Reliable®

Model DH Series Quick Response Extended Coverage Horizontal Sidewall Sprinklers

Features

- cULus Listed for extended coverage protection of light hazard occupancies
- K5.6 (80 metric) and K8.0 (115 metric) versions
- 250 psi (17.2 bar) rated
- Recessed and concealed trim options available
- Sprinklers and escutcheons available in a variety of finishes

Product Description

Reliable Model DH series sprinklers are quick response extended coverage horizontal sidewall sprinklers for use in long, narrow areas of light hazard occupancies such as hallways and corridors. Model DH sprinklers may be installed exposed, or combined with the FP or F2 Escutcheon to create a recessed sprinkler with 1/2" (13mm) adjustment.

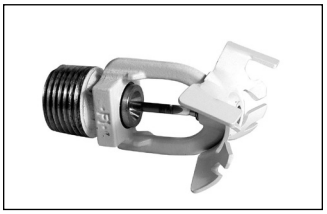
Model DH Series Sprinklers can also be utilized with the Model SWC push on/thread off cover plate as a concealed sprinkler. This sprinkler is factory mounted in a galvanized cup and is shipped with a protective cap that protects the sprinkler during shipping and post installation finishing operations. The SWC cover plate is attached with 135-degree solder. In the event of a fire the rising ambient temperature melts the solder allowing the cover plate to release and exposing the thermal element to the increasing temperature.

Model DH Series sprinklers are listed for a maximum service pressure of 250 psi (17.2 bar), and are installed using the Model W2 wrench (non-recessed, non-concealed) or Model W1 wrench (recessed, concealed).

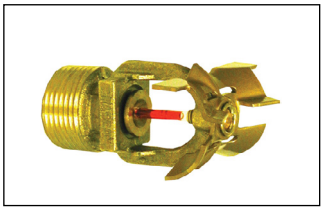
Application

Reliable Model DH Series sprinklers are specifically engineered to meet the latest sprinkler listing of UL Standard 199 and are intended for installation in specific areas of light hazard occupancies in accordance with NFPA 13.

Important! Reliable fire sprinklers must be handled, stored, and installed in accordance with the guidelines in Caution Sheet 310 and this bulletin. Failure to follow these instructions may result in unintended operation or nonoperation of the fire protection system.



Model DH56



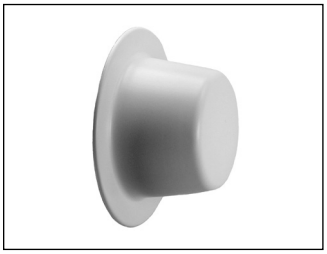
Model DH80



Model FP Recessed Escutcheon



Model F2 Recessed Escutcheon



Model SWC Cover Plate

Note: Not all versions of sprinkler are shown.

Listings & Approvals

1. Listed by Underwriters Laboratories Inc. (VKKW.EX3646) and UL Certified for Canada (VKKW7.EX3646)

Model DH Series Sprinklers

Table A

Sprinkler Model	K-Factor gpm/psi$^{1/2}$ (lpm/bar$^{1/2}$)	Orientation	Max. Coverage Area ft x ft (m x m)	Listings & Approvals	Max. Working Pressure psi (bar)	Sprinkler Identification Number (SIN)
DH56	5.6 (80)	Horizontal Sidewall	28 x 10 (8.5 x 3)	cULus	250 (17.2)	RA1564
DH80	8.0 (115)	Horizontal Sidewall	28 x 14 (8.5 x 4.3)	cULus	250 (17.2)	RA0362

Model DH56 Extended Coverage Sprinkler — SIN RA1564

Technical Specifications
Style: Horizontal Sidewall
Threads: 1/2" NPT or ISO 7-R1/2
Nominal K-Factor: 5.6 (80 metric)
Max. Working Pressure:
250 psi (17.2 bar)

Material Specifications
Thermal Sensor: 3 mm Glass Bulb
Sprinkler Frame: Brass Alloy
Cap: Bronze Alloy
Sealing Washer: Nickel with PTFE
Load Screw: Copper Alloy
Deflector: Brass Alloy

Sprinkler Finishes
(See Table B)

Sensitivity
Quick response

Temperature Ratings
155°F (68°C)
175°F (79°C)
200°F (93°C)

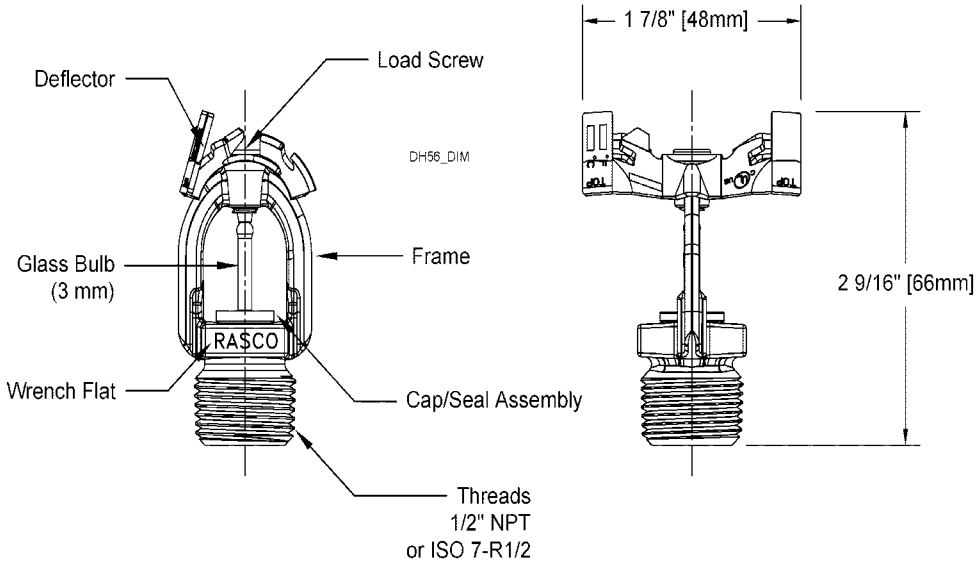
Trim Options
Model F2 Recessed Escutcheon
Model FP Recessed Escutcheon
Model SWC Cover Plate

Sprinkler Wrench
Model W2 (Exposed installation)
Model W1 (Recessed or concealed)

Listings and Approvals
cULus Listed



Sprinkler Components and Dimensions — **Figure 1**



Design Flow & Pressure — **Table B**

Coverage Area Width x Throw ft x ft (m x m)	Required Flow gpm (L/min)	Required Pressure psi (bar)
28 x 8 (8.5 x 2.4)	23 (87.1)	16.9 (1.2)
28 x 10 (8.5 x 3)	28 (106)	25 (1.7)

Notes:
1. See Figure 3 for clarification of Model DH sprinkler coverage area.
2. Minimum spacing between Model DH56 sprinklers along the same walls is 14 ft (4.3m).

Model DH80 Extended Coverage Sprinkler — SIN RA0362

Technical Specifications
Style: Horizontal Sidewall
Threads: 3/4" NPT or ISO 7-R3/4
Nominal K-Factor: 8.0 (115 metric)
Max. Working Pressure:
250 psi (17.2 bar)

Material Specifications
Thermal Sensor: 3 mm Glass Bulb
Sprinkler Frame: Brass Alloy
Cap: Bronze Alloy
Sealing Washer: Nickel with PTFE
Load Screw: Copper Alloy
Deflector: Brass Alloy

Sprinkler Finishes
(See Table B)

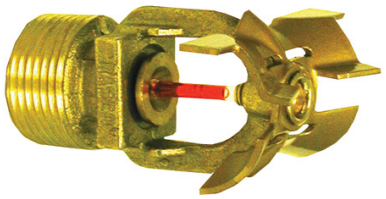
Sensitivity
Quick response

Temperature Ratings
135°F (57°C)
155°F (68°C)

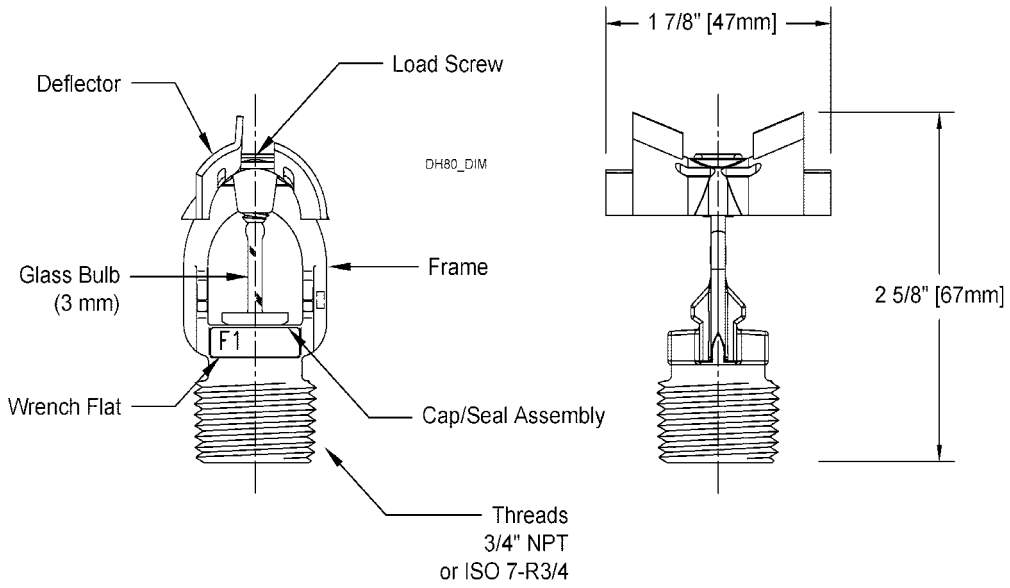
Trim Options
Model F2 Recessed Escutcheon
Model FP Recessed Escutcheon
Model SWC Cover Plate

Sprinkler Wrench
Model W2 (Exposed installation)
Model W1 (Recessed or concealed)

Listings and Approvals
cULus Listed



Sprinkler Components and Dimensions — Figure 2



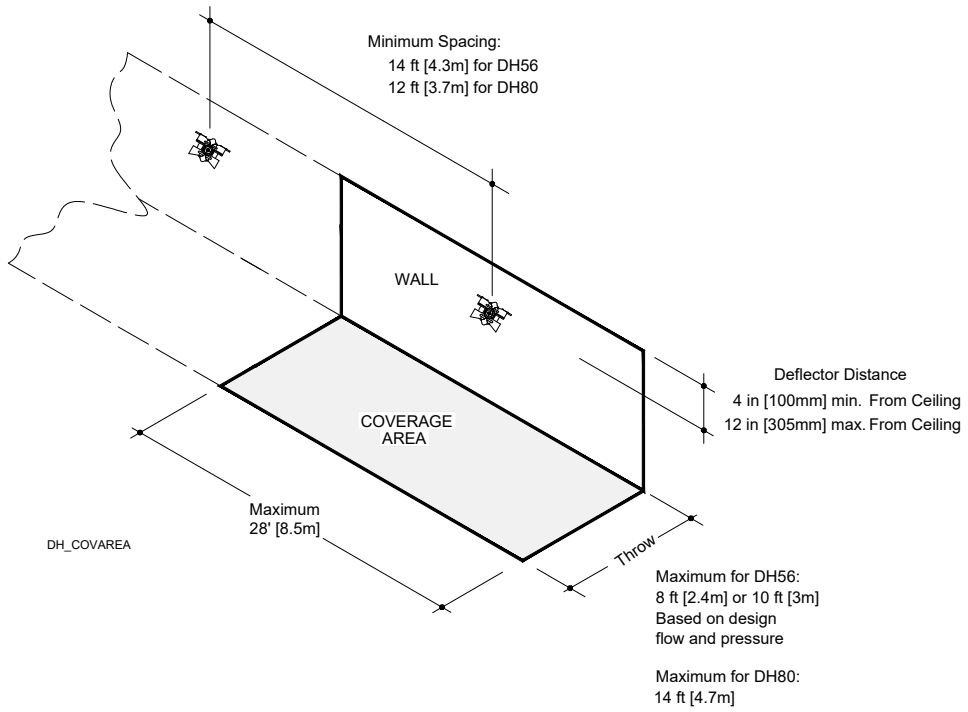
Design Flow & Pressure — Table C

Coverage Area Width x Throw ft x ft (m x m)	Required Flow gpm (L/min)	Required Pressure psi (bar)
28 x 14 (8.5 x 4.3)	40 (151.4)	25 (1.7)

Notes:
1. See Figure 3 for clarification of Model DH sprinkler coverage area.
2. Minimum spacing between Model DH80 sprinklers along the same walls is 12 ft (3.7m).

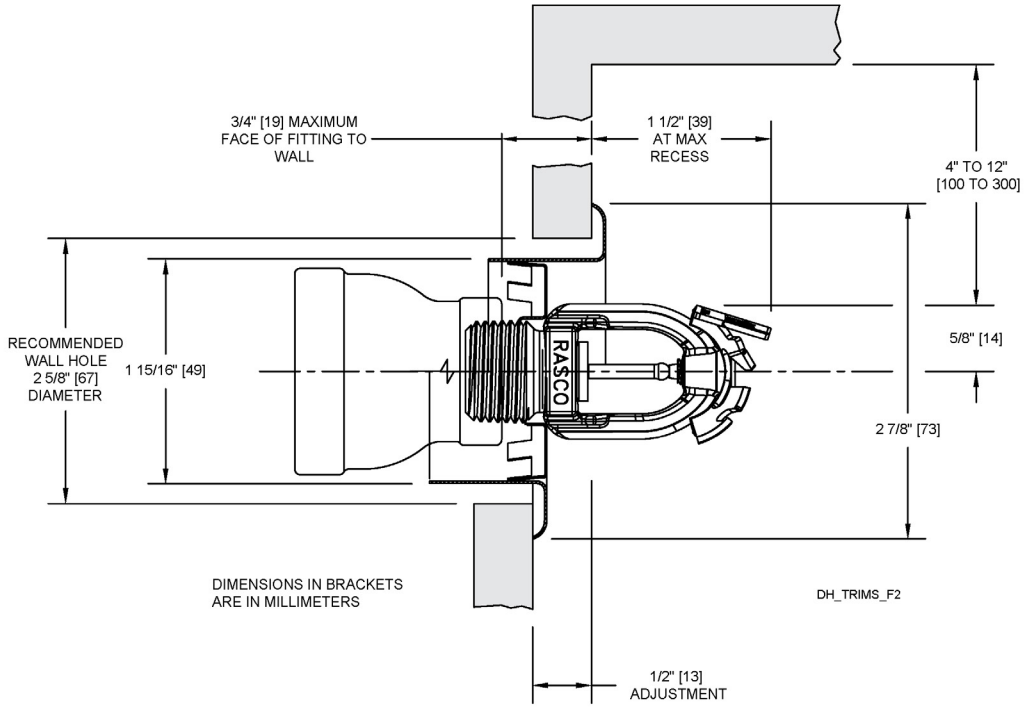
Model DH Sprinkler Coverage Area

Figure 3



Model F2 Recessed Escutcheon

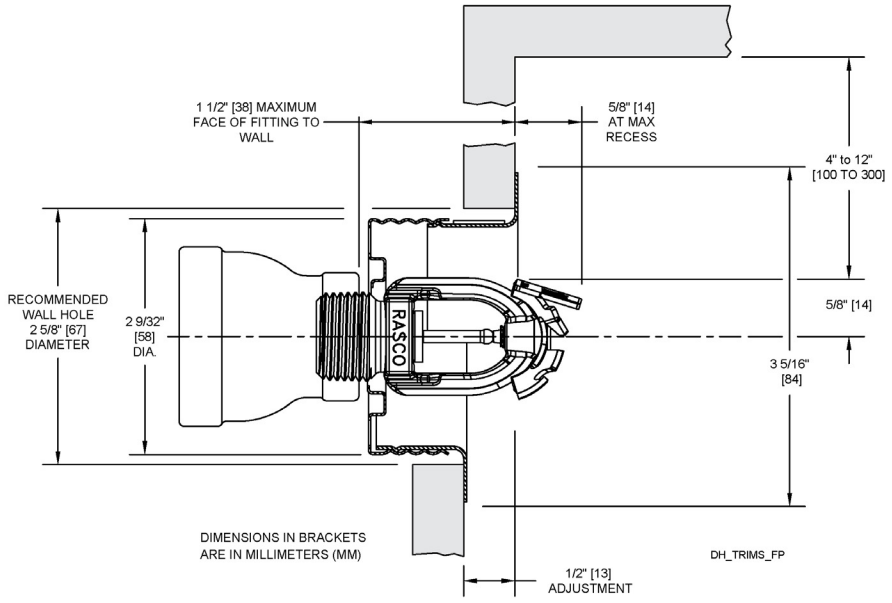
Figure 4



MODEL F2 RECESSED ESCUTCHEON
(SHOWN WITH DH56; DEFLECTOR APPEARANCE WILL DIFFER WITH DH80)

Model FP Recessed Escutcheon

Figure 5

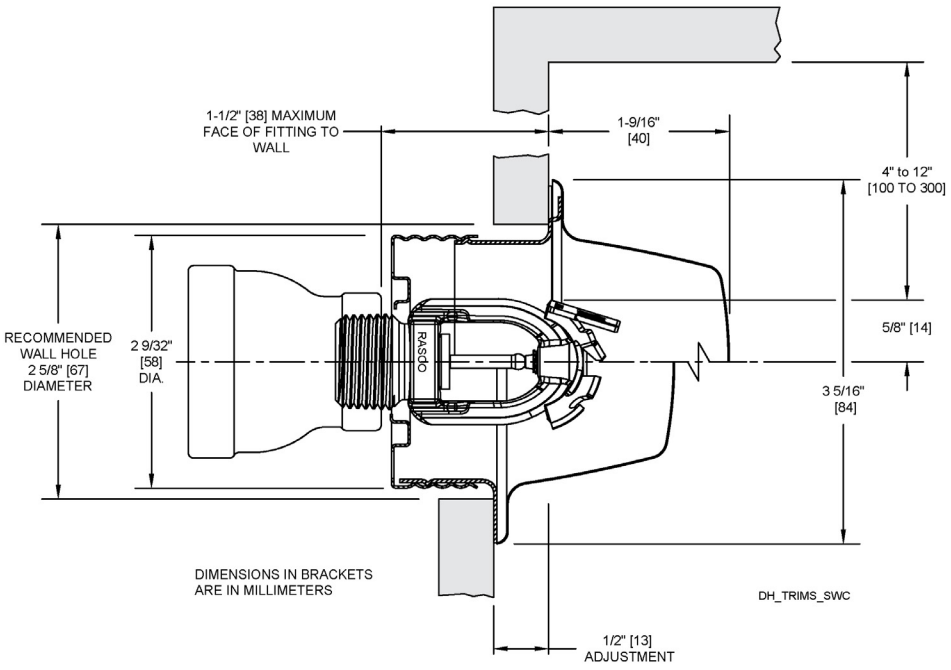


MODEL FP RECESSED ESCUTCHEON
(SHOWN WITH DH56; DEFLECTOR APPEARANCE WILL DIFFER WITH DH80)

NOTE: MODEL DH56 SPRINKLERS WITH MODEL SWC COVER PLATE MAY NOT BE USED WHERE THE PRESSURE IN THE CAVITY BEHIND THE SPRINKLER IS POSITIVE WITH RESPECT TO THE PROTECTED AREA. ENSURE THAT THE OPENINGS AROUND THE SPRINKLER CUP ARE UNOBSTRUCTED FOLLOWING INSTALLATION.

Model SWC Cover Plate

Figure 6



MODEL SWC COVER PLATE
(SHOWN WITH DH56; DEFLECTOR APPEARANCE WILL DIFFER WITH DH80)

NOTE: MODEL DH56 SPRINKLERS WITH MODEL SWC COVER PLATE MAY NOT BE USED WHERE THE PRESSURE IN THE CAVITY BEHIND THE SPRINKLER IS POSITIVE WITH RESPECT TO THE PROTECTED AREA. ENSURE THAT THE OPENINGS AROUND THE SPRINKLER CUP ARE UNOBSTRUCTED FOLLOWING INSTALLATION.

Wrenches



Model W2 (non-recessed, non-concealed)



Model W1
(recessed, concealed)

Installation

Reliable Series DH sprinklers may be used with any type of pipe and fitting permitted by NFPA 13 that is approved by the authority having jurisdiction. Reliable Model DH Series sprinklers must be installed with the Reliable Model W2 wrench (when installed exposed) or the Model W1 wrench (when installed recessed or concealed). A leak proof joint can be obtained with a torque of 8 to 18 ft-lbs (11 to 24 N•m) after applying an appropriate sealant to the male threads.

When installing Model DH Series sprinklers recessed or concealed, temporarily remove the plastic protective cap, then use the Model W1 wrench to tighten the sprinkler into the fitting. The wrench can only be inserted one way. Care must be taken not to damage the sprinkler when inserting and removing the wrench. Wrench only on the square boss of the sprinkler, DO NOT wrench on any other part of the sprinkler.

Replace the protective cap and leave on the sprinkler while the wall is plastered, wallpapered, or painted. The protective cap must be removed prior to the sprinkler system being placed in service. Installation is completed by removing the protective cap and inserting the push-on escutcheon (Model F2 and FP) or the SWC cover plate. Turn clockwise to adjust the escutcheon or cover plate against the wall. Recessed escutcheons and the Model SWC cover plate provide 1/2" (13mm) adjustment.

The Model SWC cover plate is specifically listed for use with Model DH Series sprinklers. The use of any other concealed cover plate with Model DH Series sprinklers or the use of this cover plate on any other sprinkler for which it is not specifically listed will void all guarantees, warranties, listings and approvals.

Note: Model DH Series sprinklers have orange bulb protectors to minimize damage during shipping, handling, and installation. Model W2 and W1 wrenches are designed to install sprinklers with the bulb protectors in place. Remove the bulb protector only when placing the fire protection system into service. Removal of the protectors before this time may leave the bulb vulnerable to damage. Remove the protectors by undoing the clasp by hand. DO NOT USE TOOLS TO REMOVE THE PROTECTORS.

Maintenance

Model DH56 should be inspected and the sprinkler maintained in accordance with NFPA 25. 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/cover assembly, 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.

Finishes[1] **Table D**

Standard Finishes			Special Application Finishes		
Sprinkler	**F2 and FP[2] Escutcheons**	**SWC Cover Plate[2]**	**Sprinkler**	**F2 and FP[2] Escutcheons**	**SWC Cover Plate[2]**
Bronze	Brass	Chrome	Electroless Nickel PTFE[3]	Bright Brass	Bright Brass
Chrome	Chrome	White Paint	Custom Color Polyester[3]	Satin Chrome	Satin Chrome
White Polyester[3]	White Polyester			Custom Color Polyester	Custom Color Paint

Notes:
1. Paint or any other coating applied over the factory finish will void all approvals and warranties.
2. Model FP escutcheons and Model CCP sprinklers utilize a galvanized steel cup with a finished trim ring or cover plate.
3. cULus Listed as corrosion resistant.

Guarantee

For the Reliable Automatic Sprinkler Co., Inc. guarantee, terms, and conditions, visit www.reliablesprinkler.com.

Ordering Information

Specify:

Sprinkler Type
- Model DH56
- Model DH80

Sprinkler Finish
- See Table D

Trim
- F2 Recessed
- FP Recessed
- SWC Concealed[1]

Trim Finish
- SeeTable D

Sprinkler Wrench
- W2 (exposed installation)
- W1 (recessed or concealed installation)

Note:
1. 135°F (57°C) cover plate for 135°F (57°C) and 155°F (68°C) sprinklers; 165°F (74°C) cover plate for 175°F (79°C) and 200°F (93°C) sprinklers.