Reliable®

# Model F1S5-FS42, F1S5-FS56, & F1S5-FS80 Special Response Flat Spray Sprinklers

## Features

- Special response listing
- 1/2” threads
- Compact design

## Product Description

The F1S5-FS42, F1S5-FS56 and F1S5-FS80 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 F1S5-FS42, F1S5-FS56 and F1S5-FS80 Flat Spray Sprinkler utilize a special response frangible 5.0mm 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 F1S5-FS42, F1S5-FS56 and F1S5-FS80 Flat Spray Sprinkler temperature ratings are identified by the color of the glass bulb capsule.

## Application

Models F1S5-FS42, F1S5-FS56 and F1S5-FS80 Flat Spray Sprinklers are used in concealed spaces, suspended open ceiling s,and in racks in accordance with CEA 4001 Sprinkler System Planning) and EN 12845 (Automatic Sprinkler Systems - Design Installation and Maintenance).



Model F1S5-FS



Model F1S5-FS with optional water shield. Water shields are used in applications where there are multiple levels of sprinklers. The shield will prevent lower level sprinklers from being wetted by upper level sprinklers.

**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-FS | 4.2 (60) | Pendent | 135 (57)<br>155 (68)<br>175 (79)<br>200 (93)<br>286 (141) | 175 (12.1) | VdS (G414024)<br>CE (0786-CPR-40297) |
| | 5.6 (80) | Pendent | | | VdS (G4080046)<br>CE (0786-CPD-40241) |
| | 8.0 (115) | Pendent | | | VdS (G415013)<br>CE (0786-CPR-40306) |

## Model F1S5-FS Series Sprinklers

**Technical Specifications**
- **Style:** Pendent
- **Threads:** 1/2” NPT or ISO 7-1R1/2
- **Nominal K-Factor:** See Table A
- **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

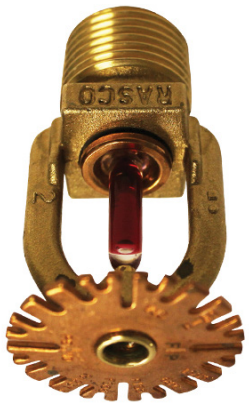
**Sprinkler Finishes**
- Bronze

**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)

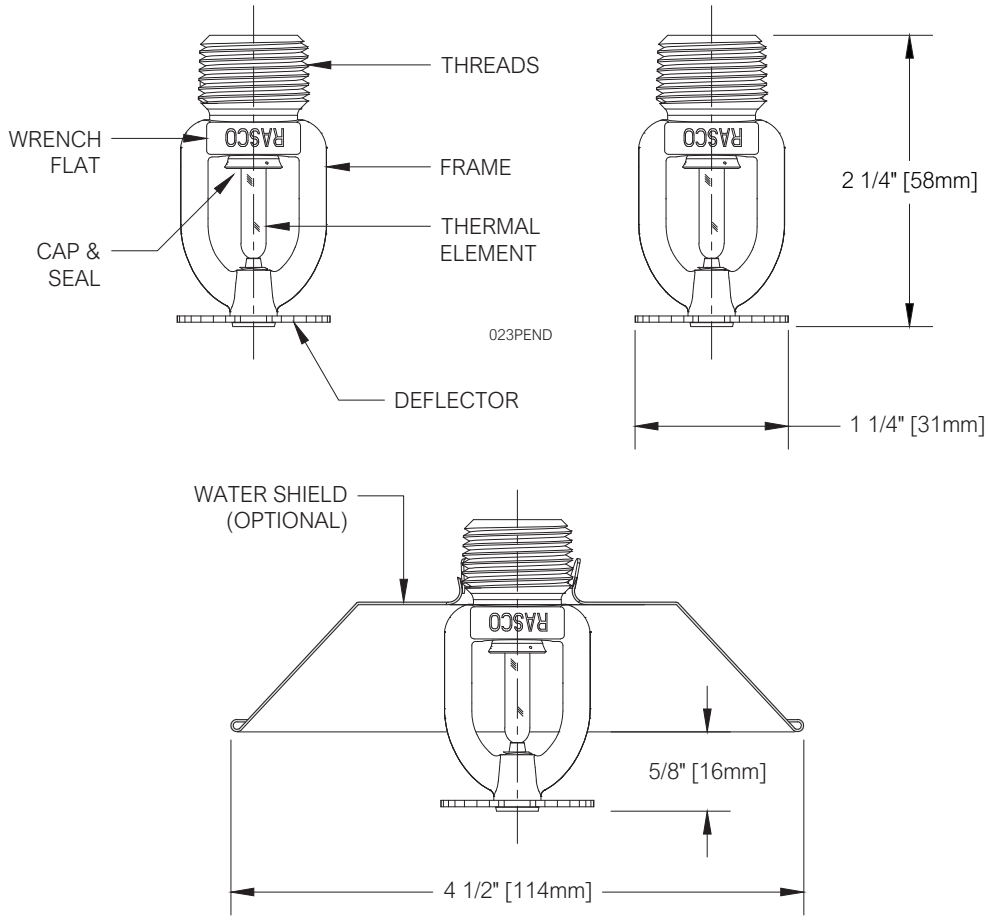
**Listings and Approvals**
- VdS, CE (See Table A)

**Wrenches**
- W2 (pendent)
- W1 (w/ shield)



## Model F1S5-FS Components and Dimensions

**Figure 1**



## Installation

Models F1S5-FS42, F1S5-FS56, and F1S5-FS80 Flat Spray Sprinklers are special response sprinklers intended for installation as specified in CEA 4001 and EN 12845. They must also be installed with the Model W2 Sprinkler Wrench specifically designed by Reliable for use with these sprinklers.

When installing Models F1S5-FS42, F1S5-FS56, and F1S5-FS80 Pendent with shield use the Model W1 Sprinkler Wrench. Any other type of wrench may damage these sprinklers.

**Note:** A leak tight ½" NPT 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.

## 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.

**Wrenches** **Figure 2**




W2 Wrench (pendent)




W1 Wrench (w/shield)

## Guarantee

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

## Ordering Information

**Specify:**

**Sprinkler**
- Model F1S5-FS42 Sprinkler
- Model F1S5-FS56 Sprinkler
- Model F1S5-FS80 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

**Wrenches**
- W2 (without shield)
- W1 (with shield)

**Shield**
- Galvanized; PN 7U99001405

**Note:** When shields are ordered, the sprinklers and shields are packaged separately.

P/N 9999970366