

Reliable®

Model G5-56 Dry (SINRA5114) K5.6 (80 metric) Concealed Dry Pendent Sprinkler

UL Quick Response FM Standard Response ½" (13mm) Cover plate Adjustment

Features

1. Flat cover plate with threaded attachment.
2. Cover plate available in chrome and white as Standard Finishes.
Also available in a wide variety of Special Application Finishes.
3. Cover plates with gaskets are available to limit dust and air movement through the ceiling.
4. Available in Ordinary or Intermediate temperature rating.
5. Sprinkler available in lengths from 4¼ inches (108mm) to 48 inches (1219mm) in ¼-inch (6.35mm) increments (see Fig. 1).

Approvals & Listings

1. Listed by Underwriters Laboratories and Certified for Canada (cULus) as a Quick-response sprinkler for Light and Ordinary Hazard occupancies. UL Guide Number VNIV, Sprinklers, Automatic and Open.
2. FM Approved as a Standard-response sprinkler.

Patents

The Model G5-56 Dry is covered by the following patents:
U.S. 5,775,431
U.S. 5,967,240

Application

The Model G5-56 Dry is a cULus Listed Quick Response Concealed Dry Pendent sprinkler intended for use in accordance with NFPA 13. The Model G5-56 Dry sprinkler is cULus Listed for use in Light and Ordinary Hazard occupancies.

The Model G5-56 Dry is FM Approved as a Standard Response Concealed Dry Pendent sprinkler intended for use in accordance with FM Loss Prevention Data Sheet 2.0.

Product Description

The Reliable Model G5-56 Dry sprinkler is a Dry Pendent sprinkler, where the sealing washer is located at the inlet end of the sprinkler assembly. The position of the sealing washer is controlled by a fusible element at the opposite end of the sprinkler assembly. The sprinkler is installed with the fusible element at the ceiling of a protected space that may be subject to freezing temperatures and the inlet orifice located in a heated area above the ceiling. Operation of the fusible element allows the sealing washer to move out of the inlet



Model G5-56 Dry Sprinkler

orifice admitting water from the supply piping. The sprinkler uses a fast-response fusible element with an Ordinary, 165°F (74°C), or Intermediate, 212°F (100°C), temperature classification.

The Model G5-56 Dry sprinkler has a dropdown deflector design that allows the sprinkler to be recessed into the ceiling and concealed by a flat cover plate. The cover plate assembly threads into the sprinkler's cup and provides ½-inch (13mm) of cover adjustment. The cover plate assembly consists of a flat cover plate that is attached to the skirt using either 135°F (57°C) or 165°F (74°C) temperature rated solder. The 135°F (57°C) cover plates are for use with Ordinary temperature classification sprinklers and the 165°F (74°C) cover plates are for use with Intermediate temperature classification sprinklers.

The Model G5-56 Dry sprinkler is available in lengths ranging from 4¼ inches (108mm) to 48 inches (1219mm) in ¼-inch (6.35mm) increments (see Fig. 1). The length of the sprinkler must be selected to provide the Exposed Minimum Barrel Length in a Heated Area required by Fig. 2.

The Model G5-56 Dry sprinkler is available with 1-inch NPT or ISO 7-1 R1 threaded inlet fittings. The standard inlet fitting includes a long inlet designed to minimize the potential for water, scale, and sediment to accumulate on the sprinkler inlet in wet- and dry-pipe sprinkler systems. For wet-pipe sprinkler system applications where the standard inlet interferes with installation into existing plastic pipe fittings, an inlet fitting is available with a short ("PL") inlet. See Fig. 3 for further information.

Technical Data:

Nominal Orifice Size: 1/2-inch (15mm)
 Thread Size: 1-inch NPT per ANSI B2.1 or ISO 7-1 R1
 Nominal K Factor: 5.6 (80 metric)
 Maximum Working Pressure: 175 psi (12 bar) – 100% factory hydrostatically tested to 500 psi (34.5 bar)
 Sprinkler Installation Wrench: Model FC wrench
 Sprinkler Identification Number (SIN): RA5114
 Materials: See Fig. 4

Temperature Rating

Classification	Sprinkler	Cover Plate	Max. Ambient Temp.
Ordinary	165°F (74°C)	135°F (57°C)	100°F (38°C)
Intermediate	212°F (100°C)	165°F (74°C)	150°F (66°C)

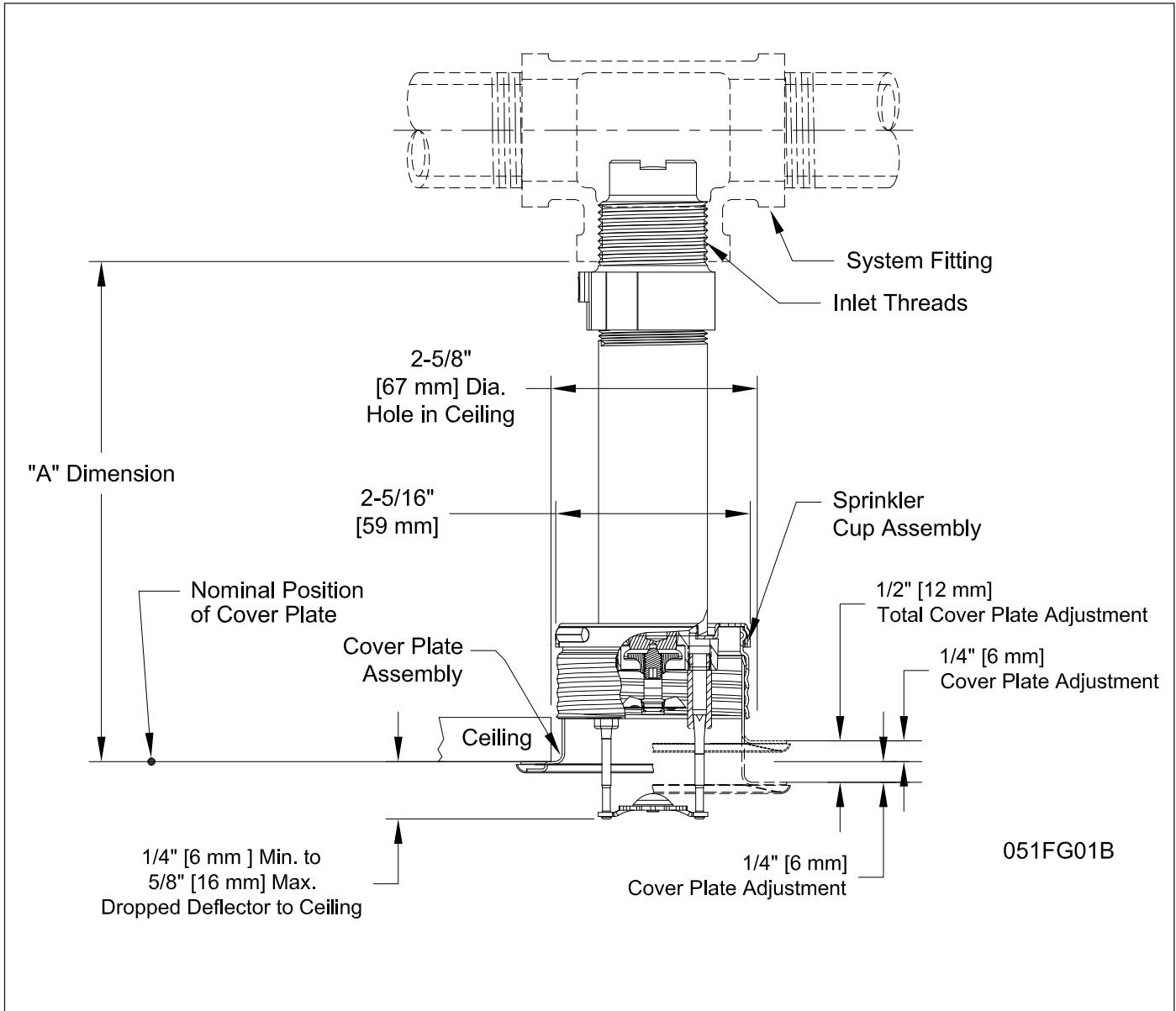


Fig. 1

Note: The “A” dimension is based on a nominally gauged pipe thread “make-up” of 0.600” (15mm) per ANSI B2.1 [7½ threads approximately].

“A” Dim.	4¼” to 48” (108mm to 1219mm) in ¼” (6.35mm) increments
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Cover Plate Finishes

Standard Finishes
White Paint
Chrome
Special Application Finishes
Off White Paint
Black Paint
Custom Color Paint – Specify ⁽¹⁾
Raw Brass (Lacquered)
Bright Brass
Finished Bronze
Satin Chrome
Stainless Steel Clad ⁽²⁾
Custom Printed

⁽¹⁾ Custom color paint is semi-gloss, unless specified otherwise.

⁽²⁾ Stainless steel clad cover plates are Type 316 Stainless Steel on the finished side and C102 Copper Alloy on the back side. Cover plates are not listed or approved as corrosion resistant. Stainless steel clad cover plates are not available perforated.



Model FC
Sprinkler Wrench

Optional Cover Plate with Gasket*



Model G4/G5
QR Gasket
Cover Plate
(cULus Listed)



Model G4/G5 SR Gasket
Cover Plate
(FM Approved)

* Model G4/G5 QR Gasket and Model G4/G5 SR Gasket cover plates are sold as assembled units including both the cover plate and gasket. Model G4 /G5 QR Gasket and Model G4 /G5 SR Gasket cover plates and gaskets are not interchangeable.

Installation Instructions

Model G5-56 Dry sprinklers must only be installed 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. DO NOT install dry sprinklers into elbows, couplings (including couplings on drops), welded outlets, mechanical tees, or gasket-sealed CPVC fittings. In all installations, including into CPVC piping, the dry sprinkler shall be installed with protrusion into the fitting in accordance with the installation diagrams in this Bulletin.

Installation of the Model G5-56 Dry sprinkler is not recommended in copper pipe systems, as this may reduce the life expectancy of the sprinkler. Do not install Model G5-56 Dry sprinklers with the standard (long) inlet fitting into CPVC adapter fittings or tees that have an internal obstruction (see Fig. 3); this will damage the sprinkler, the fitting, or both. A short inlet ("PL") version of the Model G5-56 Dry sprinkler is available for use in

existing installations with CPVC adapter fittings or tees having an internal obstruction; Model G5-56 sprinklers with the short inlet fitting shall not be used on dry-pipe sprinkler systems. The Model G5-56 Dry sprinkler and the cover plate assembly are not intended for installation in corrosive environments, including, but not limited to, those with salt aerosols or chlorine.

Model G5-56 Dry sprinklers must be installed with the Exposed Minimum Barrel Length required by Fig. 2 located in a Heated Area. Do NOT install the sprinkler in ceilings which have positive pressure in the space above.

The following steps must be followed for installation:

1. Cut a 2⁵/₈-inch (67mm) diameter hole in the ceiling directly in-line with the outlet of the tee.
2. Apply pipe joint compound or Polytetrafluoroethylene (PTFE) tape to the threads of the sprinkler's inlet fitting.
3. A protective cap is provided to protect the drop-down sprinkler deflector from damage which could occur during construction before the cover plate is installed. The cap is factory installed inside the sprinkler cup. Remove the cap to install sprinkler, Step 4, then reinstall cap until the cover plate is installed.
4. Install the sprinkler in the tee using the Model FC wrench. The Model FC wrench has a socket drive which is inserted into the sprinkler's cup and around the body of the sprinkler prior to installation of the sprinkler. Do NOT wrench any of the part of the sprinkler/cup assembly. The sprinkler is then tightened into the pipe fitting to achieve a leak free connection. The recommended minimum to maximum installation torque is 22-30 lb-ft (30 – 40 N-m). When inserting or removing the wrench from the sprinkler/cup assembly, care should be taken to prevent damage to the sprinkler. Reinstall the protective cap following installation of the sprinkler, until the cover plate is installed.
 - a. Alternatively, where access to the outer tube of the sprinkler is available, the Model G5-56 Dry sprinkler may be installed using a pipe wrench. The protective cap should not be removed to install the sprinkler with a pipe wrench. The pipe wrench shall only be permitted to interface with the steel outer tube portion of the sprinkler (Item #8 in Fig. 4). Do NOT wrench any other portion of the sprinkler/cup assembly. A pipe wrench can install the sprinkler into the fitting with a large amount of torque; consideration should be given to the need for future removal of the sprinklers because the installation torque will have to be matched or exceeded to remove the sprinkler. The recommended minimum to maximum installation torque is 22-30 lb-ft (30 – 40 N-m).
5. To install the cover plate, remove the protective cap and install the cover plate by hand turning the cover in the clockwise direction until it is tight against the ceiling. For Model G4 /G5 QR Gasket and Model G4 /G5 SR Gasket cover plates, the gasket should be attached to the flange of the cover plate skirt only. Do not glue the gasket in place or allow the gasket to overlap both the cover plate and the flange of the skirt.

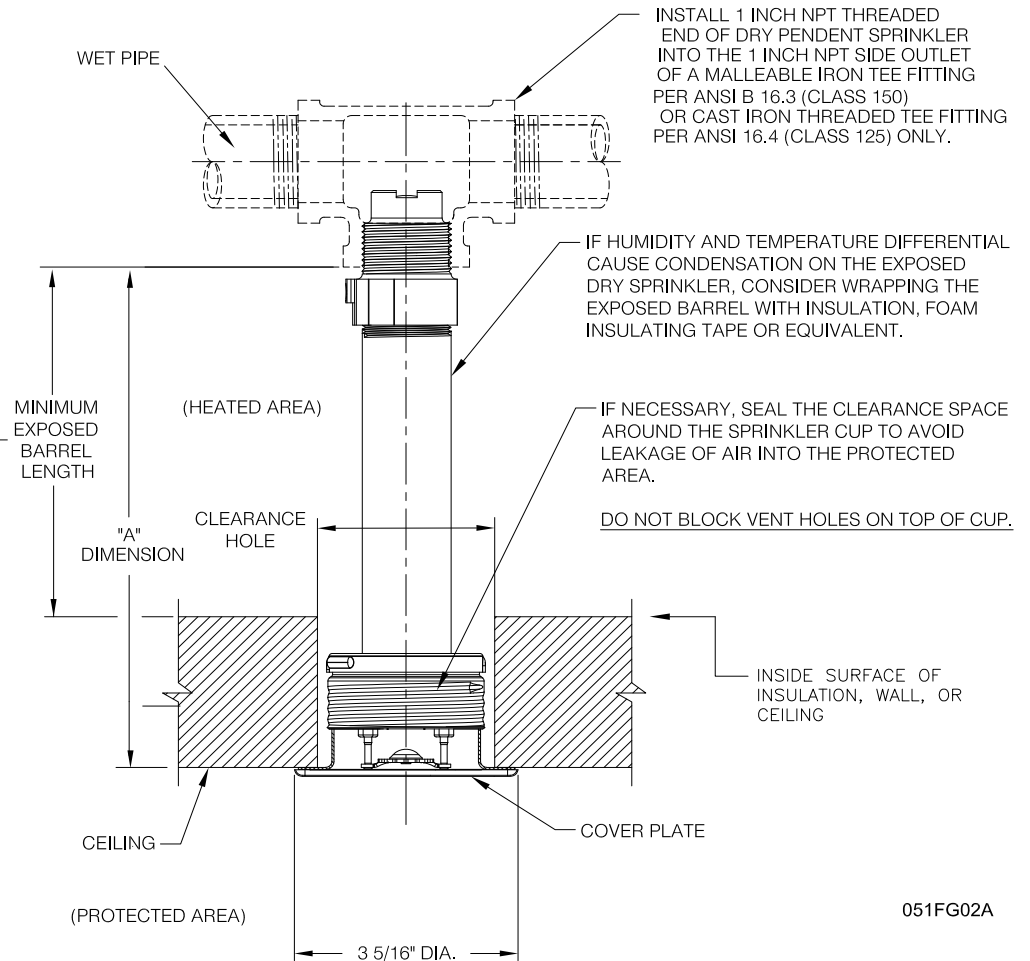
MINIMUM EXPOSED BARREL LENGTH WHEN CONNECTED TO WET PIPE SPRINKLER SYSTEM

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 TEE TO TOP OF CEILING)		
	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 (200)	1 (25)	0
0°F (-18°C)	12 (300)	3 (75)	0
-10°F (-23°C)	14 (350)	4 (100)	1 (25)
-20°F (-29°C)	14 (350)	6 (150)	3 (75)
-30°F (-34°C)	16 (400)	8 (200)	4 (100)
-40°F (-40°C)	18 (450)	8 (200)	4 (100)
-50°F (-46°C)	20 (500)	10 (250)	6 (150)
-60°F (-51°C)	20 (500)	10 (250)	6 (150)

* FOR AMBIENT TEMPERATURES EXPOSED TO THE DISCHARGE END OF THE SPRINKLER THAT OCCUR BETWEEN THE VALUES LISTED, USE THE NEXT COOLER TEMPERATURE.

** THE MINIMUM EXPOSED BARREL LENGTH IS NOT THE SAME AS THE "A" DIMENSION. THE MINIMUM EXPOSED BARREL LENGTH IS BASED ON A PROPERLY SEALED PENETRATION WITH A MAXIMUM WIND VELOCITY ON THE EXPOSED SPRINKLER OF 30 MPH (48 KM/H). LONGER EXPOSED BARREL LENGTHS WILL HELP AVOID FREEZING OF THE WET PIPING WHERE HIGHER WIND VELOCITY IS EXPECTED.

*** THE MINIMUM EXPOSED BARREL LENGTH IS MEASURED FROM THE FACE OF THE FITTING TO THE INSIDE FACE OF THE INSULATION, WALL, OR CEILING LEADING TO THE COLD SPACE, WHICHEVER IS CLOSEST TO THE FITTING.



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Fig. 2

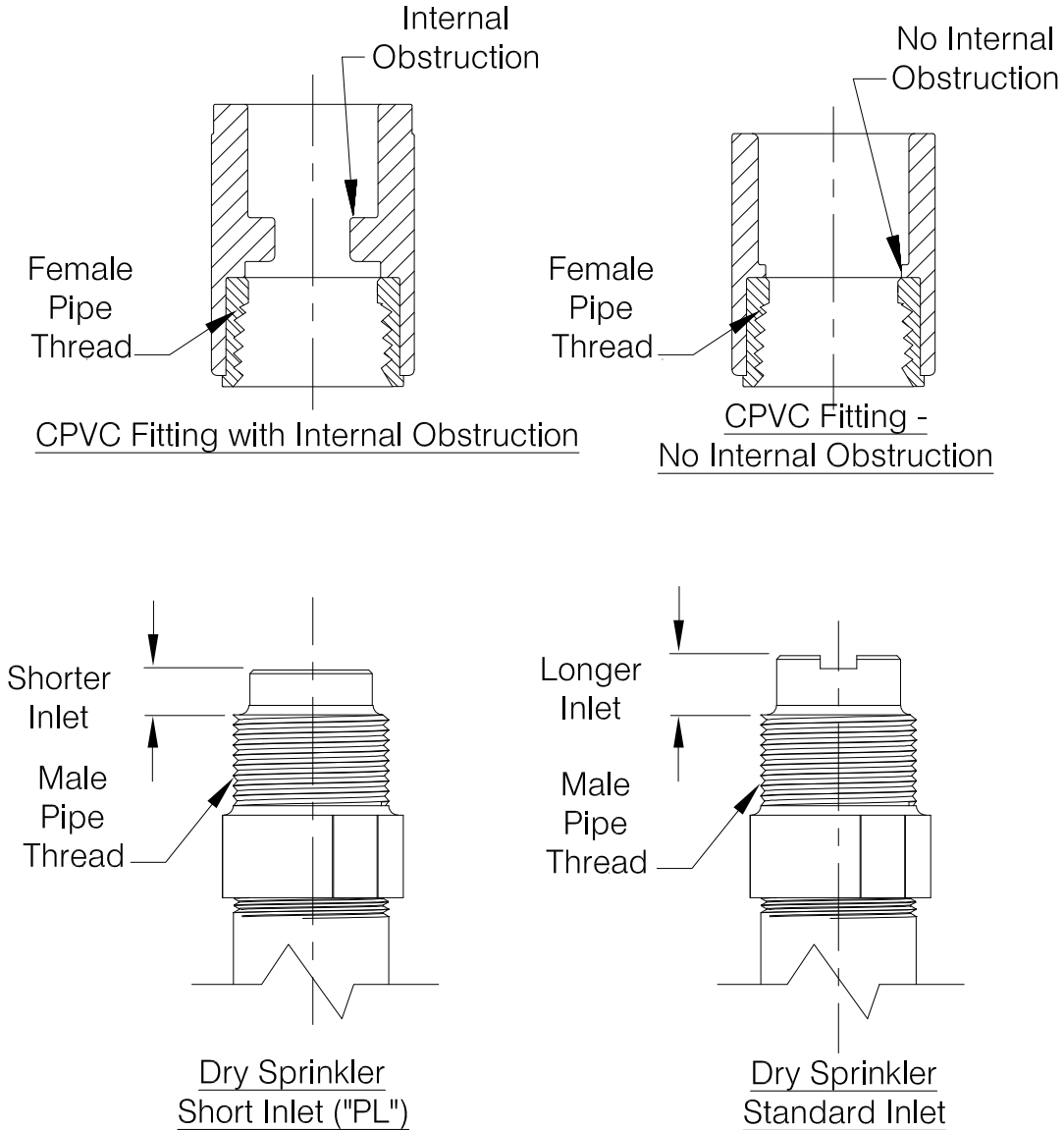
CAUTION

RELIABLE DRY SPRINKLERS 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.



BE SURE TO ORDER THE CORRECT SPRINKLERS FOR YOUR APPLICATION

COMDRYDET2

Fig. 3

Maintenance

The Model G5-56 Dry should be inspected and the sprinkler system maintained in accordance with NFPA 25. Do not clean sprinklers with soap and water, ammonia or any other cleaning fluids. Replace any sprinkler that has been painted (other than factory applied) or damaged in any way. Concealed sprinklers cover plates can not be painted in the field, after installation or have any other coating applied other than the factory finish. A stock of spare sprinklers should be maintained to allow quick replacement of damaged or operated sprinklers. Prior to installation, sprinkler should be maintained in the original cartons and packaging to minimize the potential for damage to sprinklers that would cause improper operation or non-operation.

Engineering Specification

Model G5-56 Dry Pendent Concealed Sprinkler

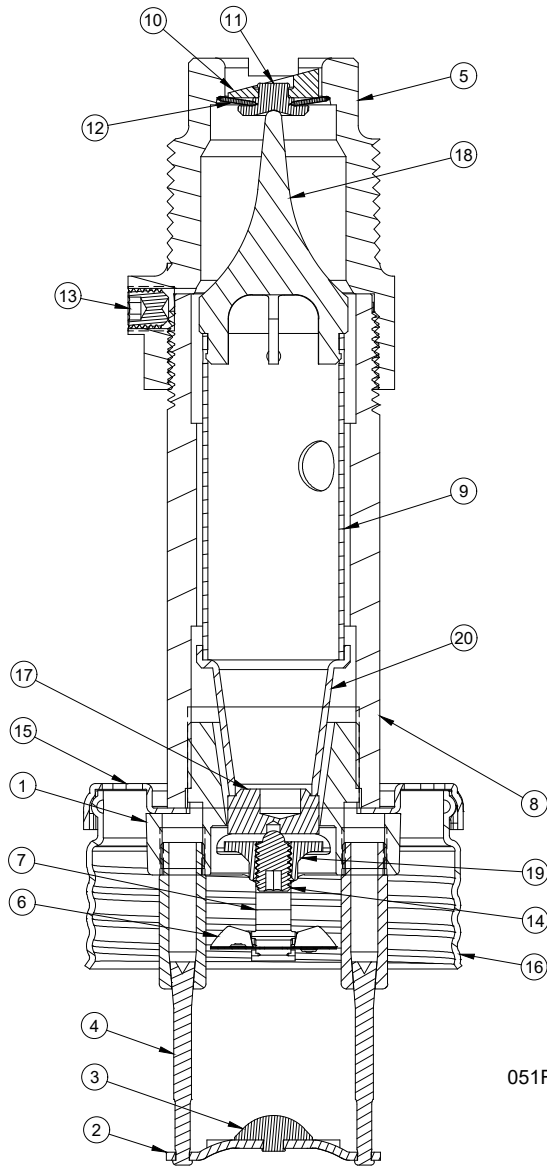
Dry pendent sprinklers shall be dry pendent concealed sprinklers with a flat cover plate. Sprinklers shall be cULus Listed as Quick Response for Light and Ordinary Hazard applications as well as FM Approved as Standard Response. Sprinklers shall be available in lengths from 4¼ inches (108mm) to 48 inches (1219mm) in ¼-inch (6.35mm) increments based on face of fitting to finished ceiling distance. Sprinkler length shall be selected to provide the Exposed Minimum Barrel Length based on the minimum design temperature in the protected area and the minimum temperature in the conditioned space where the barrel is located in accordance with the Manufacturer's written installation instructions. Sprinklers shall have [1-inch NPT][ISO 7-1 R1] threaded inlet fittings with [standard length inlets designed for use with wet- or dry-pipe sprinkler systems][short length inlets designed for use with wet-pipe sprinkler systems having pipe fittings with internal obstructions that prevent the insertion of standard length inlets]. Sprinklers shall have a PTFE coated beryllium nickel Belleville spring washer inlet seal and brass alloy cap that prevent water entry from the sprinkler system piping into the sprinkler prior to actuation. Sprinklers shall have a fast-response fusible link that controls the movement of the inlet seal and cap through a mechanism consisting of link arms, a seat adapter, an orifice adapter, an inner tube, and a yoke. Sprinklers shall use a drop down deflector supported by tapered pins. Sprinklers shall have a galvanized steel cup for threaded attachment of the flat cover plate assembly. Cover plate attachment shall provide up to ½-inch (13mm) of adjustment. Sprinklers shall be [Ordinary temperature classification, 165°F (74°C), with 135°F temperature rated cover plates][Intermediate temperature classification, 212°F, with 165°F temperature rated cover plates]. Cover plates shall be [solid][perforated] with factory applied [White][Chrome][Special Application – Specify] finish. Dry pendent concealed sprinklers shall be Reliable Model G5-56 Dry (SIN RA5114).

Ordering Information

Specify:

1. Sprinkler: Model G5-56 Dry
2. Threads: [1-inch NPT - standard][ISO 7/1 R1 - optional]
3. Inlet Length: [Standard][Short ("PL")– for existing wet-pipe installations only]
4. Cover Plate Finish: [White][Chrome][Special Application – Specify]
5. Sprinkler/Cover Plate Temperature Rating: [Ordinary – 165°F sprinkler with 135°F cover plate][Intermediate – 212°F sprinkler with 165°F cover plate]
6. Nominal Sprinkler Length (face of fitting to face of ceiling - "A" Dimension from Fig. 1): [Specify length – Lengths available from 4¼ inches to 48 inches (108mm to 1219mm) in ¼-inch (6.35mm) increments]

MATERIAL SPECIFICATIONS



ITEM #	DESCRIPTION	MATERIAL
1	BODY, MACH.	DZR BRASS
2	DEFLECTOR	COPPER ALLOY
3	DEFL. SPLITTER	BRASS ALLOY
4	DEFL. PIN	STAINLESS STEEL
5	MEGA-INLET	DZR BRASS
6	LINK ASSY.	NICKEL/BERYLLIUM NICKEL
7	LEVER	COPPER ALLOY
8	OUTER TUBE	GALVANIZED STEEL
9	INNER TUBE	BRASS ALLOY
10	FLIP DISK	BRASS ALLOY
11	CAP	BRASS ALLOY
12	WASHER	PTFE COATED BERYLLIUM NICKEL
13	SET SCREW	STAINLESS OR ALLOY STEEL
14	LOAD SCREW	STAINLESS STEEL
15	BOTTOM CUP	GALVANIZED STEEL
16	TOP CUP	GALVANIZED STEEL
17	ADJ. SEAT ADAPTER	BRASS ALLOY
18	YOKE	BRASS ALLOY
19	CLOSURE YOKE	BRASS ALLOY
20	ORIFICE ADAPTER	BRASS ALLOY

8 (PIPE WRENCH MAY ONLY BE USED ON OUTER STEEL PIPE OF SPRINKLER)

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Fig. 4

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.

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Manufactured by



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