

Reliable®

F1FR56 Series Quick Response Sprinklers

K-factor 5.6 (80)

Features

- Standard coverage quick-response sprinklers
- Upright, pendent, horizontal sidewall, and vertical sidewall deflectors
- Low profile, compact design
- Available in a wide variety of finishes

Product Description

Reliable Model F1FR56 series sprinklers are quick-response standard spray automatic fire sprinklers utilizing a sensitive 3.0 mm glass bulb thermal element.

Pendent and horizontal sidewall sprinklers may be installed exposed or surface mounted using escutcheons such as the Reliable Models B, C, or HB (reference Technical Bulletin 204). When installed recessed or concealed, the Model F1FR56 series sprinklers are specifically listed with and may only be installed with listed Reliable escutcheons and cover plates. Refer to the technical information on the following pages for specific listings for recessed and concealed installations and refer to Figures 5 and 6 for dimensional information.

When fitted with an approved water shield, these sprinklers may be considered intermediate sprinklers for use in racks, below grated walkways, and other areas where intermediate level sprinklers are required.

Table A provides a summary of the approvals and availability of specific Model F1FR series sprinkler configurations. Additional technical information for each sprinkler model is provided on the following pages.



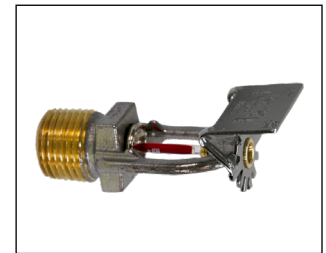
Model F1FR56 Pendent



Model F1FR56 Upright



Model F1FR56 Vertical Sidewall

Model F1FR56
Horizontal Sidewall

Note: Not all versions of the product are shown.

Note: This bulletin may contain information on New and Legacy sprinklers that reflects a dimensional change only. Sprinkler Identification Number (SIN), application, performance, and listings/approval are not otherwise affected. Sprinklers with New frames will include the suffix "N" in the order.

F1FR Series Sprinkler Summary

Table A

| Sprinkler Model | K-Factor gpm/psi ^{1/2} (lpm/bar ^{1/2}) | Orientation | Listings & Approvals | Max. Working Pressure psi (bar) | Sprinkler Identification Number (SIN) |
|-----------------|--|---------------------------------|---------------------------------------|------------------------------------|---------------------------------------|
| F1FR56 | 5.6 (80) | Upright Intermediate Upright | cULus, FM, LPCB, VdS, EC, WM, UKCA | 175 (12) 250 (17) (cULus only) | RA1425 |
| | | Pendent | cULus, FM, LPCB, VdS, EC, WM, UKCA | 175 (12) 250 (17) (cULus only) | RA1414 |
| | | Concealed Pendent | cULus, VdS, EC, WM, UKCA | 175 (12) 250 (17) (cULus only) | RA1414 |
| | | Horizontal Sidewall | cULus, FM | 175 (12) | RA1435 |
| | | Vertical Sidewall | cULus, FM, LPCB, UKCA | 175 (12) | RA1485 |

Technical Specifications

Style: Upright, Intermediate Upright
Threads: 1/2" NPT or ISO 7-R1/2
Nominal K-Factor: 5.6 (80 metric)
Max. Working Pressure:
 175 psi (12 bar)
 250 psi (17 bar) (cULus only)

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)
 175°F (79°C)
 200°F (93°C)
 286°F (141°C)

Guards & Shields (New Frames)

Factory Water Shield (cULus, FM)
 F-1 Guard (cULus, FM)
 F-3 Guard with Shield (cULus, FM)

Guards and Shields (Legacy Frames)

Factory Water Shield
 C-1 Guard (FM)
 C-3 Guard with Shield (cULus, FM)
 D-1 Guard (cULus)
 D-3 Guard with Shield (cULus)

Sprinkler Wrench

Model W2
 Model W14 (New frame with guard installed)
 Model W13 (Legacy frame with guard installed)

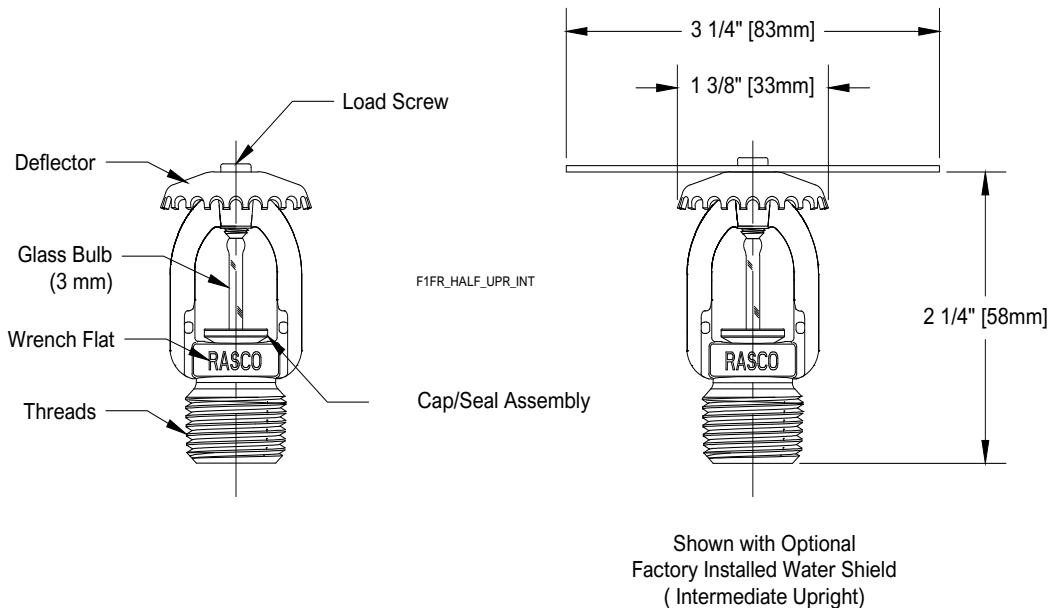
Listings and Approvals

cULus Listed
 FM Approved
 LPCB
 VdS
 EC
 WM
 UKCA: 0832-UKCA-CPR-S5045



Model F1FR56 Upright Sprinkler Components and Dimensions

Figure 1



Technical Specifications

Style:

- Pendent
- Recessed Pendent
- Concealed Pendent

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

Nominal K-Factor: 5.6 (80 metric)

Max. Working Pressure:

- 175 psi (12 bar)
- 250 psi (17 bar) (cULus only)

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⁽¹⁾

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

Recessed Escutcheons

- Model F1 (cULus, LPCB, VdS, CE, WM)
- Model F2 (cULus, FM, LPCB, VdS, CE, WM)
- Model FP (cULus, VdS, CE, WM)

Cover Plate

Model CCP (cULus, VdS⁽²⁾, CE⁽²⁾)

Guards & Shields (New Frames)⁽³⁾

- F-1 Guard (FM)
- F-5 Guard/Shield Kit (FM)
- F-7 Guard (cULus)
- F-8 Guard/Shield Kit (cULus)
- S-1 Shield (cULus, FM)

Guards & Shields (Legacy Frames)⁽³⁾

- C-1 Guard (FM)
- C-5 Guard/Shield Kit (FM)
- D-1 Guard (cULus, FM)
- D-4 Guard/Shield Kit (FM)
- D-5 Guard/Shield Kit (cULus, FM)
- S-1 Shield (cULus, FM)

Sprinkler Wrenches

- Model W2 (pendent)
- Model W4 (recessed or concealed)
- Model W14 (New frame with guard installed)
- Model W13 (Legacy frame with guard installed)

Listings and Approvals⁽⁴⁾

- cULus Listed
- FM Approved
- LPCB
- VdS
- EC
- WM
- UKCA: 0832-UKCA-CPR-S5045, 0831-UK-CA-CPR-5072 (CCP)

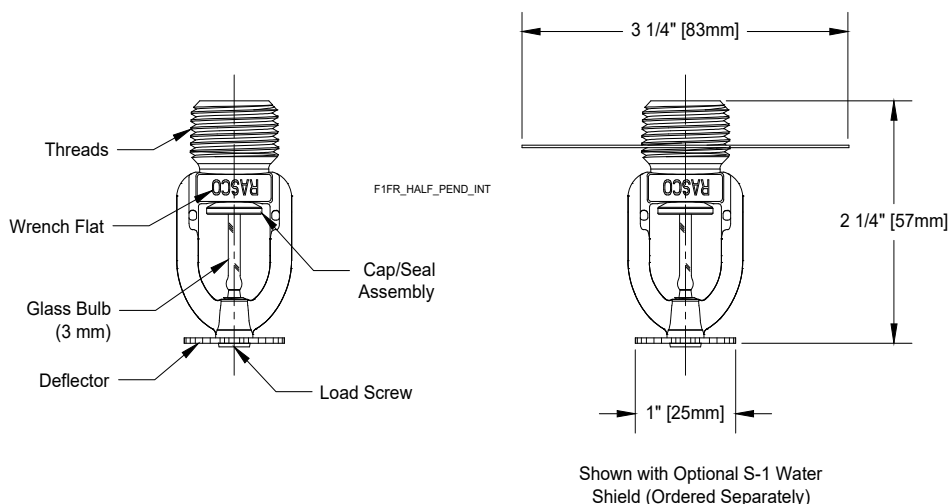


Notes:

1. 286°F (141°C) temperature rated sprinkler not listed for recessed or concealed use.
2. VdS and CE approval for CCP concealed use is for 155°C (68°C) sprinkler ONLY.
3. Not suitable for recessed or concealed pendent installations.
4. When used surface mounted or exposed. See Recessed Escutcheon and Cover Plate section for specific approvals when installed recessed or concealed.

Model F1FR56 Pendent Sprinkler Components and Dimensions

Figure 2



Note: Please refer to Figure 8 for recessed and concealed installation.

Technical Specifications

Style:

Horizontal Sidewall
Recessed Horizontal Sidewall

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

Nominal K-Factor: 5.6 (80 metric)

Max. Working Pressure:

175 psi (12 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 ⁽¹⁾

135°F (57°C)

155°F (68°C)

175°F (79°C)

200°F (93°C)

286°F (141°C)

Recessed Escutcheons⁽²⁾

Model F1 (cULus)

Model F2 (cULus, FM)

Model FP (cULus)

Guards & Shields (New Frames)⁽³⁾

F-4 Guard (FM)

F-7 Guard (cULus)

Guards & Shields (Legacy Frames)⁽³⁾

C1 Guard (FM)

D1 Guard (cULus)

Sprinkler Wrenches

Model W2 (non-recessed)

Model W4 (recessed)

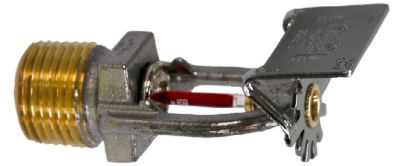
Model W14 (New frame with guard installed)

Model W13 (Legacy frame with guard installed)

Listings and Approvals

cULus Listed⁽⁴⁾

FM Approved⁽⁵⁾

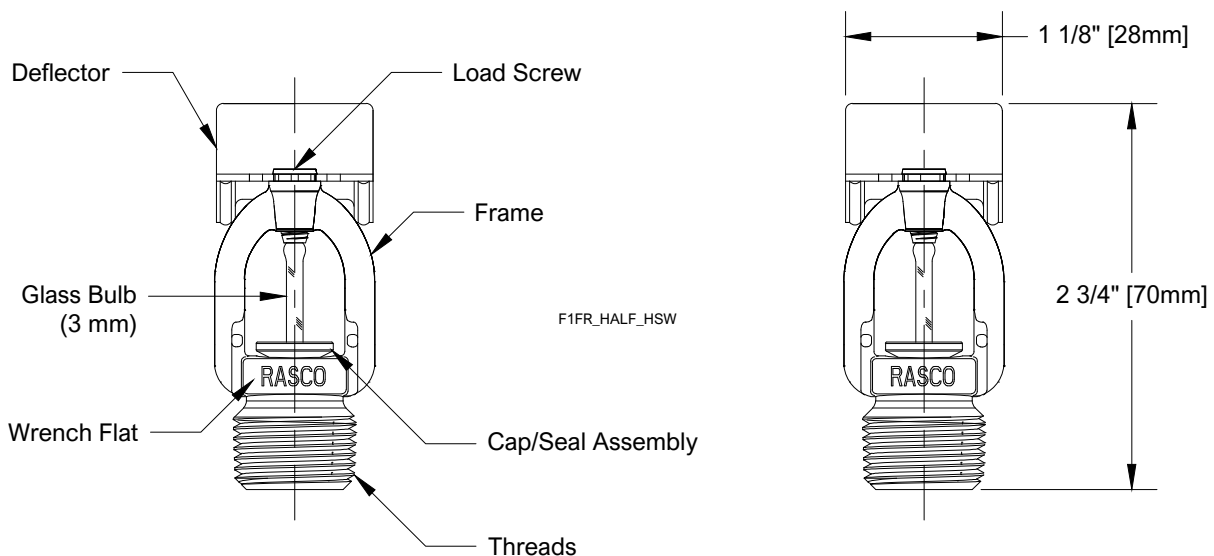


Notes:

1. 286°F (141°C) temperature rated sprinkler not listed for recessed use.
2. FM approved recessed installation when used with Model F2 escutcheon ONLY.
3. Not suitable for recessed horizontal sidewall installations.
4. cULus Listed for Light and Ordinary Hazard when installed exposed or surface mounted. Listed for Light Hazard ONLY when installed recessed.
5. FM Approved for Light Hazard ONLY.

Model F1FR56 Horizontal Sidewall Sprinkler Components and Dimensions

Figure 3



Note: Please refer to Figure 9 for recessed installation.

Technical Specifications

Style:

Upright Vertical Sidewall
Pendent Vertical Sidewall

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

Nominal K-Factor: 5.6 (80 metric)

Max. Working Pressure: 175 psi (12 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)

175°F (79°C)

200°F (93°C)

286°F (141°C)

Guards & Shields (New Frames)

F-2 Guard (FM)

Guards & Shields (Legacy Frames)

C1 Guard (FM)

Sprinkler Wrenches

Model W2

Model W14 (New frame with guard installed)

Model W13 (Legacy frame with guard installed)

Listings and Approvals⁽¹⁾

cULus Listed

FM Approved

LPCB⁽²⁾

UKCA: 0832-UKCA-CPR-S5045

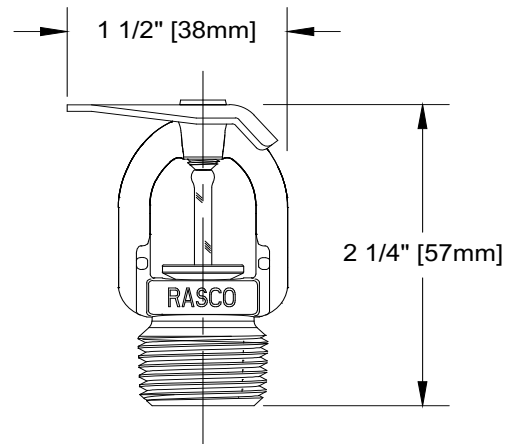
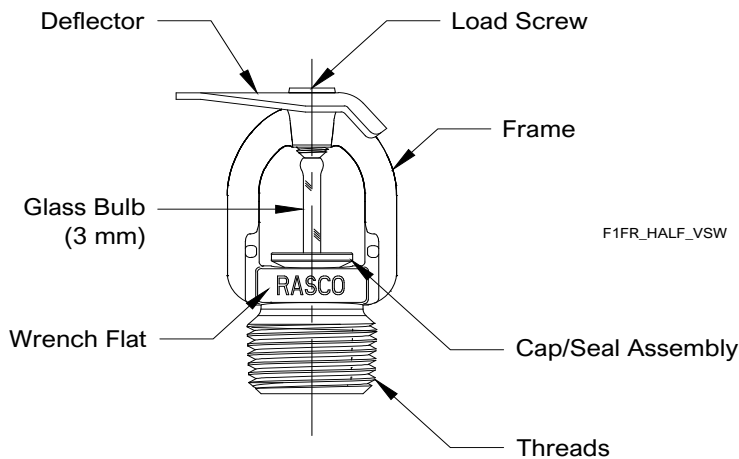


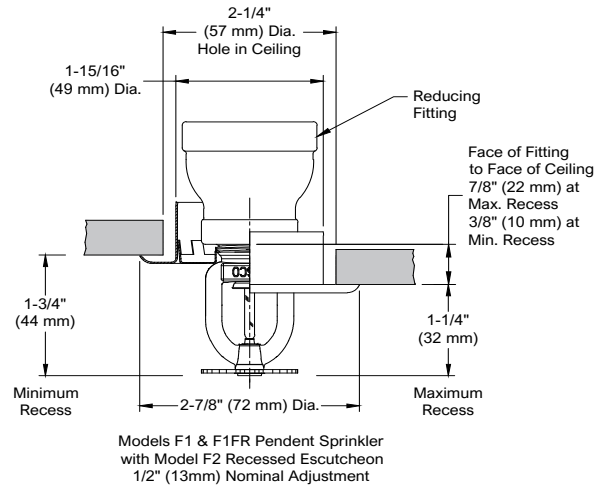
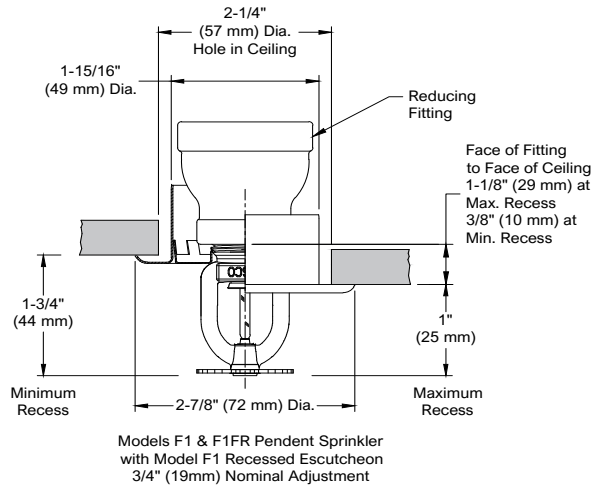
Notes:

1. Listed and approved for Light Hazard ONLY.
2. LPCB approved for use in pendent position ONLY.

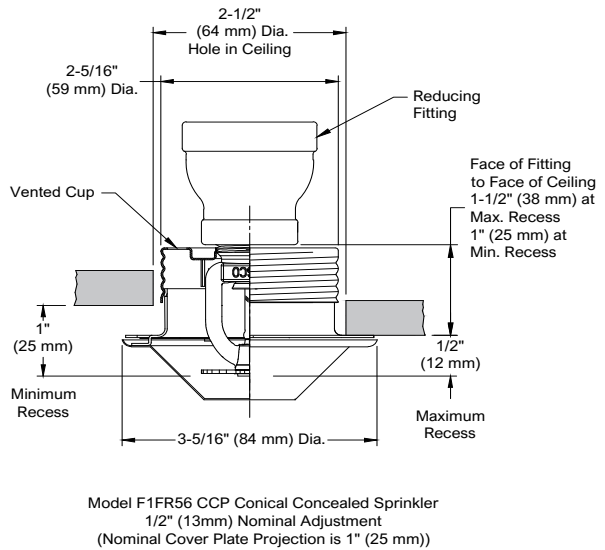
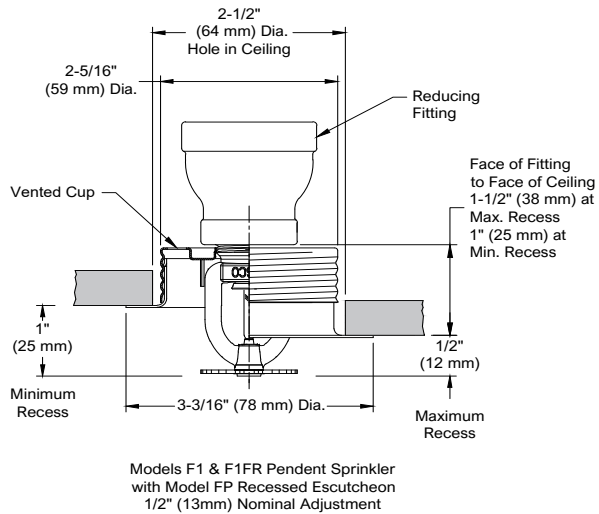
Model F1FR56 Vertical Sprinkler Components and Dimensions

Figure 4





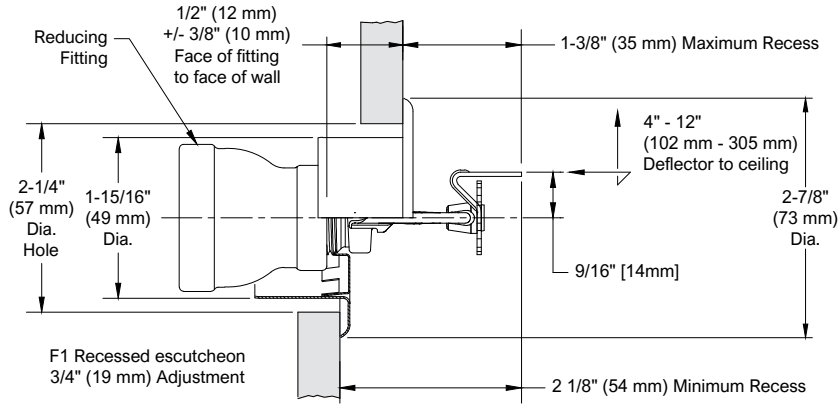
F1_REC_PEND_CCP



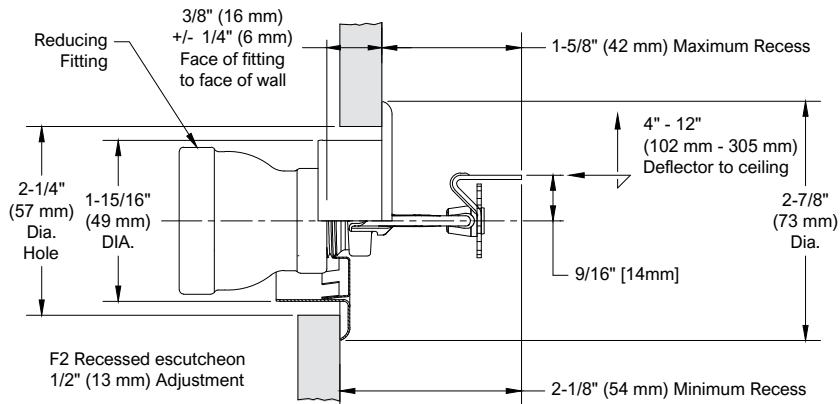
Note: Model FP recessed assemblies may not be used where the pressure in the space above the ceiling is positive with respect to the protected area. Ensure that the openings in the Model FP cup are unobstructed following installation.

Note: Model CCP concealed 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 CCP cup are unobstructed following installation.

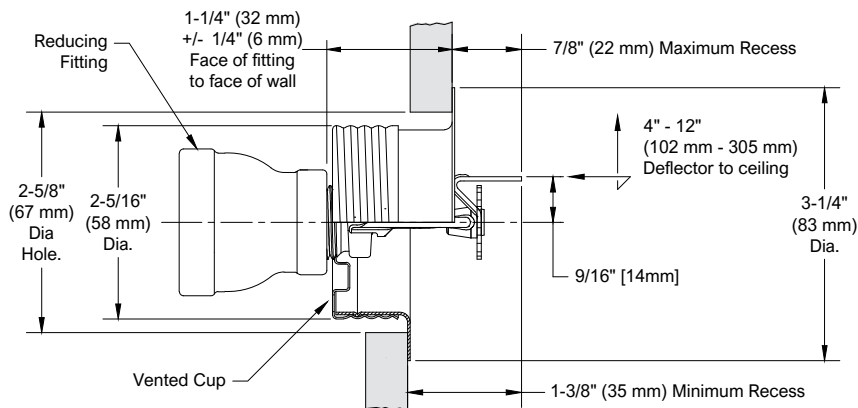




Model F1FR Horizontal Sidewall Sprinkler
with Model F1 Recessed Escutcheon
3/4" (19mm) Nominal Adjustment F1FR_REC_HSW



Model F1FR Horizontal Sidewall Sprinkler
with Model F2 Recessed Escutcheon
1/2" (13mm) Nominal Adjustment



Model F1FR Horizontal Sidewall Sprinkler
with Model FP Recessed Escutcheon
1/2" (13mm) Nominal Adjustment

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

Wrenches



Model W2 (upright, pendent)



Model W13 (Legacy frame with guard installed)



Model W14 (New frame with guard installed)



Model W4
(recessed, concealed pendent)

Finishes⁽¹⁾

Table B

| Standard Finishes | | | Special Application Finishes | | |
|--------------------------------|--|--------------------------------|---|--|--------------------------------|
| Sprinkler | F1, F2 and FP ⁽²⁾ Escutcheons | CCP Cover Plate ⁽²⁾ | Sprinkler | F1, F2 and FP ⁽²⁾ Escutcheons | CCP Cover Plate ⁽²⁾ |
| Bronze | Brass | Chrome | Electroless Nickel PTFE ⁽³⁾⁽⁴⁾ | Bright Brass | Bright Brass |
| Chrome | Chrome | White Paint | Bright Brass ⁽⁵⁾ | Satin Chrome | Satin Chrome |
| White Polyester ⁽³⁾ | White Polyester | | Satin Chrome | Custom Color Polyester | Custom Color Paint |
| | | | Custom Color Polyester ⁽³⁾ | | |

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.
4. FM Approved as corrosion resistant.
5. For 200°F (93°C) maximum temperature rated sprinklers only.

Installation

Model F1FR Series sprinklers must be installed in accordance with NFPA13 and the requirements of all applicable authorities having jurisdiction. Model F1FR Series sprinklers must be installed with the Reliable sprinkler installation wrench identified in this Bulletin. Any other wrench may damage the sprinkler. The Models W2 and W4 wrenches have two sets of jaws. Use the smallest set of jaws that fit on the wrench flats of the sprinkler. A leak tight sprinkler joint can be obtained with a torque of 8 to 18 lb-ft (11 to 24 N-m). Do not tighten sprinklers over the maximum recommended installation torque. Exceeding the maximum recommended installation torque may cause leakage or impairment of the sprinkler.

Glass bulb sprinklers have orange bulb protectors or protective caps to minimize bulb damage during shipping, handling and installation. Reliable sprinkler installation wrenches are designed to install sprinklers with bulb protectors in place. Remove the bulb protector at the time when the sprinkler system is placed in service for fire protection. Removal of the bulb protector before this time may leave the bulb vulnerable to damage. Remove bulb protectors by undoing the clasp by hand. Do not use tools to remove bulb protectors.

Maintenance

Reliable Model F1FR series sprinklers should be inspected and the sprinkler system maintained in accordance with NFPA 25, as well as the requirements of any Authorities Having Jurisdiction.

Prior to installation, sprinklers should remain in the original cartons and packaging until used. This will minimize the potential for damage to sprinklers that could cause improper operation or non-operation.

Do not clean sprinklers with soap and water, ammonia liquid or any other cleaning fluids. Remove dust by gentle vacuuming without touching the sprinkler.

Replace any sprinkler which has been painted (other than factory applied). A stock of spare sprinklers should be maintained to allow quick replacement of damaged or operated sprinklers. Failure to properly maintain sprinklers may result in inadvertent operation or non-operation during a fire event.

Guarantee

For the guarantee, terms, and conditions, visit www.reliablesprinkler.com.

Ordering Information

Specify the following when ordering:

Model

- F1FR56

Deflector/Orientation

- Upright
- Intermediate Upright
- Pendent
- CCP Concealed Pendent
- Horizontal Sidewall
- Vertical Sidewall

Temperature Rating

- See sprinkler technical specifications

Sprinkler Finish

- See Table B

Recessed Escutcheon⁽¹⁾⁽²⁾

- F1
- F2
- FP

Escutcheon Finish

- See Table B

CCP Cover Plate Temperature Rating

- 135°F (57°C) [For use with 135°F (57°C) and 155°F (68°C) sprinklers.]
- 165°F (74°C) [For use with 175°F (79°C) and 200°F (93°C) sprinklers.]

CCP Cover Plate Finish

- See Table B

Sprinkler Wrench

- Model W2
- Model W4 (recessed, concealed)
- Model W14 (New frame with guard installed)
- Model W13 (Legacy frame with guard installed)

Notes:

1. 286°F (141°C) sprinklers are not listed to be used recessed or concealed.
2. For FM, recessed sprinklers must use the Model F2 escutcheon.