

Reliable®

Model F1S5 Series Special Response Standard Spray Sprinklers

Features

- Special response listing
- Compact design

Product Description

The F1S5 Series Glass Bulb Sprinkler combines the durability of a standard sprinkler with the attractive low profile of a decorative sprinkler. Whether installed on exposed piping or in an office ceiling, it is functional and attractive.

Beautifully versatile is the description for the Reliable Model F1S5 Series Recessed glass bulb sprinkler. Recessing the F1S5 Series enhances its already low profile decorative appearance, and facilitates a rapid and perfect installation. Model F1S5 Series Recessed escutcheon is highly adjustable. The two piece construction makes field installation a very easy and rapid task. This also allows ceiling panels to later be removed without shutting down the fire protection system, thus facilitating maintenance of above ceiling services.

The F1S5 Series Automatic Sprinkler utilizes a special response 5.0 mm frangible glass bulb. The glass bulb consists of an accurately controlled amount of special fluid hermetically sealed inside of a precisely manufactured glass capsule. This glass bulb is specially constructed to provide fast thermal response.

At normal temperatures, the glass bulb contains the fluid in both the liquid phase and in the vapor phase. The vapor phase can be seen as a small bubble. As heat is applied, the liquid expands forcing the bubble smaller and smaller as the liquid pressure increases. Continued heating forces the liquid to push out against the bulb, causing the glass to shatter, opening the waterway and allowing the deflector to distribute the discharging water. The F1S5 Series Sprinkler temperature rating is identified by the color of the glass bulb capsule.

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.



F1S5 Upright



F1S5 LO Upright



F1S5 Conventional



F1S5 LO Pendent

Note: Not all verions shown.

Application

Model F1S5 Series sprinklers are used in wet, dry, deluge, and preaction fixed fire protection systems. Care must exercised that the orifice size, temperature rating, deflector style, and sprinkler type are in accordance with the latest published standards of the National Fire Protection Association and/or other approving Authority Having Jurisdiction.

Model F1S5-FS Series Sprinkler Summary

Table A

Style	K-Factor gpm/psi ^{1/2} (L/min/bar ^{1/2})	Orientation	Temperature Ratings °F (°C)	Max. Working Pressure psi (bar)	Listings & Approvals
F1S5	4.0 (57)	Pendent	135 (57) 155 (68) 175 (79) 200 (93) 286 (141)	175 (12.1)	VdS
		Upright			
	5.6 (80)	Pendent			
		Conventional			
F1S5-LO	8.0 (115)	Upright			
		Pendent			
		Conventional			

Model F1S5-40 Pendent Sprinkler

Technical Specifications

Style: Pendent
Threads: 1/2" NPT or ISO 7-1R1/2
Nominal K-Factor: 4.0 (57 metric)
Max. Working Pressure: 175 psi (12.1 bar)

Material Specifications

Thermal Sensor: 5mm Glass Bulb
Sprinkler Frame: Brass Alloy
Button/Cup: Brass Alloy
Sealing Assembly: Brass with PTFE
Load Screw: Bronze
Deflector: Bronze Alloy

Sprinkler Finishes

See Table B

Sensitivity

Special Response

Temperature Ratings

135°F (57°C)
 155°F (68°C)
 175°F (79°C)
 200°F (93°C)
 286°F (141°C)

Listings and Approvals

VdS (0786-CPR-40307)

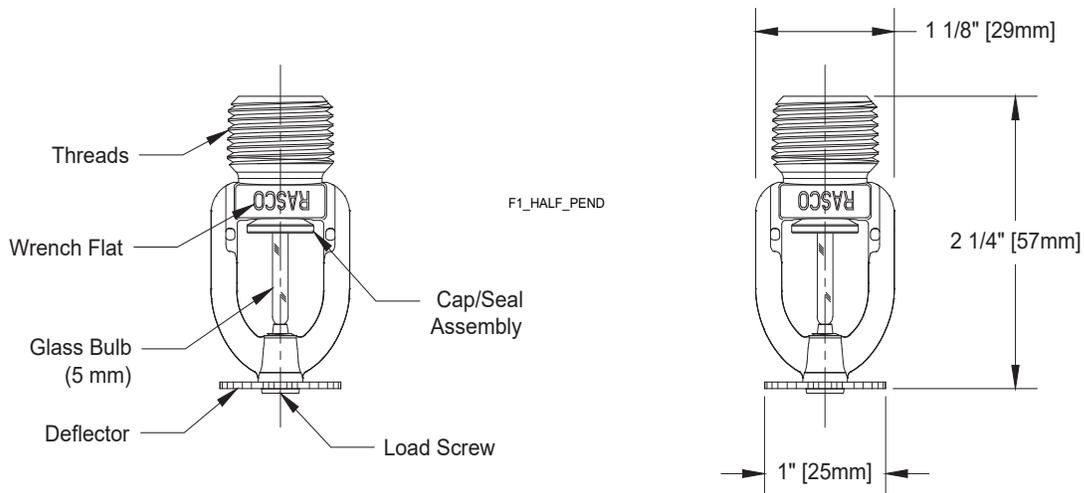
Wrench

W2



Model F1S5-40 Pendent Components and Dimensions

Figure 1



Model F1S5-56 Upright Sprinkler

Technical Specifications

Style: Upright

Threads: 1/2" NPT or ISO 7-1R1/2

Nominal K-Factor: 5.6 (50 metric)

Max. Working Pressure: 175 psi (12.1 bar)

Material Specifications

Thermal Sensor: 5mm Glass Bulb

Sprinkler Frame: Brass Alloy

Button/Cup: Brass Alloy

Sealing Assembly: Brass with PTFE

Load Screw: Bronze

Deflector: Bronze Alloy

Sprinkler Finishes

See Table B

Sensitivity

Special Response

Temperature Ratings

135°F (57°C)

155°F (68°C)

175°F (79°C)

200°F (93°C)

286°F (141°C)

Listings and Approvals

VdS (0786-CPR-40143)

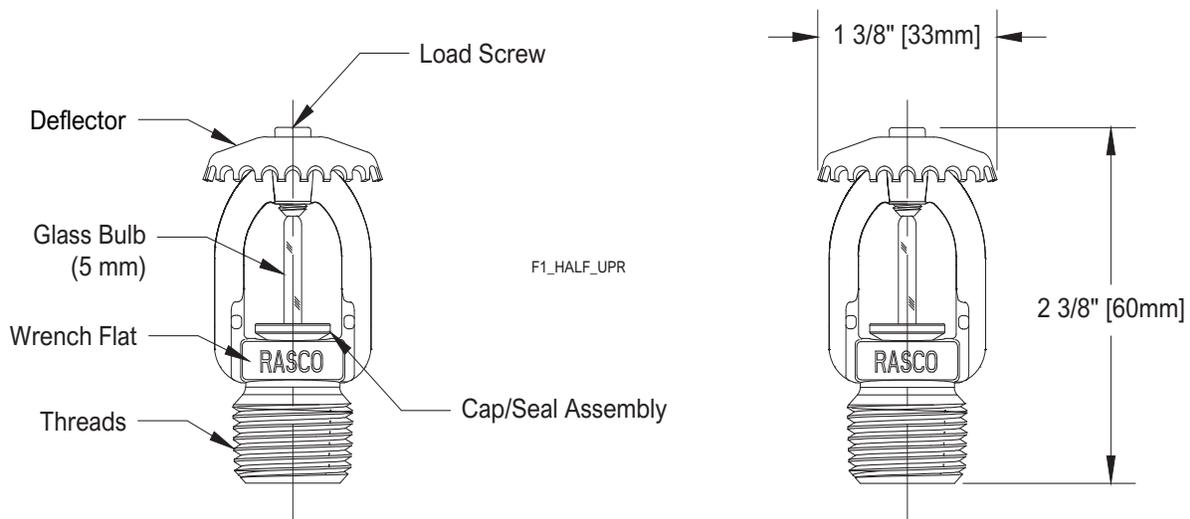
Wrench

W2



Model F1S5-56 Upright Components and Dimensions

Figure 2



Model F1S5-56 Pendent Sprinkler

Technical Specifications

Style: Pendent
Threads: 1/2" NPT or ISO 7-1R1/2
Nominal K-Factor: 5.6 (80 metric)
Max. Working Pressure: 175 psi (12.1 bar)

Material Specifications

Thermal Sensor: 5mm Glass Bulb
Sprinkler Frame: Brass Alloy
Button/Cup: Brass Alloy
Sealing Assembly: Brass with PTFE
Load Screw: Bronze
Deflector: Bronze Alloy

Sprinkler Finishes

See Table B

Sensitivity

Special Response

Temperature Ratings

135°F (57°C)
 155°F (68°C)
 175°F (79°C)
 200°F (93°C)
 286°F (141°C)

Recessed Escutcheons

F1
 F2
 FP

Listings and Approvals

VdS (0786-CPR-40238)
 VdS (0786-CPR-40240)

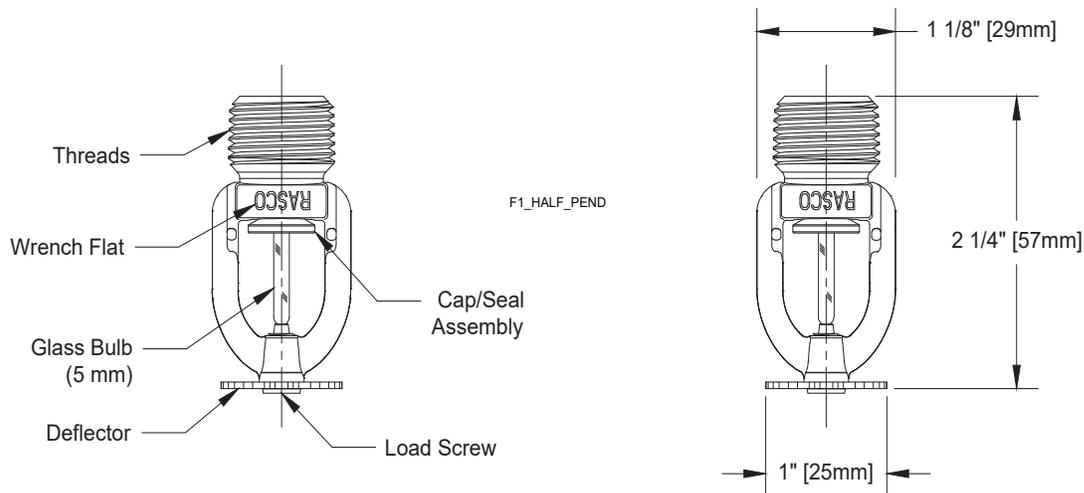
Wrenches

W2 (pendent)
 W1 (recessed)



Model F1S5-56 Pendent Components and Dimensions

Figure 3



Model F1S5-56 Conventional Sprinkler

Technical Specifications

Style: Conventional
Threads: 1/2" NPT or ISO 7-1R1/2
Nominal K-Factor: 5.6 (80 metric)
Max. Working Pressure: 175 psi (12.1 bar)

Material Specifications

Thermal Sensor: 5mm Glass Bulb
Sprinkler Frame: Brass Alloy
Button/Cup: Brass Alloy
Sealing Assembly: Brass with PTFE
Load Screw: Bronze
Deflector: Bronze Alloy

Sprinkler Finishes

See Table B

Sensitivity

Special Response

Temperature Ratings

135°F (57°C)
 155°F (68°C)
 175°F (79°C)
 200°F (93°C)
 286°F (141°C)

Listings and Approvals

VdS (0786-CPR-40147)

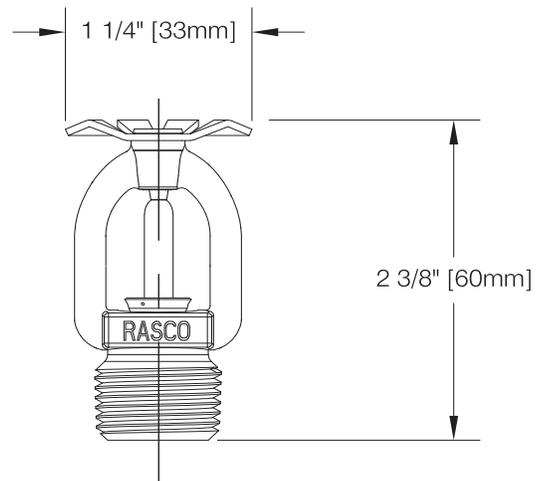
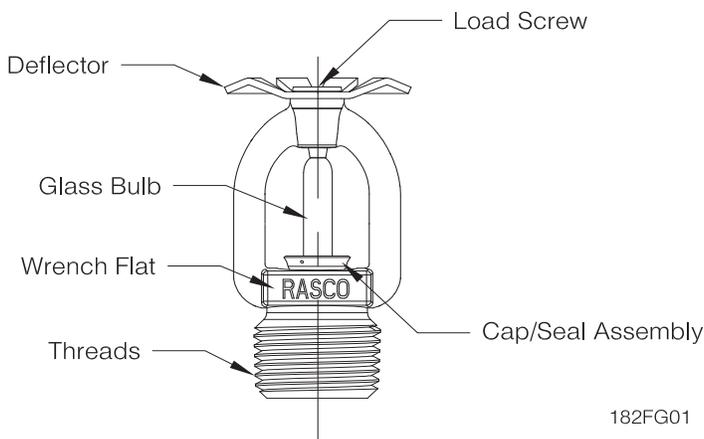
Wrench

W2



Model F1S5-56 Conventional Components and Dimensions

Figure 4



Model F1S5-LO Upright Sprinkler

Technical Specifications

Style: Upright
Threads: 3/4" NPT or ISO 7-1R3/4
Nominal K-Factor: 8.0 (115)
Max. Working Pressure: 175 psi (12.1 bar)

Material Specifications

Thermal Sensor: 5mm Glass Bulb
Sprinkler Frame: Brass Alloy
Button/Cup: Brass Alloy
Sealing Assembly: Brass with PTFE
Load Screw: Bronze
Deflector: Bronze Alloy

Sprinkler Finishes
 See Table B

Sensitivity

Special Response

Temperature Ratings

135°F (57°C)
 155°F (68°C)
 175°F (79°C)
 200°F (93°C)
 286°F (141°C)

Listings and Approvals

VdS (0786-CPR-40145)

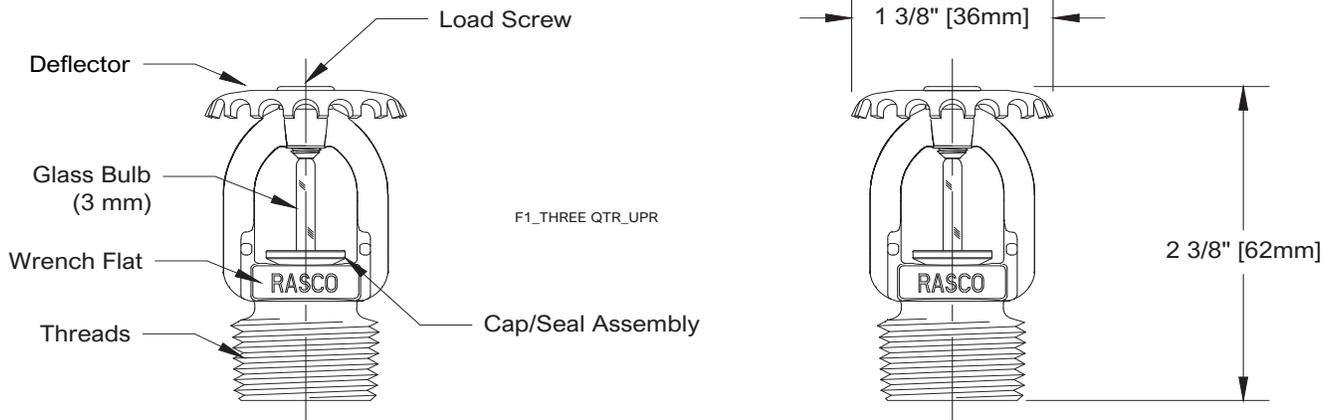
Wrench

W2



Model F1S5-LO Upright Components and Dimensions

Figure 5



Model F1S5-LO Upright Sprinkler

Technical Specifications

Style: Pendent
Threads: 1/2" NPT or ISO 7-1R1/2
Nominal K-Factor: 8.0 (115 metric)
Max. Working Pressure: 175 psi (12.1 bar)

Material Specifications

Thermal Sensor: 5mm Glass Bulb
Sprinkler Frame: Brass Alloy
Button/Cup: Brass Alloy
Sealing Assembly: Brass with PTFE
Load Screw: Bronze
Deflector: Bronze Alloy

Sprinkler Finishes

See Table B

Sensitivity

Special Response

Temperature Ratings

135°F (57°C)
 155°F (68°C)
 175°F (79°C)
 200°F (93°C)
 286°F (141°C)

Listings and Approvals

VdS (0786-CPR-40281)

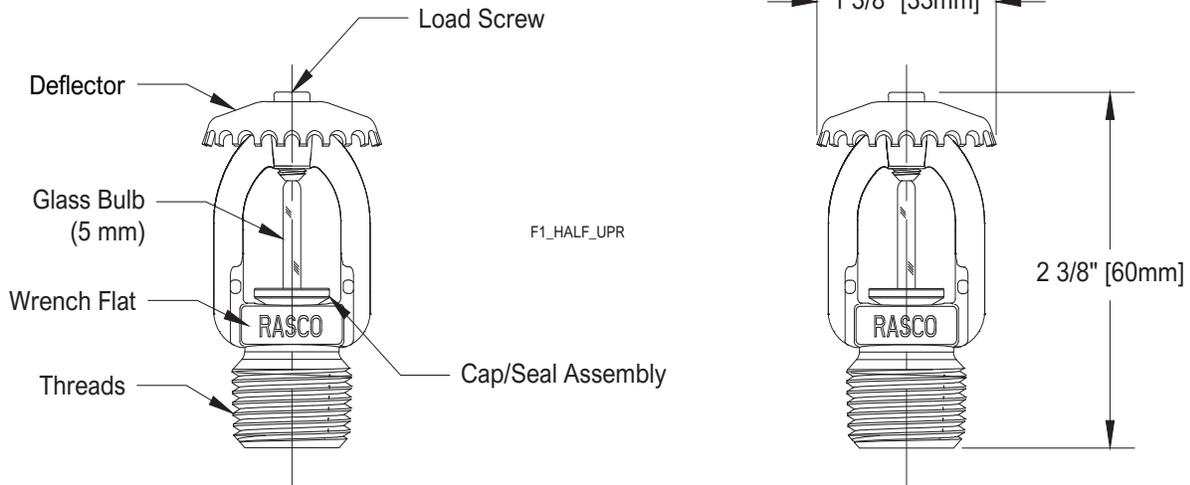
Wrench

W2



Model F1S5-LO Upright Components and Dimensions

Figure 6



Model F1S5-LO Pendent Sprinkler

Technical Specifications

Style: Conventional
Threads: 3/4" NPT or ISO 7-1R3/4
Nominal K-Factor: 8.0 (115 metric)
Max. Working Pressure: 175 psi (12.1 bar)

Material Specifications

Thermal Sensor: 5mm Glass Bulb
Sprinkler Frame: Brass Alloy
Button/Cup: Brass Alloy
Sealing Assembly: Brass with PTFE
Load Screw: Bronze
Deflector: Bronze Alloy

Sprinkler Finishes

See Table B

Sensitivity

Special Response

Temperature Ratings

135°F (57°C)
 155°F (68°C)
 175°F (79°C)
 200°F (93°C)
 286°F (141°C)

Listings and Approvals

VdS (0786-CPR-40146)

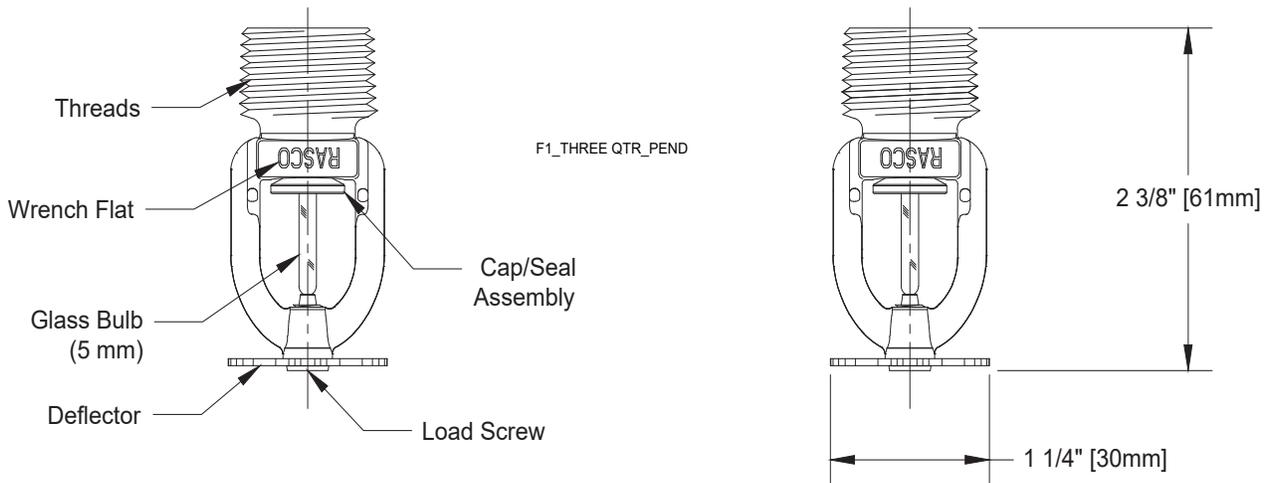
Wrench

W2



Model F1S5-LO Pendent Components and Dimensions

Figure 7



Model F1S5-LO Pendent Sprinkler

Technical Specifications

Style: Conventional
Threads: 1/2" NPT or ISO 7-1R1/2
Nominal K-Factor: 8.0 (115 metric)
Orifice: Nominal 1/2" (15mm)
Max. Working Pressure: 175 psi (12.1 bar)

Material Specifications

Thermal Sensor: 5mm Glass Bulb
Sprinkler Frame: Brass Alloy
Button/Cup: Brass Alloy
Sealing Assembly: Brass with PTFE
Load Screw: Bronze
Deflector: Bronze Alloy

Sprinkler Finishes

See Table B

Sensitivity

Special Response

Temperature Ratings

135°F (57°C)
 155°F (68°C)
 175°F (79°C)
 200°F (93°C)
 286°F (141°C)

Listings and Approvals

VdS (0786-CPR-40280)

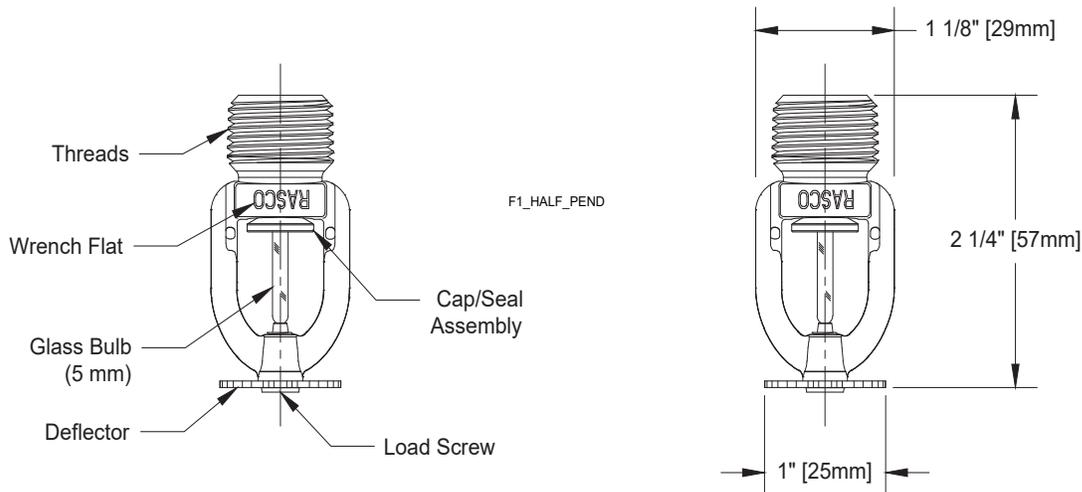
Wrench

W2



Model F1S5-LO Pendent Components and Dimensions

Figure 8



Model F1S5-LO Conventional Sprinkler

Technical Specifications

Style: Conventional
Threads: 3/4" NPT or ISO 7-1R3/4
Nominal K-Factor: 8.0 (115 metric)
Max. Working Pressure: 175 psi (12.1 bar)

Material Specifications

Thermal Sensor: 5mm Glass Bulb
Sprinkler Frame: Brass Alloy
Button/Cup: Brass Alloy
Sealing Assembly: Brass with PTFE
Load Screw: Bronze
Deflector: Bronze Alloy

Sprinkler Finishes

See Table B

Sensitivity

Special Response

Temperature Ratings

135°F (57°C)
 155°F (68°C)
 175°F (79°C)
 200°F (93°C)
 286°F (141°C)

Listings and Approvals

VdS (0786-CPR-40148)

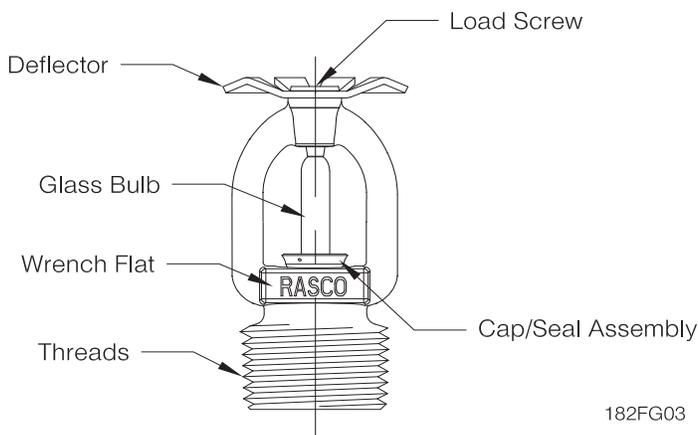
Wrench

W2

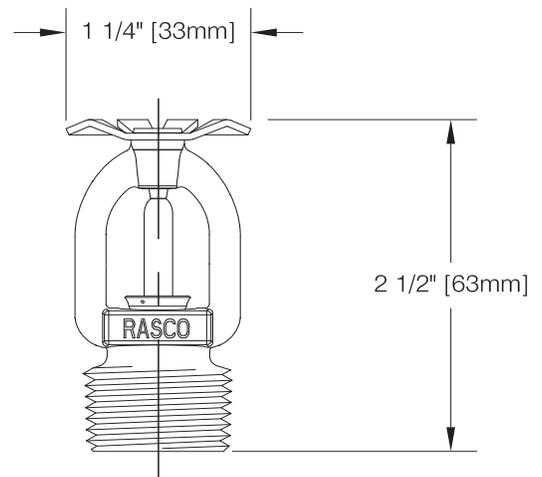


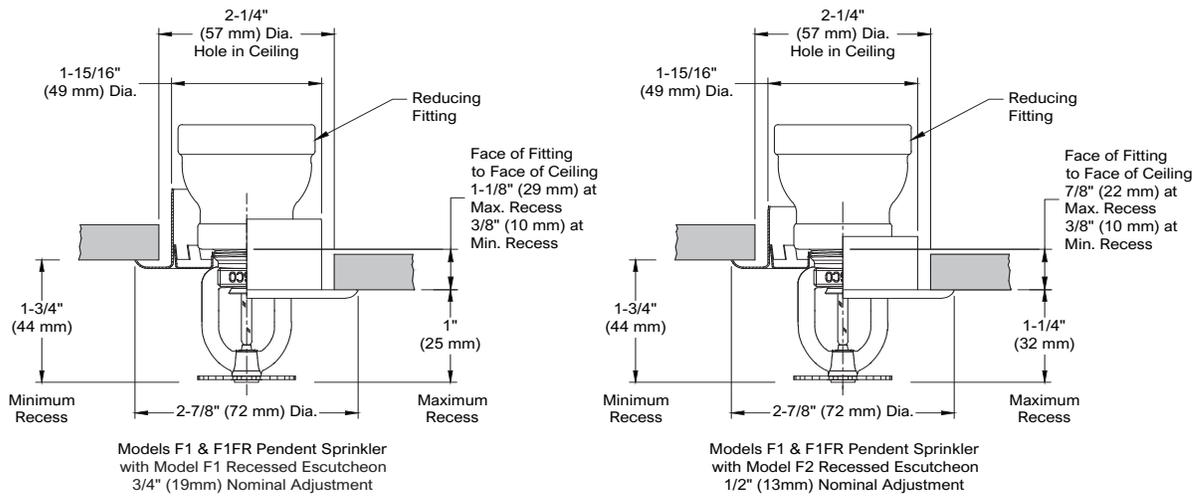
Model F1S5-LO Conventional Components and Dimensions

Figure 9

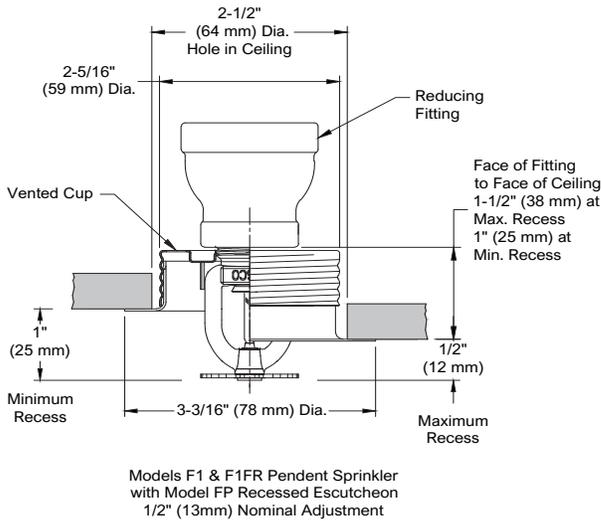


182FG03





F1_REC_PEND



Note: Model FP recessed assemblies may not be used where the pressure in the space above the ceiling is positive with respect to the protected area. Ensure that the openings in the Model FP cup are unobstructed following installation.



Installation

Model F1S5 Series sprinklers are special response sprinklers intended for installation as specified in NFPA 13 and any other applicable codes and standards. They must also be installed with the Model W2 Sprinkler Wrench specifically designed by Reliable for use with these sprinklers.

Model F1S5-56 Recessed Sprinklers are to be installed with a maximum recess of 3/4 inch (19mm). The Model F1, F2 & FP Escutcheons illustrated are the only recessed escutcheon to be used with Model F1S5-56 Pendent Sprinklers. The use of any other recessed escutcheon will void all approvals and negate all warranties. When installing F1S5-56 Recessed Pendent sprinklers, use the Model W1 Sprinkler Wrench. Any other type of wrench may damage these sprinklers.

Note: A leak tight sprinkler joint can be obtained with a torque of 8-18 ft-lbs (10,8 - 24,4 N-m). Do not tighten sprinklers over maximum recommended torque. It may cause leakage or impairment of the sprinklers.

Glass bulb sprinklers have orange covers to protect the bulb during the installation process. REMOVE THIS PROTECTION ONLY AFTER THE SYSTEM HAS BEEN HYDROSTATICALLY TESTED AND, WHEN APPLICABLE, THE ESCUTCHEONS HAVE BEEN INSTALLED. RASCO wrenches are designed to install sprinklers when covers are in place.

Maintenance

The Model F1S5 Series Sprinklers should be inspected quarterly and the sprinkler system maintained in accordance with NFPA 25. Do not clean sprinklers with soap and water, ammonia or any other cleaning fluid. 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 the original cartons and packaging until used to minimize the potential for damage to sprinklers that would cause improper operation or non-operation.

Wrenches

Figure 11



Sprinkler and Escutcheon Finishes⁽¹⁾

Table B

Standard Finishes		Special Application Finishes	
Sprinkler	F1, F2 and FP ⁽²⁾ Escutcheons	Sprinkler	F1, F2 and FP ⁽²⁾ Escutcheons
Bronze (Unfinished)	Brass	Bright Brass ⁽³⁾	Bright Brass
Chrome	Chrome	Satin Chrome	Satin Chrome
White Polyester	White Polyester	Custom Color Polyester	Custom Color Polyester
		Lead Plated	
		Wax Coated ⁽⁴⁾	
		Wax Over Lead ⁽⁴⁾	

Notes:

1. Paint or any other coating applied over the factory finish will void all approvals and warranties.
2. Model FP escutcheons utilize a galvanized steel cup with a finished trim ring.
3. For 200°F (93°C) maximum temperature rated sprinklers only.
4. Clear wax used on ordinary temperature rated sprinklers; brown wax used on intermediate temperature rated sprinklers. Brown wax may be used on high temperature rated sprinklers where the ambient temperature does not exceed 150°F (66°C).

Guarantee

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

Ordering Information

Specify:

Sprinkler

- Model F1S5-40 Pendent Sprinkler
- Model F1S5-56 Upright Sprinkler
- Model F1S5-56 Pendent Sprinkler
- Model F1S5-56 Conventional Sprinkler
- Model F1S5-LO Upright Sprinkler, 3/4" Threads
- Model F1S5-LO Upright Sprinkler, 1/2" Threads
- Model F1S5-LO Pendent Sprinkler, 3/4" Threads
- Model F1S5-LO Pendent Sprinkler, 1/2" Threads
- Model F1S5-LO Conventional

Temperature Rating

- 135°F (57°C)
- 155°F (68°C)
- 175°F (79°C)
- 200°F (93°C)
- 286°F (141°C)

End Connection

- [NPT] [ISO 7-1]

Finish

- See Table B