

# Reliable®

## F1FR80 Series Quick-Response Sprinklers

K-factor 8.0 (115)

### Features

- Standard coverage quick-response sprinklers
- Upright and pendent orientations
- Low profile, compact design
- Available in a wide variety of finishes
- Available as Intermediate Level sprinklers

### Product Description

Reliable Model F1FR80 series sprinklers are quick-response standard spray automatic fire sprinklers utilizing a sensitive 3mm glass bulb thermal element.

Pendent 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, the Model F1FR80 series sprinklers are specifically listed with and may only be installed with listed Reliable recessed escutcheons. Refer to the technical information on the following pages for specific listings for recessed installations and refer to Figure 3 for dimensional information.

When fitted with an approved Reliable 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.

**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 F1FR80  
Upright Sprinkler



Model F1FR80 Pendent Sprinkler

**Note:** Not all versions of the product are shown.

### F1FR80 Series Sprinkler Summary

Table A

Sprinkler Model	K-Factor gpm/psi <sup>1/2</sup> (lpm/bar <sup>1/2</sup> )	Max. Working Pressure psi (bar)	Listings & Approvals	Orientation	Sprinkler Identification Number (SIN)
F1FR80	8.0 (115)	175 (12) 250 (17) (cULus only)	cULus, FM, LPCB, VdS, CE, UKCA	Upright	RA6322
				Pendent	RA6312

**Technical Specifications**

**Style:** Upright  
**Threads:** 3/4" NPT or ISO 7-R3/4  
**Nominal K-Factor:** 8.0 (115)  
**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**

F-1 Guard (cULus, FM)  
 F-2 Guard (FM)  
 F-3 Guard with Shield (cULus, FM)  
 Factory Installed Shield (cULus, FM)

**Sprinkler Wrenches**

Model W2  
 Model W14 (with guard installed)

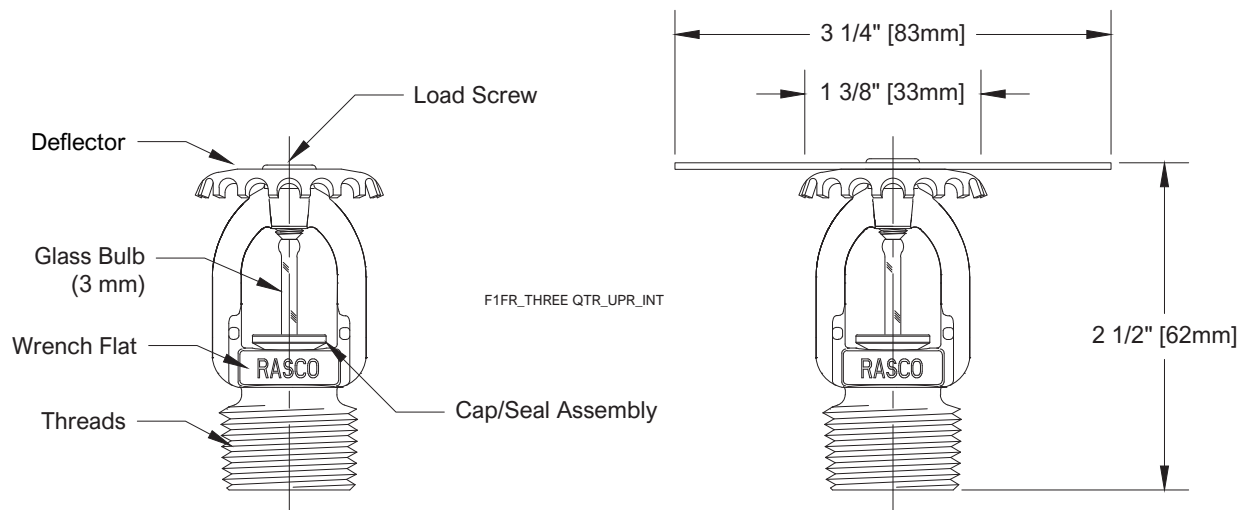
**Listings and Approvals**

cULus  
 FM  
 LPCB  
 VdS  
 CE  
 UKCA: 0832-UKCA-CPR-S5078



**Model F1FR80 Upright Sprinkler Components and Dimensions**

**Figure 1**



Shown with Optional  
 Factory Installed Water Shield  
 ( Intermediate Upright)

**Technical Specifications**

**Style:**  
 Pendent  
 Recessed Pendent  
**Threads:** 3/4" NPT or ISO 7-R3/4  
**Nominal K-Factor:** 8.0 (115)  
**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<sup>(1)</sup>**

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)  
 Model F2 (cULus, FM)  
 Model FP (cULus)

**Guards & Shields<sup>(2)</sup>**

F-2 Guard (FM)  
 F-6 Guard/Shield Kit (FM)  
 F-7 Guard (cULus)  
 F-8 Guard/Shield Kit (cULus)  
 S-2 Shield (cULus, FM)

**Sprinkler Wrenches**

Model W2 (pendent)  
 Model W4 (recessed)  
 Model W14 (with guard installed)

**Listings and Approvals<sup>(3)</sup>**

cULus Listed  
 FM Approved  
 LPCB  
 VdS  
 CE  
 UKCA: 0832-UKCA-CPR-S5079

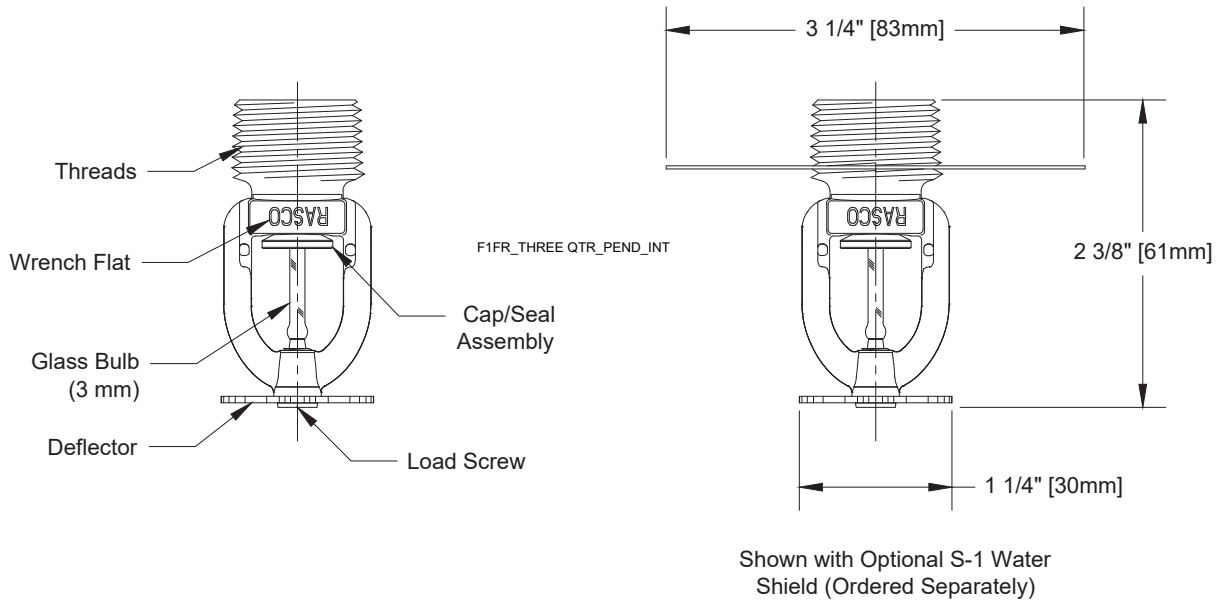


**Notes:**

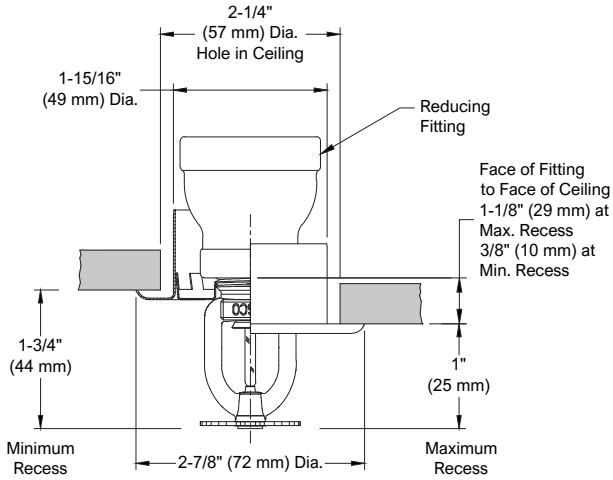
1. 286°F (141°C) temperature rated sprinkler not listed for recessed use.
2. Not suitable for recessed pendent installations.
3. When used surface mounted or exposed. See Recessed Escutcheon section for specific approvals when installed recessed.

**Model F1FR80 Pendent Sprinkler Components and Dimensions**

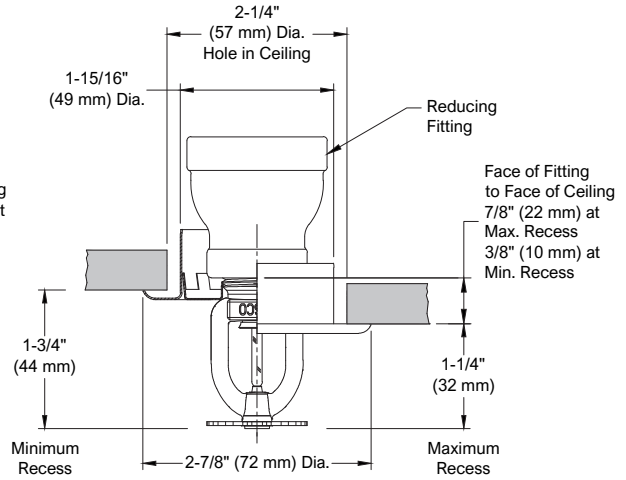
**Figure 2**



**Note:** Please refer to Figure 3 for recessed installation.

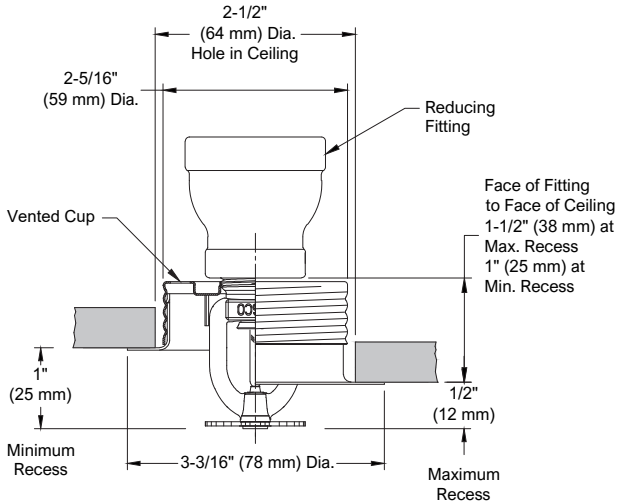


Models F1 & F1FR Pendent Sprinkler with Model F1 Recessed Escutcheon  
3/4" (19mm) Nominal Adjustment



Models F1 & F1FR Pendent Sprinkler with Model F2 Recessed Escutcheon  
1/2" (13mm) Nominal Adjustment

F1\_REC\_PEND



Models F1 & F1FR Pendent 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 above the ceiling is positive with respect to the protected area. Ensure that the openings in the Model FP cup are unobstructed following installation.



## Wrenches



Model W2 (upright, pendent)



Model W14 (with guard installed)



Model W4  
(recessed pendent)

## Finishes<sup>(1)</sup>

Table B

Standard Finishes		Special Application Finishes	
Sprinkler	F1, F2 and FP <sup>(2)</sup> Escutcheons	Sprinkler	F1, F2 and FP <sup>(2)</sup> Escutcheons
Bronze	Brass	Electroless Nickel PTFE <sup>(3)(4)</sup>	Bright Brass
Chrome Plated	Chrome Plated	Bright Brass <sup>(5)</sup>	Satin Chrome
White Polyester <sup>(3)</sup>	White Polyester	Satin Chrome	Custom Color Polyester
		Custom Color Polyester <sup>(3)(6)</sup>	

### Notes:

1. Paint or any other coating applied over the factory finish will void all approvals and warranties.
2. Model FP escutcheons utilizes a galvanized steel cup with a finished trim ring.
3. cULus Listed as corrosion resistant.
4. FM Approved as corrosion resistant.
5. For 200°F (93°C) maximum temperature rated sprinklers only.
6. cULus 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](http://www.reliablesprinkler.com).

## Ordering Information

Specify the following when ordering:

### Model

- F1FR80

### Deflector/Orientation

- Upright
- Upright Intermediate
- Pendent

### Temperature Rating

- See sprinkler technical specifications

### Sprinkler Finish

- See Table B

### Recessed Escutcheon

- F1
- F2
- FP

### Escutcheon Finish

- See Table B

### Sprinkler Wrench

- Model W2 (upright and pendent)
- Model W4 (recessed)
- Model W14 (with guard installed)