



## Model F1FR-300/CCP 300 psi (20,7 bar) Rated Concealed Quick Response Sprinkler

### Features:

1. 300 psi (20,7 bar) rated.
2. Quick response performance.
3. Push on, thread off, sturdy, convenient cover plate.
4. Factory assembled sprinkler and cup, shipped complete with protective cap.
5. Sprinkler assembly and cover plate separately packaged.
6. Two versions:
  - $\frac{1}{2}$ " (13mm) Adjustment.
  - $\frac{5}{16}$ " (8mm) Adjustment.
7. Rugged damage resistant assembly. No exposed thermal element.
8. Utilizes Model F1FR-300 Pendent Sprinkler.
9. Aesthetic ceiling profile.
10. Available in white or other color painted; or brass, chrome or black plated finishes.

### Listings and Approvals

1. Underwriters Laboratories, Inc.
2. UL Certified for Canada.
3. NYC MEA 258-93-E

### UL Listing Category

Sprinklers, Automatic and Open  
– Quick Response Concealed.

### Product Description

The Reliable Model F1FR-300/CCP Quick Response Concealed Sprinkler is an attractive, low profile concealed sprinkler assembly. This sprinkler assembly utilizes a Model F1FR-300 pendent sprinkler in a Model CCP cup and cover plate assembly. The cup is securely factory threaded on the sprinkler inlet end. The assembly is shipped with a protective cap. The sprinkler and cup are easily installed into the drop nipple using the Model RC1 Sprinkler Wrench. The cover plate assembly is attached to the sprinkler cup using a cover plate assembly with flexible tabs for threaded engagement. Simply push on the cover plate assembly, then turn to adjust or remove the cover plate assembly.

The cover plate is attached to the skirt using 135°F (57°C) or 165°F (74°C) ordinary temperature classification solder. When the ceiling temperature rises, the solder holding the cover plate melts, allowing the release of this part and thus exposing the Model F1FR-300 sprinkler inside to the rising ambient temperature.



The Model F1FR-300 automatic sprinkler utilizes a 3.0mm frangible glass bulb. This sprinkler has demonstrated response times in laboratory tests which are five times faster than standard responses sprinklers. This quick response enables the Model F1FR-300 sprinkler to apply water to a fire sooner than standard sprinklers of the same temperature rating.

The glass bulb consists of an accurately controlled amount of special fluid hermetically sealed inside a precisely manufactured glass capsule constructed to provide fast thermal response. The other sprinkler parts are made of brass, copper and beryllium nickel.

At normal temperatures, the glass bulb contains the fluid in both the liquid phase and 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 water.

The temperature rating of the sprinkler is identified by the color of the glass bulb.

### Application and Installation

The Model F1FR-300/CCP Concealed Sprinkler Assembly uses a  $\frac{1}{2}$ " (15mm) orifice,  $\frac{1}{2}$ " NPT (R $\frac{1}{2}$ ), 135°F (57°C), 155°F (68°C), 175°F (79°C), or 200°F (93°C) rated Model F1FR-300 Pendent Sprinkler with a threaded Model CCP cup, which is factory attached to the sprinkler. The assembly is completed by the installation of an attractive, low profile, 135°F (57°C) or 165°F (74°C) rated Model CCP push on cover plate assembly. The cover plate and sprinkler cup assemblies are joined using a cover plate with flexible tabs for threaded engagement. A choice of

two cover plate assemblies provide either 1/2" (13mm) or 5/16" (8mm) of cover adjustment.

Do not install these sprinklers in ceiling which have positive pressure in the space above.

After a 2 5/8" (67mm) diameter hole is cut in the ceiling, the sprinkler is easily installed with the Model RC1 Wrench. A Teflon-based thread sealant should be applied to the sprinkler threads only. The Model RC1 Wrench is then used to engage the sprinkler wrenching surfaces and to install the sprinkler in the fitting. When inserting or removing the wrench from the sprinkler/cup assembly, DO NOT WRENCH ON ANY OTHER PART OF THE SPRINKLER. The cover plate is then pushed onto the cup. Final adjustment is made by hand turning the cover plate until the skirt flange makes full contact with the ceiling. Cover plate removal requires turning in the counter clockwise direction.

After installation, inspect all sprinklers to ensure that there is a gap between the cover plate and ceiling and that the four cup slots are open and free from any air flow impeding to the space above.

Concealed cover plate/cup assemblies are listed only for use on specific sprinklers. The use of any other concealed cover plate/cup assembly with the Model F1FR-300 Pendent Sprinkler or the use of the Model CCP

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## Technical Data

Nominal Orifice Size	Thread Size	Nominal K Factor		Temp. Rating		Max. Ambient Temp.	Bulb Color	Sprinkler Identification Number (SIN)
		US	Metric	Sprinkler	Cover			
1/2" (15mm)	1/2" NPT (R1/2)	5.6	80	135°F/57°C	135°F/57°C	100°F/38°C	Orange	R5615
1/2" (15mm)	1/2" NPT (R1/2)	5.6	80	155°F/68°C	135°F/57°C	100°F/38°C	Red	
1/2" (15mm)	1/2" NPT (R1/2)	5.6	80	175°F/79°C	165°F/74°C	150°F/66°C	Yellow	
1/2" (15mm)	1/2" NPT (R1/2)	5.6	80	200°F/93°C	165°F/74°C	150°F/66°C	Green	

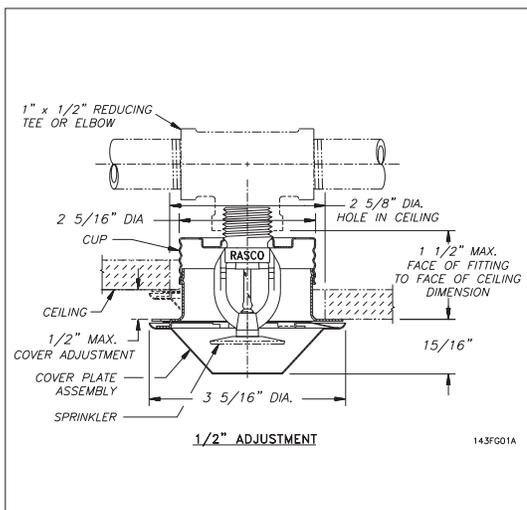


Figure 1

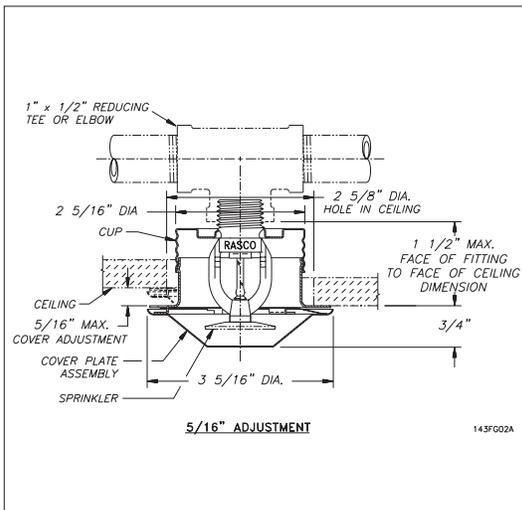


Figure 2

concealed cover plate assembly on any sprinkler with which it is not specifically listed may prevent good fire protection and will void all guarantees, warranties, listings and approvals.

## Maintenance

Model F1FR-300/CCP Concealed 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 fluids. Remove dust by using a soft brush or gentle vacuuming. Remove any sprinkler cover plate assembly 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.

## Ordering Information

Specify:

1. Sprinkler Model F1FR-300  
1/2" Orifice (15mm),  
1/2" NPT (R1/2).
2. Sprinkler Temp. Rating:  
4. 135°F (57°C), 155°F (68°C),  
5. 175°F (79°C), 200°F (93°C).
3. Cover Plate: Model CCP.
6. Sprinkler Cup Thread Size:  
1/2" NPT (R1/2).
7. Cover Plate Temp Rating:  
8. 135°F (57°C) for 135°F and  
155°F Spks; 165°F (74°C) for  
175°F and 200°F Spks.
9. Cover plate adjustment:  
Either 1/2" (13mm) or 5/16" (8mm)  
(approximate adjustment).
10. Cover Plate Finish.
- 11.

## Installation Wrench

Model RC1 Sprinkler Wrench

## Installation Aid

A protective cap is included for use during installation.

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

### Standard Finishes

Chrome  
White Paint

### Special Application Finishes

Bright Brass  
Black Plating  
Black Paint  
Off White  
Satin Chrome

<sup>(1)</sup>Other colors and finishes are available. Consult factory for details.

The equipment presented in this bulletin is to be installed in accordance with the latest published Standards of the National Fire Protection Association, Factory Mutual Research Corporation, or other similar organizations and also with the provisions of governmental codes or ordinances whenever applicable.

Products manufactured and distributed by Reliable have been protecting life and property for over 90 years, and are installed and serviced by the most highly qualified and reputable sprinkler contractors located throughout the United States, Canada and foreign countries.

Manufactured by



## The Reliable Automatic Sprinkler Co., Inc.

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