For coverages up to 28 feet wide and 10 feet long\(^{(1)}\). 250 psi (17,2 bar) rated.

**Features:**

1. Coverage for long and narrow spaces such as hallways, corridors, decks and rooms up to 28 feet wide and 10 feet long\(^{(1)}\).
2. Deflector to ceiling dimensions are: 4” (102mm) min. to 12” (305mm) max.
3. Minimum spacing between sprinklers 16 feet (4.9m)\(^{(1)}\).
4. Polyester Coated or Electroless Nickel PTFE Plated Corrosion Resistant Sprinklers. *Concealed Sprinkler is not corrosion resistant.*
5. UL Listed for extended coverage, light hazard applications.
6. 5.6 K Factor.
7. Sprinkler is approved for 250 psi (17,2 bar) applications.
9. ½” (13mm) adjustment of escutcheon and cover.
10. Concealed cover plate can prevent the sprinkler from being used for unintended purposes. No exposed thermal element with the concealed version.
11. Push-on/thread-off sturdy convenient escutcheon for recessed and cover for concealed.
12. Factory assembled sprinkler & cup, shipped complete with bulb protector for concealed and FP recessed versions.
13. Sprinkler & cup assembly and escutcheon or cover are separately packaged.
14. Available in a variety of plated and painted finishes

\(^{(1)}\) See Fig. 10.

**Approval Organizations**

- Listed by Underwriters Laboratories Inc. and UL certified for Canada (cULus)

**Patents**

US Patent No. 7,841,418
Other Patents Pending

**Products Description**

The Model DH56 are quick response extended coverage sidewall dry sprinklers for use in light hazard applications. The Model DH56 dry sprinkler with SWC cover plate is a concealed sprinkler that uses Reliable's push on/thread off sidewall cover. This sprinkler has the cup factory mounted and is shipped with a bulb protector that protects the 3mm frangible glass bulb during shipping and post installation finishing operations. The DH56 can be combined in the field with the FP Escutcheon to make a recessed dry sprinkler. The SWC cover plate and FP recessed escutcheons have ½” adjustment. The SWC cover plate is attached with 135 & 165 degree solder. In the event of a fire the rising ambient temperature melts the solder and the cover plate is ejected away by springs exposing the 3mm frangible glass bulb. The use of a 3mm bulb allows quick response which enables the sprinkler to apply water to a fire sooner than standard response sprinklers of the same temperature rating.

Model DH56 dry sprinklers are intended for use in dry and preaction systems to protect areas subjected to freezing temperatures and unheated portions inside and outside buildings. See Fig. 8 for guidelines on using dry sprinklers in wet systems.
Environments wherein dry sprinklers are employed can be corrosive. For this reason, Model DH56 dry sprinklers have a special wax fillet placed in the gap between the cup that supports the bulb and the wrenching boss. This wax will not interfere with the operation of the sprinkler, and it prevents contaminants from entering the internal portion of the drop nipple. The wax must not be removed.

Application
The Model DH56 is a horizontal sidewall dry sprinkler intended for installation in light hazard occupancies in accordance with NFPA 13. These sprinklers are designed to provide fire protection in long and narrow spaces such as hallways, corridors, decks and rooms up to 28 feet (8.5m) wide and 10 feet (3m) long. They are rated for 250 psi (17.2 bar) and can be mounted between 4 and 12 inches (102 and 305mm) down from the ceiling.

General Installation Instructions
Model DH56 dry sprinklers must be installed only in standard (ANSI B 16.3 class 150 and ANSI B 16.4 class 125) pipe tees in the horizontal position, even at branch line ends. They should not be installed into elbows or pipe couplings located on drop nipples to the sprinklers. For these and other fittings including CPVC, the dry sprinkler should be installed into a fitting to allow protrusion into the fitting in accordance with the diagrams. The "A" dimension of the dry sprinkler, which extends into a freezing zone from wet pipe systems, should be selected to provide, as a minimum, the specified lengths in inches shown in Fig. 8.

Caution:
Do not install Model DH56 HSW Dry sprinklers into CPVC adapter fittings or tees that have an internal obstruction. This will damage the sprinkler and/or the fitting. Refer to Fig. 9.

DH56 HSW
To install the DH56 HSW dry sprinkler cut a 2½" diameter hole in the wall as shown in Fig. 4. Use the Model F3R installation wrench (see Fig. 3) on the square boss to tighten the sprinkler until it is secured in the sprinkler fitting. Apply a PTFE based sealant to the sprinkler threads before installing in the sprinkler. Installation is completed by removing the orange glass bulb-protector and assembling the slip-on escutcheon to the sprinkler's can.

DH56 HSW/HB
To install the DH56 HSW/HB dry sprinkler cut a 2½" diameter hole in the wall as shown in Fig. 5. Use the Model F3R installation wrench (see Fig. 3) on the square boss to tighten the sprinkler until it is secured in the sprinkler fitting. Apply a PTFE based sealant to the sprinkler threads before installing in the sprinkler. Installation is completed by removing the orange glass bulb-protector and assembling the slip-on escutcheon to the sprinkler's can.

DH56 HSW Recessed with FP Escutcheon
To install the DH56 HSW dry sprinkler with the FP Escutcheon as a recessed sprinkler cut a 2½" diameter hole in the wall as shown in Fig. 6. Temporarily remove the plastic protective cap, and then use the Model XLO2 wrench† (see Fig. 2) to tighten the sprinkler until it is secured in the sprinkler fitting. Note: The Model XLO2 wrench has a notch in it to accommodate the deflector top. This wrench can only be inserted one way. Care must be taken not to damage the deflector during tightening. Apply a PTFE based sealant to the sprinkler threads before installing in the sprinkler. It is recommended that the sprinkler be protected during plastering and painting operations by reinstalling the plastic protective cap. Installation is completed by removing the protective cap and inserting the push-on escutcheon. Turn clockwise to adjust the escutcheon against the wall.

DH56 HSW Concealed with SWC Cover Plate
To install the DH56 HSW dry sprinkler with the SWC coverplate as a concealed sprinkler, cut a 2½" diameter hole into the wall as shown in Fig. 7. Temporarily remove the plastic protective cap, and then use the Model XLO2 wrench† (see Fig. 2) to tighten the sprinkler until it is secured in the sprinkler fitting. Note: The Model XLO2 wrench has a notch in it to accommodate the deflector top. This wrench can only be inserted one way. Care must be taken not to damage the deflector during tightening. Apply a PTFE based sealant to the sprinkler threads before installing in the sprinkler. It is recommended that the sprinkler be protected during plastering and painting operations by reinstalling the plastic protective cap. Installation is completed by removing the protective cap and inserting the coverplate. Coverplate assemblies provide ½" (13mm) of adjustment. Final adjustment is made by turning the coverplate clockwise until the skirt flange makes full contact with the wall surface. Cover removal requires turning in the counter-clockwise direction.

Concealed coverplate assemblies are listed only for use with specific sprinklers. The use of any other concealed wall sprinkler or the use of the SWC coverplate on any sprinkler with which it is not specifically listed will void all guarantees, warranties, listings and approvals.

Note: DH56 and DH56 Recessed Sprinklers have orange bulb protectors to minimize bulb damage during shipping, handling, and installation. REMOVE THIS PROTECTION AT THE TIME THE SPRINKLER SYSTEM IS PLACED IN SERVICE FOR FIRE PROTECTION. Removal of the protectors before this time may leave the bulb vulnerable to damage. RASCO wrenches are designed to install sprinklers when covers are in place. REMOVE PROTECTORS BY UNDOING THE CLASP BY HAND. DO NOT USE TOOLS TO REMOVE THE PROTECTORS.

† Installation Wrenches:
Throughout this technical bulletin, Reliable has specified specific installation wrenches for use on each version of our sprinklers. A pipe wrench may also be used to install a dry sprinkler provided that it only interfaces with the steel outer tube of the assembly (Item #8 on fig 10). Keep in mind that a pipe wrench will incorporate a large amount of torque into the final assembly. This torque will have to be matched or exceeded upon the sprinkler's removal at a later date.
Maintenance

Model DH56 Quick Response Dry Sprinklers should be inspected and the sprinkler system maintained in accordance with NFPA 25. Do not remove the factory applied thermally sensitive wax fillet between the bulb supporting cup and the wrenching boss. Do not replace this wax with a substitute substance. An alternate substance may interfere with proper operation of the sprinkler. Do not clean sprinklers with soap and water, ammonia or any other cleaning fluids. Remove dust by using a soft brush or gentle vacuuming. Remove any sprinkler which has been painted (other than factory applied) or damaged in any way. A stock of spare sprinklers should be maintained to allow quick replacement of damaged or operated sprinklers. Prior to installation, sprinklers should be maintained in their original cartons and packaging until used to minimize the potential for damage to sprinklers that would cause improper operation or non-operation.

Model DH56 Quick Response Extended Coverage Horizontal Sidewall Dry Sprinkler Specification

Sprinklers shall be a [quick response – cULus Listed] extended coverage horizontal sidewall sprinkler for light hazard occupancies. Sprinklers to be of bronze frame construction with a special deflector capable of providing a discharge over a coverage area of 28 ft. (8,5m) wide, and 10 ft. (3m) long horizontal throw. Water seal assembly shall consist of a PTFE coated Belleville spring washer. Installation shall permit deflector to be positioned 4” (102mm) to 12” (305mm) below the ceiling. Sprinklers shall have a nominal K-factor of 5.6 (80), and 1” NPT thread. Sprinkler temperature rating shall be [155°F (68°C)] and [200°F (93°C)]. Rated working pressure shall be 250 psi (17.2 bar). Standard finish: [white] [chrome] [bronze] [Special finish- specify]. Quick response extended coverage horizontal sidewall dry sprinklers shall be Reliable Model DH56, SIN RA1664 (Bulletin 016).

For recessed EC horizontal sidewall sprinklers: Replace “horizontal sidewall” with “recessed horizontal sidewall.” Add: (1) Recessed escutcheon assembly shall be a two-piece escutcheon of push-on and thread off design with ½” (13mm) adjustment. Standard finish shall be chrome, white and brass. Quick response recessed horizontal sidewall dry sprinklers shall be Reliable Model DH56, SIN RA1664 (Bulletin 016).

For concealed EC horizontal sidewall sprinklers: Replace “horizontal sidewall” with “concealed horizontal sidewall.” Add: Cover plate assembly shall consist of a brass cover plate and copper alloy retainer flange. Method of attaching the cover plate to the sprinkler cup shall be a push-on and thread-off design allowing a ½” (13mm) cover plate adjustment. Cover plate temperature rating shall be 135°F (57°C) for 155°F (68°C) dry sprinkler and 165°F (74°C) for 200°F (93°C) dry sprinkler. A bulb protector shall be provided and factory installed inside the sprinkler cup to protect the glass bulb from damage, which could occur during construction before the cover plate is installed. Standard cover plate finish: [white] [Custom Color– specify]. Quick response extended coverage concealed horizontal sidewall dry sprinklers shall be Reliable Model DH56, SIN RA1664 (Bulletin 016).
Fig. 4

AVAILABLE "A" DIM. IS 2" TO 48" (51MM TO 1219MM) IN 1/4" (6MM) INCREMENTS

Fig. 5

AVAILABLE "A" DIM. IS 3-1/2" TO 36" (89 MM TO 914 MM) IN 1/4" (6MM) INCREMENTS
DH56 HSW RECESSED DRY SPRINKLER

Fig. 6

AVAILABLE "A" DIM. IS 3-1/2" TO 48" (89mm TO 1219mm) IN 1/4" (6mm) INCREMENTS

DH56 HSW CONCEALED DRY SPRINKLER

Fig. 7

AVAILABLE "A" DIM. IS 3-1/2" TO 48" (89mm TO 1219mm) IN 1/4" (6mm) INCREMENTS
MINIMUM EXPOSED BARREL LENGTH WHEN CONNECTED TO WET PIPE SPRINKLER SYSTEM

NOTE: STANDARD DRY PENDENT IS SHOWN. HOWEVER, MINIMUM EXPOSED BARREL LENGTH APPLIES TO ALL STYLES OF DRY SPRINKLERS CONNECTED TO A WET PIPE SYSTEM.

<table>
<thead>
<tr>
<th>DRY PENDENT</th>
<th>EXPOSED BARREL LENGTH (IN.)</th>
<th>EXPOSED BARREL LENGTH (CM.)</th>
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</thead>
<tbody>
<tr>
<td>0.00</td>
<td>0.00</td>
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</tr>
<tr>
<td>0.50</td>
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</tr>
<tr>
<td>3.00</td>
<td>7.62</td>
<td>7.62</td>
</tr>
</tbody>
</table>

* This length is the minimum length of the sprinkler that should be exposed to the O.D. of the pipe to ensure the sprinkler is functional.

** The same length of sprinkler should be used to ensure the sprinkler is functional. The length should be at least equal to the exposed length with a minimum of 12 inches (300 mm). The exposed length will then be the minimum length required to ensure the sprinkler is functional.

*** The minimum exposed barrel length is measured from the face of the fitting to the face of the sprinkler. The barrel length is the distance between the sprinkler and the fitting.

Fig. 8
*CAUTION*

RELIABLE DRY SPINKLERS MAY BE INSTALLED IN A LISTED CPVC SPRINKLER FITTING, ONLY UPON VERIFICATION THAT THE FITTING DOES NOT INTERFERE WITH THE SPRINKLER'S INLET.

Do not install dry sprinklers with standard inlets into CPVC fittings that have an internal obstruction; this will damage the sprinkler, the fitting, or both.

Short inlet ("PL") versions of Reliable dry sprinklers are available that may or may not be compatible with fittings having internal obstructions in existing installations. Sprinklers with the short inlet ("PL") should only be installed in CPVC fittings of wet-pipe systems.

In all cases, verify sprinkler and fitting dimensions prior to installation to avoid interference.

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BE SURE TO ORDER THE CORRECT SPRINKLERS FOR YOUR APPLICATION

Fig. 9
Ordering Information

Specify:
1. Sprinkler Type (select one):
   (a) Model DH56 Dry EC HSW
   (b) Model DH56 Dry EC HSW/HB
   (c) Model DH56 Dry Recessed EC HSW/FP
   (d) Model DH56 Dry Concealed EC HSW
2. Sprinkler Temperature Rating.
5. Length: “A” Dimension (face of tee to face of ceiling or wall) in 1/4” (6mm) increments.

Notes:
1. The “A” dimension is based on a nominally gauged pipe thread “make-up” of 0.600” (15mm) per ANSI B2.1 [7½ threads approximately].
2. All platings and paintings are decorative and intended for interior use.

Installation Wrench
Model XLO2 Sprinkler Wrench (Recessed & Concealed)
Model F3R Sprinkler Wrench

Note: Throughout this technical bulletin, Reliable has specified specific installation wrenches for use on each version of our sprinklers. A pipe wrench may also be used to install a dry sprinkler provided that it only interferes with the steel outer tube of the assembly (item #8 on fig 16). Keep in mind that a pipe wrench will incorporate a large amount of torque into the final assembly. This torque will have to be matched or exceeded upon the sprinkler removal at a later date.

Finishes

<table>
<thead>
<tr>
<th>Standard Finishes</th>
<th>Sprinkler</th>
<th>Standard and Model FP Escutcheon</th>
<th>Model HB Escutcheon</th>
<th>Cover Plate</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Polyester</td>
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<td>White Polyester</td>
<td>White Paint</td>
<td>White Paint</td>
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<tr>
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<td>Brass</td>
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</table>

<table>
<thead>
<tr>
<th>Special Application Finishes</th>
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</thead>
<tbody>
<tr>
<td>Sprinkler</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>Black Polyester</td>
</tr>
<tr>
<td>Custom Color Polyester</td>
</tr>
<tr>
<td>Black Plated Nickel PTFE (ENT)</td>
</tr>
<tr>
<td>Chrome Dull</td>
</tr>
</tbody>
</table>

(2)  cULus listed Corrosion Resistant (except for concealed version)

Note: Paint or any other coatings applied over the factory finish will void all approvals and warranties.

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16’ [4.9m] Minimum Spacing
28’ [8.5m] Maximum Spacing

MODEL DH56 DRY SPRINKLER

4” [100mm] min. From Ceiling
12” [305mm] max. From Ceiling

016FG010

Fig. 10
The equipment presented in this bulletin is to be installed in accordance with the latest published Standards of the National Fire Protection Association, Factory Mutual Research Corporation, or other similar organizations and also with the provisions of governmental codes or ordinances whenever applicable.

Products manufactured and distributed by Reliable have been protecting life and property for over 90 years.