



TECHNICAL DATA

QUICK RESPONSE ORDINARY HAZARD DRY HSW FUSIBLE LINK SPRINKLERS (8.0K) (VK284, VK288, & VK292)

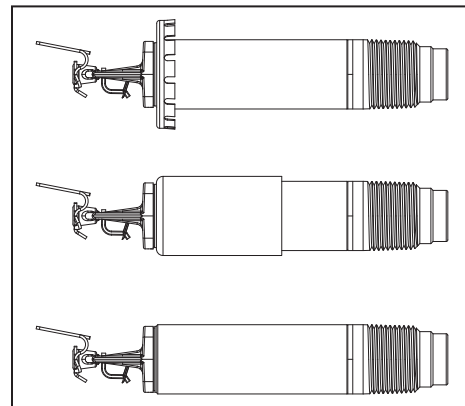
The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

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

1. DESCRIPTION

Viking Quick Response Ordinary Hazard Dry Horizontal Sidewall Fusible Link Sprinklers are thermosensitive spray sprinklers suitable for use in areas subject to freezing. The sprinklers are designed for dry systems and preaction systems where it is necessary to prevent water or condensation from entering the drop nipple before sprinkler operation. They may also be installed in spaces subject to freezing and supplied from a wet system in an adjacent heated area.

Viking Quick Response Dry Horizontal Sidewall Sprinklers are available in various finishes and temperature ratings to meet design requirements. The large orifice dry sidewall sprinkler allows greater flows at lower pressures than standard orifice sprinklers.



2. LISTINGS AND APPROVALS



cULus Listed: Category VNIV

NYC Approved: MEA 89-92-E, Volume 37

Refer to the Approval Chart on page 107q and Design Criteria on page 107s for cULus Listing requirements that must be followed.

3. TECHNICAL DATA

Specifications:

Available since 2005.

Minimum Operating Pressure: 7 psi (0.5 bar)

Maximum Working Pressure: 175 psi (12 bar). Factory tested pneumatically to 100 psi (6.89 bar)

Thread size: 1" NPT or 25 mm BSP

Nominal K-Factor: 8.0 U.S. (115.2 metric*) for lengths up to 48".

* 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.

Covered by the following U.S. Patent numbers: 8,636,075 and 8,376,060

Material Standards:

Frame Casting: Brass UNS-C84400

Deflector: Phosphor Bronze UNS-C51000

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

Compression Screw: Brass UNS-C36000

Seat and Adapter Assembly: Brass UNS-C36000

Orifice: Copper UNS-C11000 or UNS-C21000

Tube: ERW Hydraulic Steel Tube

Inlet and Barrel End: QM Brass or Brass UNS-C31400 or Brass UNS-C31600

Support (Internal): Brass UNS-C36000 or Brass UNS-C31400 or Brass UNS-C31600

Barrel: Steel Pipe UNS-G10260, Electrodeposited Epoxy Base finish

Sleeve (for Adjustable Standard style only): Brass UNS-C26000 or UNS-C26800

Escutcheon Materials:

Adjustable Standard Dry Escutcheons: Brass UNS-C26000 or UNS-C26800

Recessed Dry Escutcheons: Cold Rolled Steel UNS-G10080

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

Order Quick Response Dry Horizontal Sidewall Sprinklers by first adding the appropriate suffix for the sprinkler finish, the appropriate suffix for the temperature rating, and then the suffix for the length ("A" dimension) to sprinkler base part number. Order in a specific length noted as the "A" dimension (see Figures 3, 5, and 6). The "A" dimension is the distance from the face of the fitting (tee) to the desired finished surface of the wall in which it is to be installed.

These sprinklers are listed and approved in lengths from 1-1/2" to 45-1/2" (38.1 mm to 1,156 mm) for the adjustable standard style, 3" to 47" (76.2 mm to 1,194 mm) for the plain barrel style, and 3-1/4" to 47-1/2" (82.5 mm to 1,207 mm) for the adjustable recessed style.

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 ORDINARY HAZARD DRY HSW FUSIBLE LINK SPRINKLERS (8.0K) (VK284, VK288, & VK292)

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

Lengths exceeding the standard lengths are available, with no approvals, on a "made-to-order" basis: Recessed Dry Horizontal Sidewall up to 64-1/4" (1,632 mm), Adjustable Standard Dry Horizontal Sidewall up to 62" (1,575 mm), and Plain Barrel Dry Horizontal Sidewall up to 64" (1,626 mm). Contact the manufacturer for more information.

Finish Suffix: Brass = A, Chrome-Enloy® = F, and White Polyester = M-W

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

For example, sprinkler VK292 with 1" NPT Threads, a Chrome-Enloy® finish and a 165 °F/74 °C temperature rating, and "A" length of 10" = Part No. 13241UFC10.

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. 07297W/B (available since 1991)

B. Wrench for recessed sprinklers: Part No. 07565W/B** (available since 1991)

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

Dry Sprinkler Protective Cover: Part No. 15610

4. INSTALLATION

Refer to appropriate NFPA Installation Standards.

5. OPERATION

During fire conditions, the heat-sensitive fusible element assembly disengages, releasing the internal parts 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 Ordinary Hazard Dry Horizontal Sidewall Sprinkler 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.

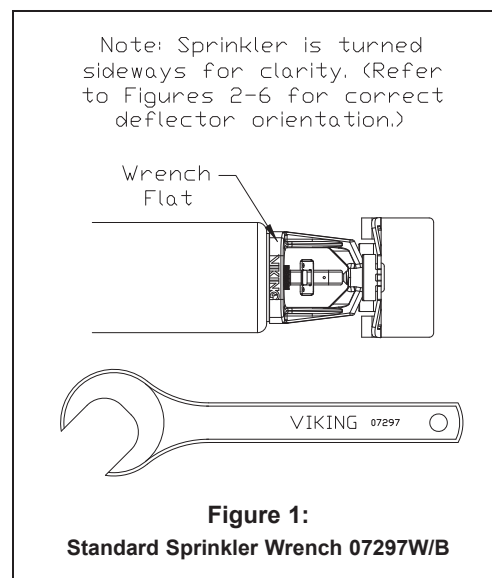


TABLE 1: AVAILABLE SPRINKLER TEMPERATURE RATINGS AND FINISHES

Sprinkler Temperature Classification	Sprinkler Nominal Temperature Rating ¹	Maximum Ambient Ceiling Temperature ²	Frame Paint Color ²
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® (patents pending), and White Polyester

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.



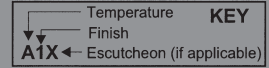
TECHNICAL DATA

**QUICK RESPONSE
ORDINARY HAZARD DRY HSW
FUSIBLE LINK SPRINKLERS
(8.0K) (VK284, VK288, & VK292)**

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

Quick Response Ordinary Hazard Dry
 HSW Fusible Link Sprinklers (8.0K)
 Maximum 175 PSI (12 bar) WWP



Sprinkler Base Part Number ¹	SIN	Style	Thread Size		Nominal K-Factor ²	Order Length Increment		Listings and Approvals ⁴ (Refer also to Design Criteria on page 107s.)							
			NPT	BSP		Inches	mm	cULus ⁵	FM	NYC ⁶	VdS	LPCB	CE	⚙️	
13240U	VK288	Adjustable	1"	--	8.0 U.S. (115.2 metric ³)	1/2"	12.7	A1	--	A1	--	--	--	--	--
13243U	VK288	Standard	--	25 mm		1/2"	12.7	A1	--	A1	--	--	--	--	--
13241U	VK292	Adjustable	1"	--		1/4"	6.35	B2	--	B2	--	--	--	--	--
13244U	VK292	Recessed	--	25 mm		1/4"	6.35	B2	--	B2	--	--	--	--	--
13239U	VK284	Plain	1"	--		1/2"	12.7	A3	--	A3	--	--	--	--	--
13242U	VK284	Barrel	--	25 mm		1/2"	12.7	A3	--	A3	--	--	--	--	--

Approved Temperature Ratings

A - 165 °F (74 °C), 205 °F (96 °C), and 280 °F (138 °C)
 B - 165 °F (74 °C) and 205 °F (96 °C)

Approved Finishes and "A" Dimensions

- 1 - Chrome-Enloy® or White Polyester sprinkler with a Chrome-Enloy® or White Polyester Sleeve and Escutcheon with "A" dimensions 1-1/2" to 45-1/2" (38.1 mm to 1,156 mm)
- 2 - Chrome-Enloy® or White Polyester with "A" dimensions 3-1/4" to 47-1/2" (82.5 mm to 1,207 mm)
- 3 - Chrome-Enloy® or Brass with "A" dimensions 3" to 47" (76.2 mm to 1,194 mm)

Footnotes

- ¹ Part number shown is the base part number. For complete part number, refer to current Viking price list schedule.
- ² K-Factor applies for standard lengths ("A" Dimensions indicated above).
- ³ 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.
- ⁴ This 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.
- ⁵ Listed by Underwriter's Laboratories for use in the U.S. and Canada.
- ⁶ Accepted for use, City of New York Department of Buildings, MEA 89-92-E, Vol. 37.

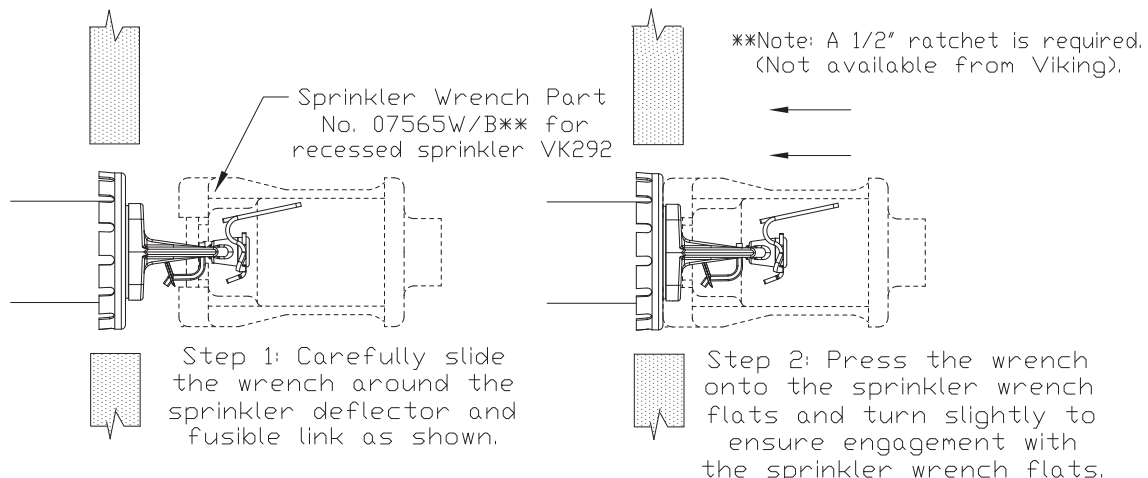


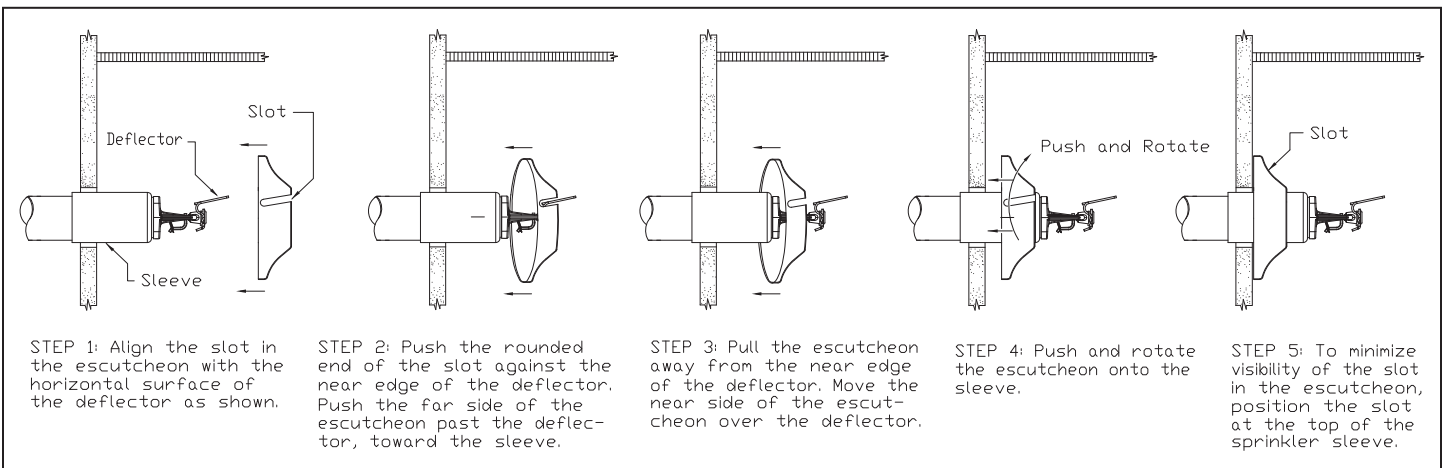
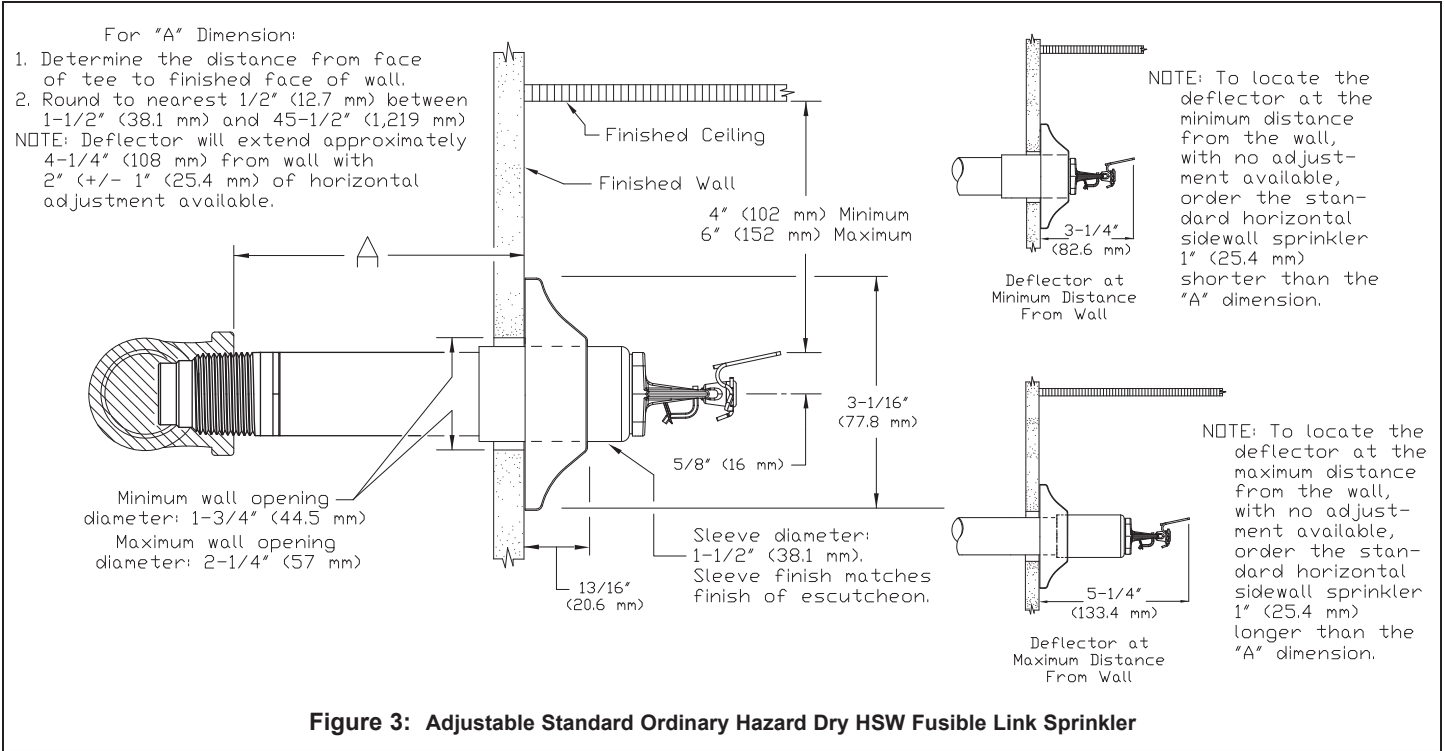
Figure 2: Wrench 07565W/B for Adjustable Recessed Dry Horizontal Sidewall Sprinklers



TECHNICAL DATA

**QUICK RESPONSE
ORDINARY HAZARD DRY HSW
FUSIBLE LINK SPRINKLERS
(8.0K) (VK284, VK288, & VK292)**

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





TECHNICAL DATA

QUICK RESPONSE ORDINARY HAZARD DRY HSW FUSIBLE LINK SPRINKLERS (8.0K) (VK284, VK288, & VK292)

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

DESIGN CRITERIA

(Also refer to the Approval Chart on page 107q.)

NOTE: When using CPVC fittings with Viking dry sprinklers, use only new Nibco Model 5012-S-BI tees. When selecting other CPVC fittings, contact Viking Technical Services.

cULus Listing Requirements:

Quick Response Dry Horizontal Sidewall Fusible Link 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 with smooth, flat ceilings 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).
- Deflector must be positioned between 4" and 6" (102 mm and 152 mm) below the ceiling. Keep the top of the deflector oriented parallel with the ceiling.
- Locate no less than 4" (102 mm) from end walls.
- 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.
- 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 page DRY1-3 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 and any other similar Authorities Having Jurisdiction, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable. Final approval and acceptance of all residential sprinkler installations must be obtained from the Authorities Having Jurisdiction.

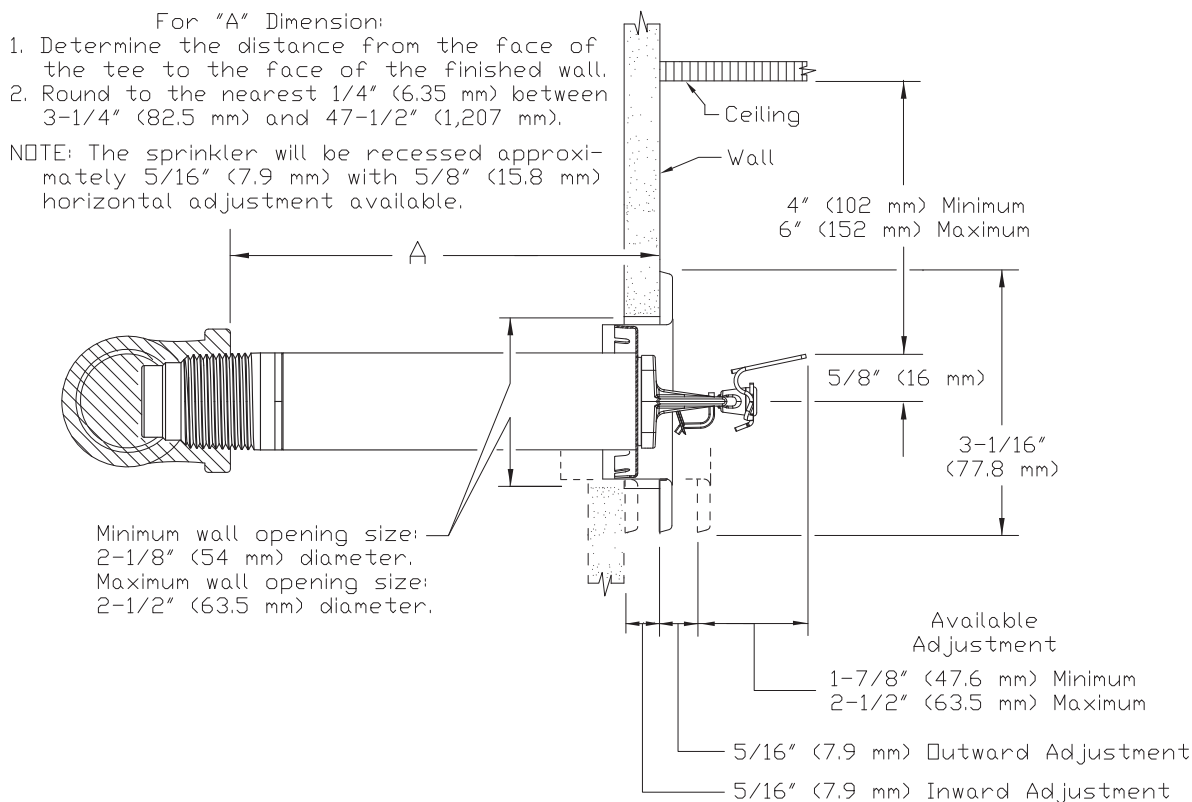


Figure 5: Adjustable Recessed Ordinary Hazard Dry HSW Fusible Link Sprinkler with the Model E-1 Escutcheon



TECHNICAL DATA

**QUICK RESPONSE
ORDINARY HAZARD DRY HSW
FUSIBLE LINK SPRINKLERS
(8.0K) (VK284, VK288, & VK292)**

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

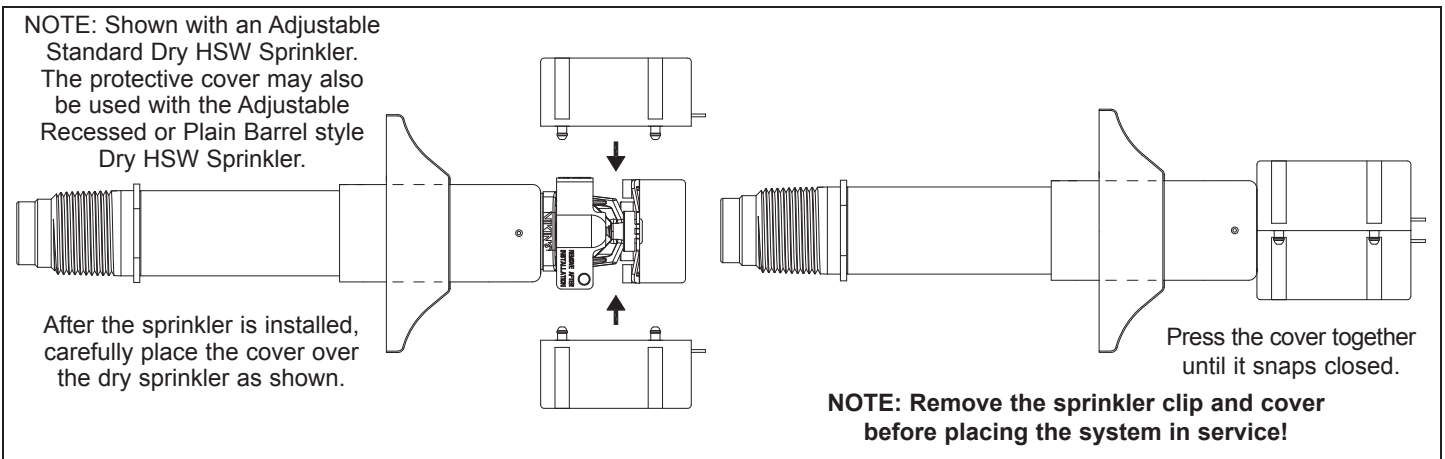
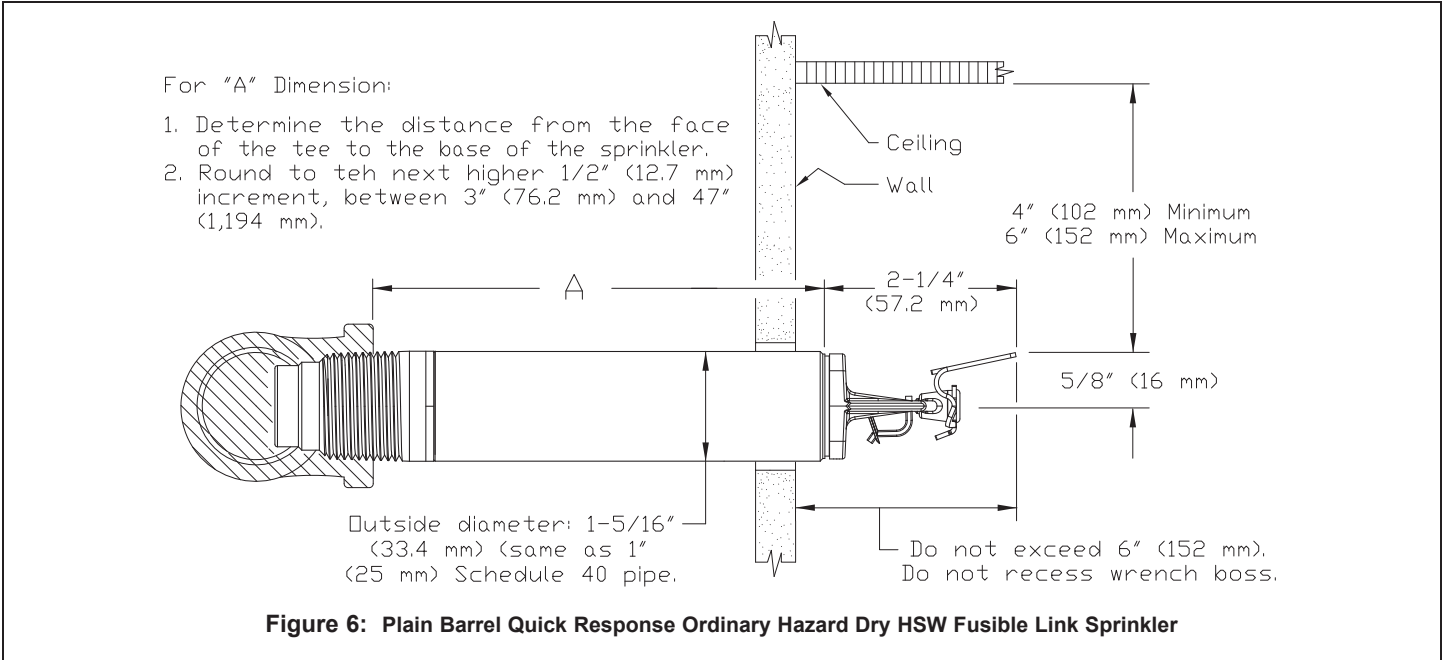


Figure 7: Dry Horizontal Sidewall Sprinkler Cover Part Number 15610 (shown with an Adjustable Standard Dry HSW Sprinkler) (Optional for temporary use with Viking Dry HSW Sprinklers until finish work is completed around the sprinkler.)



TECHNICAL DATA

**QUICK RESPONSE
ORDINARY HAZARD DRY HSW
FUSIBLE LINK SPRINKLERS
(8.0K) (VK284, VK288, & VK292)**

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

Seal the clearance space around the sprinkler barrel to avoid leakage of air into the protected area and consequent formation of condensate around the sprinkler frame, which could inhibit operation or cause premature operation. Refer to Figure 9.

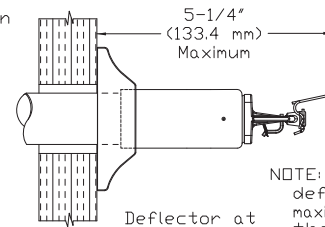
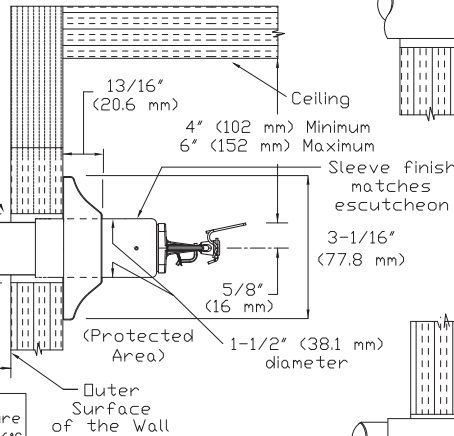
If humidity and temperature differential causes condensation on the exposed dry sprinkler barrel, consider wrapping the exposed barrel with insulation, foam insulating tape, or equivalent.

Install the 1" NPT threaded end of the dry sidewall sprinkler into the 1" NPT outlet of a malleable iron tee fitting per ANSI B 16.3 (Class 150) or cast iron threaded tee fitting per ANSI 16.4 (Class 125) only.

Minimum wall opening diameter: 1-3/4" (44.5 mm)

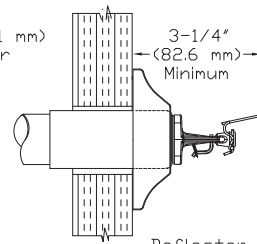
Maximum wall opening diameter: 2-1/4" (57 mm).

Ambient Temperature of Protected Area* at the Discharge End of the Sprinkler	Exposed Barrel Ambient Temperature		
	40°F / 4°C	50°F / 10°C	60°F / 16°C
	Exposed Minimum Barrel Length** Face of the Tee to the Outer Surface of the Wall		
	In. (mm)	In. (mm)	In. (mm)
40°F (4°C)	0	0	0
30°F (-1°C)	0	0	0
20°F (-7°C)	4 (100)	0	0
10°F (-12°C)	8 (203)	1 (25.4)	0
0°F (-18°C)	12 (305)	3 (76)	0
-10°F (-23°C)	14 (356)	4 (102)	1 (25.4)
-20°F (-29°C)	14 (356)	6 (152)	3 (76)
-30°F (-34°C)	16 (406)	8 (203)	4 (102)
-40°F (-40°C)	18 (457)	8 (203)	4 (102)
-50°F (-46°C)	20 (508)	10 (254)	6 (152)
-60°F (-51°C)	20 (508)	10 (254)	6 (152)



NOTE: To locate the deflector at the maximum distance from the wall, with no adjustment available, order the standard dry horizontal sidewall sprinkler 1" longer than the "A" dimension.

Up to 2" (50.8 mm) adjustment is available.



NOTE: To locate the deflector at the minimum distance from the wall, with no adjustment available, order the standard dry horizontal sidewall sprinkler 1" shorter than the "A" dimension.

*The protected area refers to the area below the ceiling. The ambient temperature is the temperature at the discharge end of the sprinkler. For protected area temperatures that occur between the values listed, use the next cooler temperature.

**The minimum required barrel length is not the same as the "A" dimension. Refer to Figures 3, 5, and 6 for the "A" dimension. Exposed minimum barrel lengths are inclusive up to 30 mph wind velocities.

Figure 8: Dry Horizontal Sidwall Sprinkler Required Minimum Barrel Length Based on Ambient Temperature in the Protected Area (Adjustable Standard Dry HSW Sprinkler is Shown)

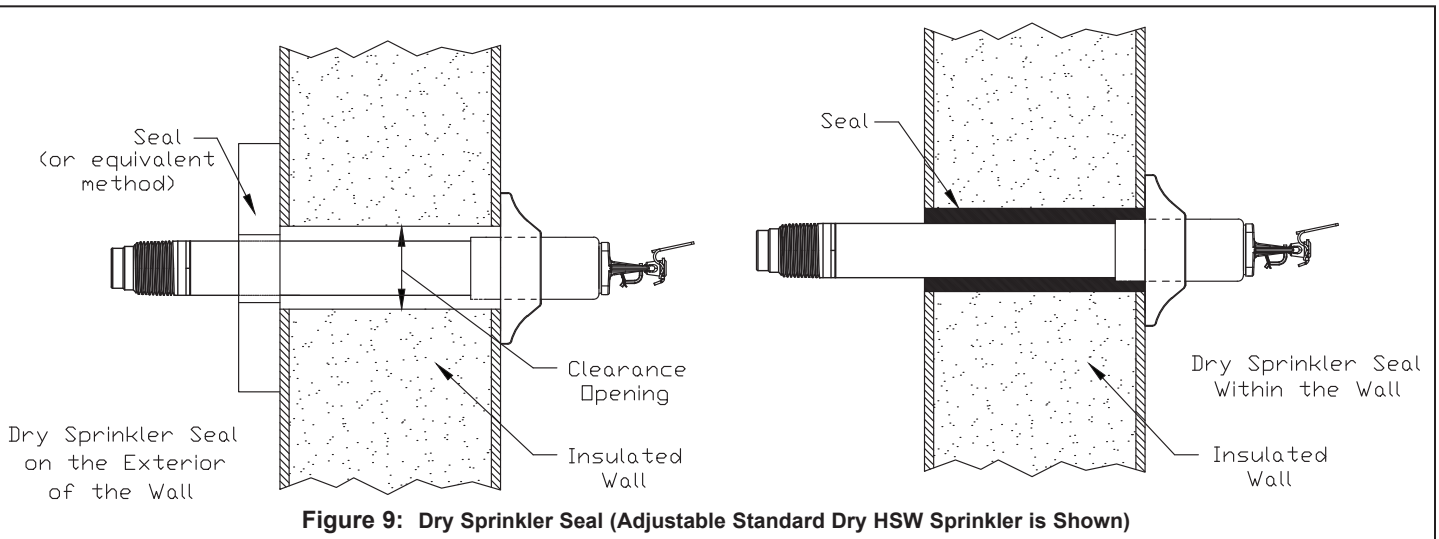


Figure 9: Dry Sprinkler Seal (Adjustable Standard Dry HSW Sprinkler is Shown)