



## Model F1FR-FS LO Large Orifice Quick Response Flat Spray Sprinkler

### Features

- Quick response listing
- 1/2" threads
- Compact design

### Product Description

Model F1FR-FS LO Flat Spray Sprinklers are designed for installation in accordance with CEA 4001 or EN 12845 (Automatic Sprinkler Systems - Design, Installation and Maintenance). The spray pattern created by this sprinkler makes this an excellent choice for applications with lower clearance above the suspended open ceilings and in racks.

The F1FR-FS LO Flat Spray Sprinkler utilizes a frangible 3.0mm 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 F1FR-FS LO Flat Spray Sprinkler temperature rating is identified by the color of the glass bulb capsule.

### Application

Model F1FR-FS LO Flat Spray Sprinklers are used in concealed spaces, suspended open ceilings, and in racks in accordance with CEA 4001 Sprinkler System Planning) and EN 12845 (Automatic Sprinkler Systems - Design Installation and Maintenance).



Model F1FR-FS LO

### Model F1FR-FS LO Sprinkler Summary

Table A

Style	K-Factor gpm/psi <sup>1/2</sup> (L/min/bar <sup>1/2</sup> )	Orientation	Temperature Ratings °F (°C)	Max. Working Pressure psi (bar)	Listings & Approvals
F1FR-FS LO	8.0 (115)	Pendent	135 (57) 155 (68) 175 (79) 200 (93) 286 (141)	175 (12.1)	VdS, CE

## Model F1FR-FS LO Quick Response Sprinkler

### Technical Specifications

**Style:** Pendent  
**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:** 3mm Glass Bulb  
**Sprinkler Frame:** Brass Alloy  
**Button/Cup:** Brass Alloy  
**Sealing Assembly:** Brass with PTFE  
**Load Screw:** Bronze  
**Deflector:** Bronze Alloy

### Sprinkler Finishes

Bronze

### 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)

### Listings and Approvals

VdS  
 CE (0786-CPD-40284)

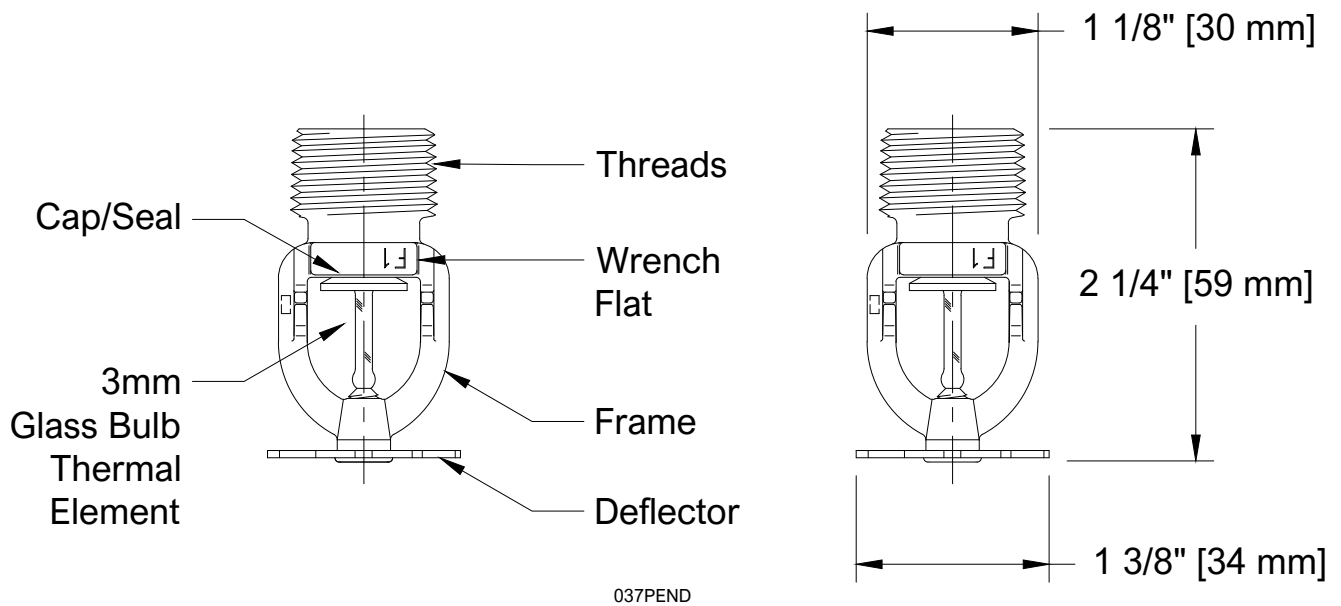
### Wrench

W2



Model F1FR-FS LO Components and Dimensions

Figure 1



## Installation

Model F1FR-FS LO sprinklers must be installed in accordance with CEA 4001 and EN 12845, and the requirements of all applicable authorities having jurisdiction. Model F1 Series sprinklers must be installed with the Reliable sprinkler installation wrench identified in this Bulletin. Any other wrench may damage 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 F1 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 Reliable Automatic Sprinkler Co., Inc. guarantee, terms, and conditions, visit [www.reliablesprinkler.com](http://www.reliablesprinkler.com).

## Ordering Information

### Specify:

#### Sprinkler

- Model F1FR-FS LO Sprinkler

#### Temperature Rating

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

#### End Connection

- 1/2 NPT
- ISO7-1R1/2 (BSPT)

#### Finish

- Bronze

Model W2 Wrench

Figure 2

