

# Dry Sidewall

## Model H-1 Non-Adjustable Automatic Sprinkler

Manufactured by: Central Sprinkler Company  
451 North Cannon Avenue, Lansdale, Pennsylvania 19446



### Product Description

The Model H-1 Dry Horizontal Sidewall Sprinklers allow the installation of sprinklers in areas subject to freezing while being supplied from a wet pipe sprinkler system.

The H-1 Dry Horizontal Sidewall is allowed with NFPA 13 spacings for sidewall sprinklers in either light or ordinary hazard.

The spacing, deflector distances and associated installation criteria are per NFPA 13 for standard sidewall sprinklers.

The escutcheon assembly is comprised of a support piece permanently attached to the sprinkler frame. The wall escutcheon plate has  $\frac{1}{4}$ " (6.4 mm) of field adjustment and can be installed after the sprinkler.

The Model H-1 is Listed by U.L. and U.L.C. for use as a standard sprinkler that qualifies for installation in accordance with current NFPA 13 Standards.

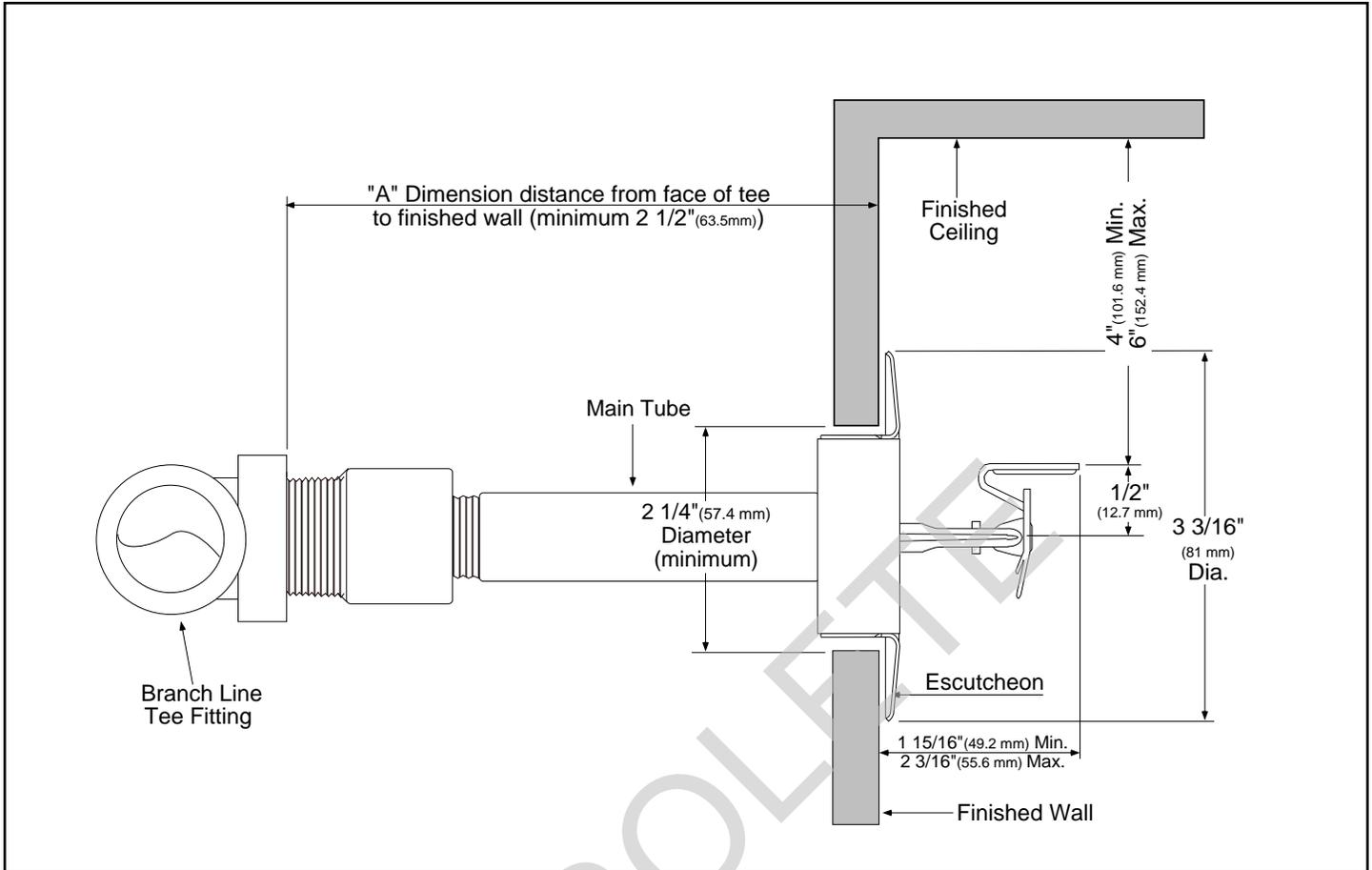
**Operation:** A fusible alloy is sealed into a bronze center strut by a stainless steel ball. When the alloy melts at its rated temperature, the ball is forced into the center strut releasing the strut and, allowing the seat of the sprinkler to fall away. This action causes a guide tube contained within the barrel of the dry sidewall to reposition itself, releasing ball bearings holding the cap (plunger) in place at the other end of the dry sidewall barrel. The cap (plunger) is then discharged from the barrel assembly, out the open sprinkler, followed by discharge of water.

### Technical Data

Model: H-1  
Style: Flush  
Orifice Size:  $\frac{1}{2}$ " (12.7 mm)  
K-Factor: See "K-factor Table" on page two.  
Thread Size:  
Tube:  $\frac{3}{4}$ ", 1" (20 mm, 25 mm)  
Temperature Rating & Frame Arm Color:  
135°F/57°C–None: (\*lead only)  
165°F/74°C–None: (\*wax, lead, wax-over-lead)  
212°F/100°C–White: (\*wax, lead, wax-over-lead)  
286°F/141°C–Blue: (\*wax, lead, wax-over-lead, Listed as high temperature, wax coated for installation where maximum ambient ceiling temperature does not exceed 150°F.)  
\* Wax, lead and wax-over-lead are U.L. Listed only.  
Approvals: U.L., U.L.C.  
M.E.A. (375-75-SA)  
Maximum Working Pressure: 175 psi/12.1 bar  
Factory Hydro Test: 100% at 500 psi/34.5 bar  
Standard Finishes: brass, chrome plated  
Escutcheon: brass, chrome plated and white painted with additional special finishes available upon request

$\frac{1}{2}$ " (12.7 mm)  
Orifice  
Dry Sidewall  
Automatic  
Sprinklers

**Figure 1**  
**Model H-1 Non-Adjustable Dry Sidewall**



**Notes:**

1. Order by "A" Dimension (in  $\frac{1}{4}$ " (6.4 mm) increments). Minimum "A" Dimension is  $2 \frac{1}{2}$ " (63.5 mm).
2. Approved length limitation is 36" (914.4 mm).
3. Install by applying pipe wrench to  $\frac{3}{4}$ " or 1" NPT (20 mm or 25 mm) brass connector, not to the sprinkler itself.

**Caution: See step one of installation sequence for appropriate fitting requirements.**

**Dry Pendent Design Guidelines**

To determine the K-factor, follow these steps:

1. Determine the K-factor length (NOT The "A" DIMENSION). The K-factor is determined as follows:

**Flush** - "A" dimension  $+\frac{7}{8}$ " (22.3 mm) = length for K-factor.

2. Determine the K-factor for that length by using the K-factor table.
3. Use the K-Factor at the tee in the branchline for the calculations.

**K-Factor Table**

Length	K-Factor(Metric)
$2 \frac{1}{2}$ " (63.5 mm) to less than $10 \frac{1}{8}$ " (254.1 mm)	5.3 (76.9)
$10 \frac{1}{8}$ " (254.1 mm) to less than $17 \frac{5}{8}$ " (447.7 mm)	5.2 (75.5)
$17 \frac{5}{8}$ " (447.7 mm) to less than $25 \frac{1}{4}$ " (641.4 mm)	5.1 (74.1)
$25 \frac{1}{4}$ " (641.4 mm) to less than $32 \frac{3}{4}$ " (831.9 mm)	5.0 (72.6)
$32 \frac{3}{4}$ " (831.9 mm) to less than 36" (914.4 mm)	4.9 (69.7)



# Design Data

## Design Requirements—Standard Applications

The Model H-1 Dry Sidewall Sprinklers are intended for standard area coverages and standard flow and pressure requirements as specified in current NFPA 13 Standards for both ordinary and light hazard.

ensure that neither accumulate within the sprinkler.

Special care must be taken when installing with a copper system. Sprinklers must be installed only after the inside of the sprinkler drop and associated fittings have been wire brushed to remove any flux. Residual flux can cause corrosion and in extreme cases can impair proper sprinkler operation.



# Installation

All Model H-1 Dry Sidewall Automatic Sprinklers must be installed according to current NFPA 13 Standards.

Dry Sidewall sprinklers are designed to prevent water from accumulating in the Arm-over sprinklers. To accomplish this, they have a fitting that protrudes into the branch line with a cap (plunger) assembly. This prevents the possibility of water freezing in the Arm-over to the sidewall sprinkler, creating an ice plug. Always install dry sprinklers in a tee. (See Step 1)

Deviations from these requirements and standards or any alteration to the sprinkler itself will void any warranty made by Central Sprinkler Company. In addition, installation must also meet local government provisions, codes and standards as applicable.

Check for the proper model, style, orifice size, and temperature rating prior to installation. Install sprinklers after the piping is in place to avoid mechanical damage; replace any damaged units. Wet pipe systems must be protected from freezing.

Upon completion of the installation, the system must be tested per recognized standards.

In the event of a thread leak, remove the unit, apply new pipe joint compound or tape, and reinstall.

## Installation Sequence

**Step 1.** *The unit must be installed into a threaded, cast iron, ductile iron, or malleable iron tee only. It may be installed into the run or outlet of this tee. Do not install into an elbow or mechanical tee.*

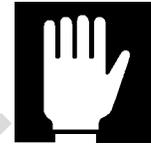
**Step 2.** Use only a non-hardening pipe joint compound or Teflon\* tape. Apply only to the male threads.

**Step 3.** Hand tighten the sprinkler into the fitting. Use the appropriate Wrench to tighten the unit in the fitting. A leak tight joint requires only 7 to 14 ft. lbs. (9.5 to 19.0 Nm) of torque; a tangential force of 14 to 28 lbs. (62.3 to 124.5 N) delivered through a 6" handle will deliver adequate torque. The Model H-1 Dry Pendent is installed by using a pipe wrench at the upper brass thread connector of the dry pendent.

**Step 4.** To install the escutcheon plate, align it with and push it over the sprinkler body and into the upper support piece until the outer edge of the escutcheon meets the mounting surface. The recessed escutcheon tool may be used to install the escutcheon plate easily from the floor.

Do not over- or under-tighten the sprinkler to compensate for inaccurate escutcheon plate adjustment.

**Caution:** If installing in a CPVC system, appropriate adaptation must be made to insure that the dry pendent is being installed into a threaded, cast iron, ductile iron, or malleable iron tee only. Special care must be taken when installing with a CPVC system. Sprinklers must be installed after the manufacturer's recommended setting time for the primer and cement to



# Care & Maintenance

Sprinklers must be handled carefully. They must not be transported or stored where ambient temperature may exceed 100°F/38°C. For best results, store them in a dry, cool location in the original shipping package.

Do not install sprinklers that have been dropped or visibly damaged. Sprinklers should never be painted, coated, plated or altered in any other way from manufactured condition or they may not function properly. Any sprinklers altered in such a manner must be replaced.

The owner is responsible for the proper operating condition of all fire protection devices and accessories. The NFPA standard 25 entitled, "Inspection, Testing and Maintenance of Water-Based Fire Protection Systems", contains guidelines and minimum maintenance requirements. Furthermore, the local Authority Having Jurisdiction may have additional regulations and requirements for maintenance, testing, and inspection that must be obeyed.

It is advisable to have sprinkler systems inspected regularly by a qualified inspection service. Length of time between such inspections can vary due to accessibility, ambient atmosphere, water supply, and site activity.

Do not attempt to reassemble or otherwise reuse a sprinkler that has operated. Replace any sprinkler exhibiting corrosion or damage; always use new sprinklers of the

same orifice, style, and temperature rating as replacements.

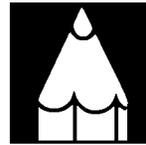
Because the discharge pattern is critical to protection of life and property, nothing should be hung or attached to the sprinkler unit that would disrupt the pattern. Such obstructions must be removed. In the event that construction has altered the original configuration, additional sprinklers should be installed to maintain the protection level.

Do not attempt to replace sprinklers without first removing the fire protection system from service. Be certain to secure permission from all *Authorities Having Jurisdiction*, and notify all personnel who may be affected during system shutdown. A fire watch during maintenance periods is a recommended precaution.

To remove the system from service, first refer to the system operating guide and valve instruction. Drain water and relieve pressure in the pipes. Remove the existing unit and install the replacement, using only the recommended sprinkler wrench. Be certain to match model, style, orifice, and temperature rating.

A fire protection system that has been shut off after an activation should be repaired and returned to service immediately. Inspect the entire system for damage and replace or repair as necessary. Sprinklers that did not operate but were subjected to corrosive elements of combustion or excessive temperatures should be inspected, and replaced if need be. The *Authority Having Jurisdiction* will detail minimum replacement requirements and regulations.

**Guarantee:** Central Sprinkler Company will repair and/or replace any products found to be defective in material or workmanship within a period of one year from the date of shipment. Please refer to the current Price List for further details of the warranty.



## Ordering Information

**Ordering Information:** When placing an order, indicate the full product name. Please specify the quantity, model, style, orifice size, temperature rating, sprinkler finish, and escutcheon finish, and required "A" Dimension. "A" Dimensions are listed in 1/4" increments.

**Availability and Service:** Central sprinklers, valves, accessories and other products are available throughout the U.S. and Canada, and internationally, through a network of Central Sprinkler distribution centers. You may write directly to Central Sprinkler Company, or call (215) 362-0700 for the distributor nearest you.

**Patents:** Patents are pending.

**Conversion Table:**

1 inch	= 25.400 mm
1 foot	= 0.3048 m
1 pound	= 0.4536 kg
1 foot pound	= 1.36 Nm
1 psi	= 6.895 kpa
	= 0.0689 bar
	= 0.0703 kg/cm <sup>2</sup>
1 U.S. gallon	= 3.785 dm <sup>3</sup>
	= 3.785 liters

Conversions are approximate.



### Central Sprinkler Company

451 N. Cannon Avenue, Lansdale, PA 19446

Phone (215) 362-0700

FAX (215) 362-5385