replacing sprinklers, use only new sprinklers.

C. The sprinkler discharge pattern is critical for proper fire protection. Nothing should be hung from the sprinkler, attached to it, or otherwise obstruct the discharge pattern. All obstructions must be immediately removed or, if necessary, additional sprinklers installed.

D. When replacing existing sprinklers, the system must be removed from service. Refer to the appropriate system description and/or valve instructions. Prior to removing the system from service, notify all Authorities Having Jurisdiction. Consideration should be given to employment of a fire patrol in the affected area.

1. Remove the system from service, drain all water, and relieve all pressure on the piping.

2. Remove the escutcheon ring from the sprinkler body by pulling the ring outward and away from the sprinkler.

3. Place a protective sprinkler shell (from the spare sprinkler cabinet) over the sprinkler to be removed.

4. With the protective shell over the sprinkler, place the special Flush/Concealed Sprinkler Wrench over the unit and turn it counterclockwise to carefully unthread the sprinkler body from the reducing coupling.

5. Install the new unit using the Flush/Concealed Sprinkler Wrench. Care must be taken to ensure that the replacement sprinkler is the proper model and style, with the appropriate orifice size, temperature rating, and response characteristics. A fully stocked spare sprinkler cabinet should be provided for this purpose. (Stock of spare escutcheon rings should be available in the spare sprinkler cabinet in addition to the spare sprinkler heads.)

6. Place the system back in service and secure all valves. Check the replaced sprinklers and repair all leaks.

E. Sprinkler systems that have been subject to a fire must be returned to service as soon as possible. The entire system must be inspected for damage and repaired or replaced as necessary. Sprinklers that have been exposed to corrosive products of combustion or high ambient temperatures, but have not operated, should be replaced. Refer to the Authority Having Jurisdiction for minimum replacement requirements.

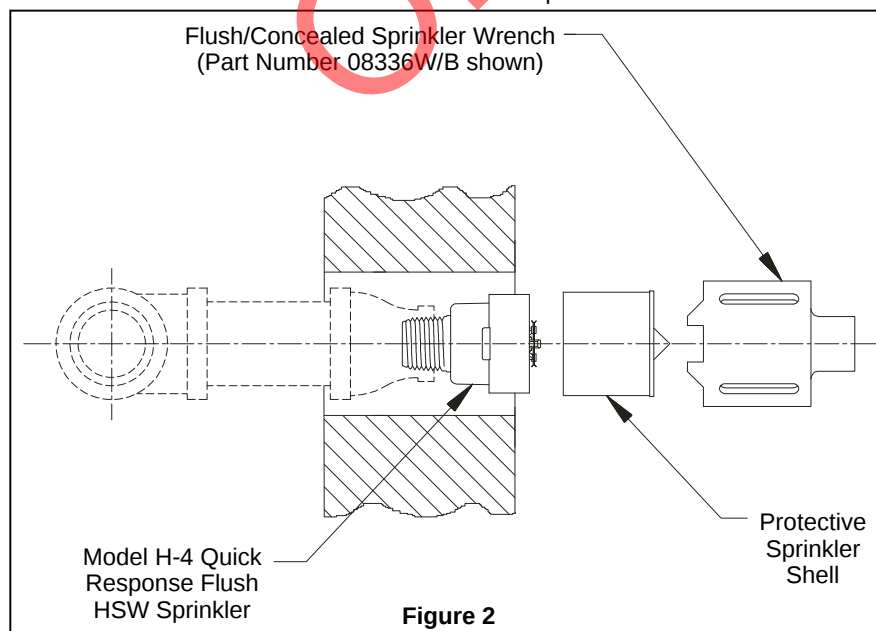
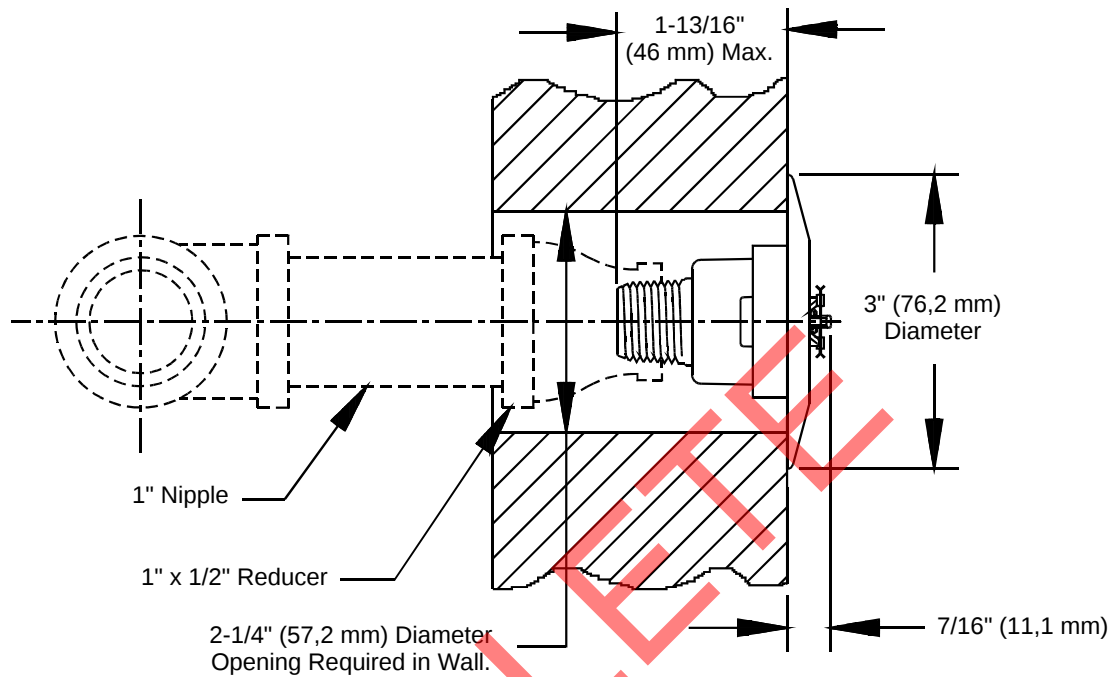


Figure 2

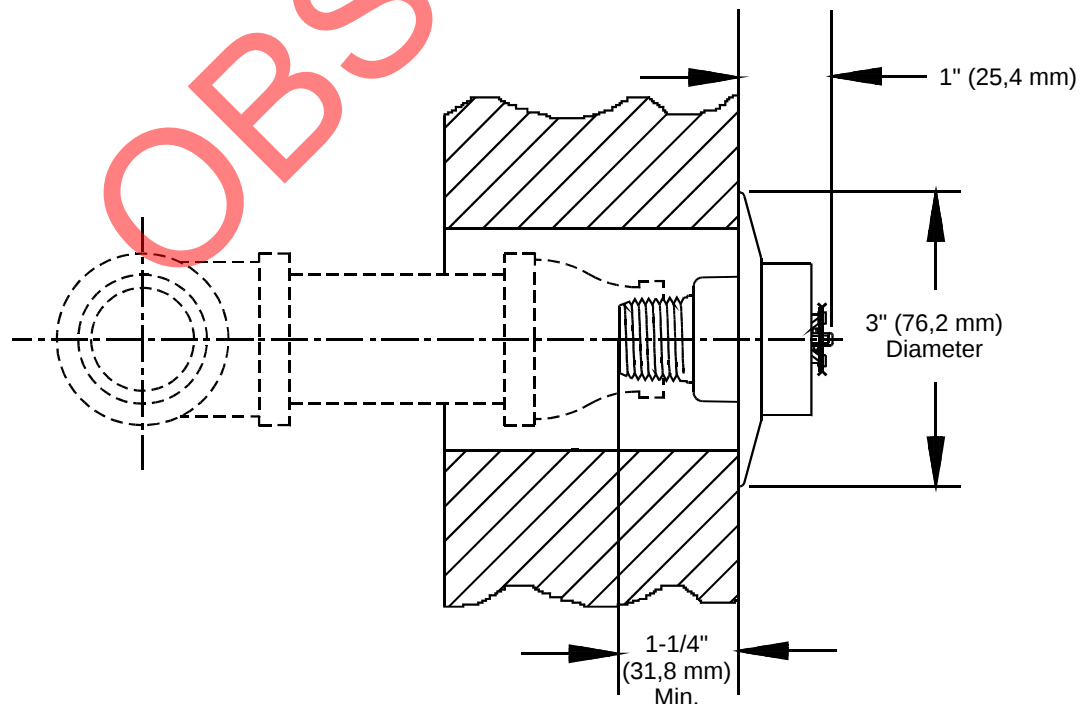


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1/2" (12,7 mm) Horizontal Adjustment Available.



NOTE: Upon sprinkler activation, the deflector extends approximately 1/4" (6,4 mm) beyond the sprinkler body.

Figure 3