

# Reliable®

## Model F1FR Model F1FR Recessed Quick Response Extended Coverage Sprinklers

A complete line of UL Listed and FM Approved quick response extended coverage sprinklers for light hazard applications.

Horizontal Sidewall Sprinklers are approved for installation 4" - 12" (102mm - 305mm) below the ceiling.

### Model F1FR QREC Sprinkler Types

- Extended Coverage Pendant
- Extended Coverage Horizontal Sidewall
  - EC-9 Deflector

### Model F1FR QREC Recessed Sprinkler Types

- Recessed Extended Coverage Pendant
- Recessed Extended Coverage Horizontal Sidewall:
  - EC-9 Deflector

For Model F1FR QREC ½" K 5.6 (80) Sprinkler Types refer to Bulletin 028 for technical specifications and approvals.

### Approval Organizations

1. Underwriters' Laboratories, Inc. (UL)
2. Underwriters Laboratories of Canada (ULC)
3. Factory Mutual Approvals (FM)
4. NYC MEA 258-93-E

### UL Listing Category

Sprinklers, Automatic & Open  
Quick Response Extended Coverage Sprinkler

### UL Guide Number

VNIV

**Note:** Consult appropriate FM Installation Standards regarding limitations of room size, ceiling height and minimum wall fire resistance rating.

### Product Description

Reliable Models F1FR QREC and F1FR QREC Recessed Sprinklers are quick response sprinklers which combine the durability for a standard sprinkler with the attractive low profile of a decorative sprinkler.

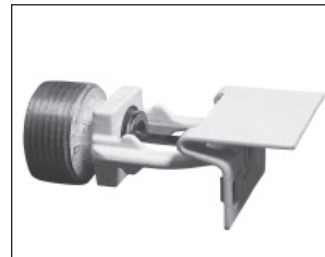
The Models F1FR QREC and F1FR QREC Recessed Automatic Sprinklers utilize a 3.0mm frangible glass bulb. These sprinklers have demonstrated response times in laboratory tests which are five times faster than standard response



Extended Coverage  
Pendant



Recessed Extended  
Coverage Pendant



Extended Coverage  
Horizontal Sidewall EC-9



Recessed Extended  
Coverage Horizontal Sidewall  
EC-9

sprinklers. This quick response enables these sprinklers to apply water to a fire much faster 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. This glass bulb is specially constructed to provide fast thermal response. The balance of parts are made of brass, copper and beryllium nickel.

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

### Application

Quick response sprinklers are used in fixed fire protection systems: Wet, Dry, Deluge or Preaction. Care must be exercised that the orifice size, temperature rating, deflector style and sprinkler type are in accordance with the latest published standards of the National Fire Protection Association or the approving authority having jurisdiction. Quick response sprinklers are intended for installation as specified in NFPA 13.

## Model F1FR Quick Response Extended Coverage Pendant Sprinkler

**Deflector:** EC

**Installation Wrench:** Model D Sprinkler Wrench

**Approval Type:** Quick Response Extended Coverage-Light Hazard Occupancy

### Installation Data:

Nominal Orifice	Thread Size	"K" Factor		Sprinkler Length	Temperature Rating	Approval Organizations	Sprinkler Identification Number (SIN)
		US	Metric				
$17/32$ " (20mm)	$3/4$ " NPT (R $3/4$ )	8.0	115	2.2" (56.1mm)	135°F (57°C) 155°F (68°C)	1,2,3,4	R4842



## Model F1FR Recessed Quick Response Extended Coverage Pendant Sprinkler

**Deflector:** EC

**Installation Wrench:** Model GFR2 Sprinkler Wrench

**Approval Type:** Quick Response Extended Coverage-Light Hazard Occupancy

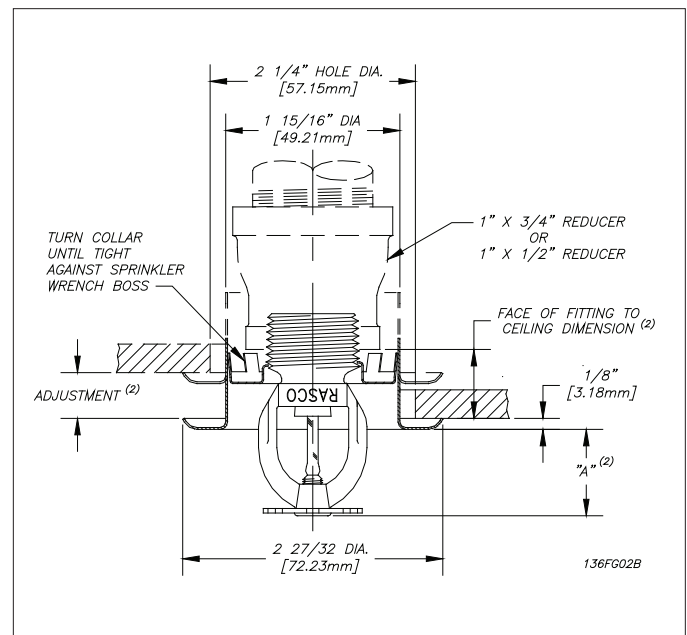
### Installation Data:

Nominal Orifice	Thread Size	"K" Factor		Sprinkler Length	Temperature Rating	Approval <sup>(1)</sup> Organizations	Sprinkler Identification Number (SIN)
		US	Metric				
$17/32$ " (20mm)	$3/4$ " NPT (R $3/4$ )	8.0	115	2.2" (56.1mm)	135°F (57°C) 155°F (68°C)	1, 2, 3, 4	R4842

<sup>(1)</sup> Refer to escutcheon data table for dimensions.

COVERAGE AREA			
Flow Rate gpm (L/min)	Pressure, psi (bar)		Maximum Coverage Area Width x Length ft. x ft. (m x m)
	K = 8.0 (115)		
26 (98.4)	10.6 (0,7)		16 x 16 (4.9 x 4.9)
33 (125.0)	17.0 (1,2)		18 x 18 (5.5 x 5.5)
40 (151.4)	25.0 (1,7)		20 x 20 (6.0 x 6.0) <sup>(2)</sup>

<sup>(2)</sup> UL/ULC Listed for both Pendant and Recessed Pendant at 135°F (57°C) only.



# Model F1FR Quick Response Extended Coverage Horizontal Sidewall Sprinkler

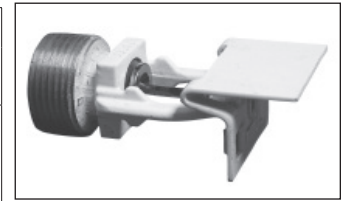
**Deflector:** EC-9

**Installation Wrench:** Model D Sprinkler Wrench

**Approval Type:** Quick Response Extended Coverage-Light Hazard Occupancy

**Installation Data:** See Table 1 below for Coverage Area

Nominal Orifice	Thread Size	"K" Factor		Sprinkler Length	Approval <sup>(2)</sup> Organizations	Temperature Rating	Sprinkler Identification Number (SIN)
		US	Metric				
17/32" (20mm)	3/4" NPT (R3/4)	8.0	115	2.85 (72.4mm)	1,2,3,4	135°F (57°C) 155°F (68°C) 175°F (78°C)	R4862



# Model F1FR Recessed Quick Response Extended Coverage Horizontal Sidewall Sprinkler

**Deflector:** EC-9

**Installation Wrench:** Model GFR2 Sprinkler Wrench

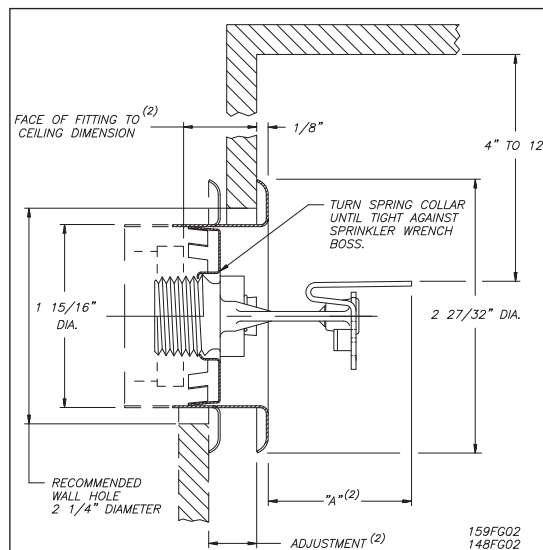
**Approval Type:** Quick Response Extended Coverage-Light Hazard Occupancy

**Table 1**

COVERAGE AREA								
Flow Rate gpm (L/min)		Pressure psi (bar)		Maximum Coverage Area Width x Length ft. x ft. (m x m)	Temperature Rating <sup>(1)</sup>	Approval <sup>(2)</sup> Organizations		Deflector to Ceiling Dimension Min. - Max. Inches (mm)
UL	FM	UL	FM			F1	F2	
26 (98.4)	-	10.6 (0,7)	-	16 x 16 (4.9 x 4.9)	135°F (57°C)	1, 2, 4	1, 2, 3, 4	6 - 12 (153 - 305)
29 (109.8)	32 (121.1)	13.1 (0,9)	16.0 (1,1)	16 x 16 (4.9 x 4.9)	155°F (68°C)			4 - 12 (102 - 305)
29 (109.8)	36 (136.3)	13.1 (0,9)	20.2 (1,4)	16 x 18 (4.9 x 5.5)				4 - 12 (102 - 305)
32 (121.1)	40 (151.4)	16.0 (1,1)	25.0 (1,7)	16 x 20 (4.9 x 6.0)	4 - 12 (102 - 305)			
36 (136.3)	44 (166.6)	20.2 (1,4)	30.2 (2,1)	16 x 22 (4.9 x 6.7)	4 - 12 (102 - 305)			
39 (147.6)	48 (181.7)	23.8 (1,6)	36.0 (2,5)	16 x 24 (4.9 x 7.3)	175°F (78°C)	4 - 12 (102 - 305)		
33 (124.9)		17.0 (1,2)		18 x 18 (5.5 x 5.5)	135°F (57°C)	1, 2	1, 2	4 - 12 (102 - 305)
39 (147.6)		23.8 (1,6)		14 x 26 (4.3 x 7.9)	135°F (57°C)			4 - 6 (102 - 153)
40 (151.4)		25.0 (1,7)		18 x 22 (5.5 x 6.7)	135°F (57°C)			4 - 12 (102 - 305)
46 (174.1)		33.1 (2,25)		14 x 26 (4.3 x 7.9)	135°F (57°C)			6 - 12 (153 - 305)
33 (124.9)		17.0 (1,2)		18 x 18 (5.5 x 5.5)	155°F (68°C)			4 - 12 (102 - 305)
40 (151.4)		25.0 (1,7)		18 x 22 (5.5 x 6.7)	155°F (68°C)			4 - 12 (102 - 305)
46 (174.1)		33.1 (2,25)		14 x 26 (4.3 x 7.9)	155°F (68°C)			6 - 12 (153 - 305)

<sup>(1)</sup> FM Approval of recessed sprinkler - 135°F (57°C) and 155°F (68°C) only.

<sup>(2)</sup> Refer to escutcheon data table for dimensions.



## Installation

Quick response sprinkler are intended for installation as specified in NFPA 13. Quick response sprinklers and standard response sprinklers should not be intermixed.

The Model F1FR Recessed QREC Sprinklers are to be installed as shown. The Model F1 or F2 Escutcheons illustrated are the only recessed escutcheons to be used with the Model F1FR Sprinklers. The use of any other recessed escutcheon will void all approvals and negate all warranties.

When installing Model F1FR QREC Sprinklers, use the Model D Sprinkler Wrench. When installing Model F1FR QREC Recessed Pendent or Sidewall Sprinklers, use the Model GFR1 Sprinkler Wrench. Any other type of wrench may damage these sprinklers.

Glass bulb sprinklers have orange bulb protectors to minimize bulb damage during shipping, handling and installation. REMOVE THIS PROTECTION AT THE TIME THE SPRINKLER SYSTEM IS PLACED IN SERVICE FOR FIRE PROTECTION. Removal of the protectors before this time may leave the bulb vulnerable to damage. RASCO wrenches are designed to install sprinklers when covers are in place. REMOVE PROTECTORS BY UNDOING THE CLASP BY HAND. DO NOT USE TOOLS TO REMOVE THE PROTECTORS.

## Maintenance

The Models F1FR QREC and F1FR QREC Recessed 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 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.

## Temperature Ratings

Classification	Sprinkler Rating		Maximum Ambient Temp.		Bulb Color
	°F	°C	°F	°C	
Ordinary	135	57	100	38	Orange
Ordinary	155	68	100	38	Red
Intermediate	175	79	150	66	Yellow

## Sprinkler Types

Extended Coverage Pendent

Extended Coverage Sidewall

- EC-9 HSW Deflector

Recessed Extended Coverage Pendent

Recessed Extended Coverage Sidewall

- EC-9 HSW Deflector

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

Standard Finishes	
Sprinkler <sup>(2)</sup>	Escutcheon
Bronze	Brass
Chrome Plated	Chrome Plated
White Polyester Coated	White Painted
Special Application Finishes	
Sprinkler <sup>(2)</sup>	Escutcheon
Bright Brass	Bright Brass
Black Plating	Black Plating
Black Paint	Black Paint
Off WhiteSatin	Off White
Chrome	Satin Chrome

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

<sup>(2)</sup> FM Approval limited to bronze, bright and satin chrome plated, and polyester coated only.

## Escutcheon Data

Escutcheon Model	Adjustment	"A" Dimension	Face of Fitting to Ceiling or Wall Dimension
F1	3/4" (19mm)	3/4" (19mm) <sup>(1)</sup> 1 3/8" (35mm) <sup>(2)</sup>	3/16" (5mm) - 1 5/16" (24mm)
F2	1/2" (13mm)	1" (25mm) <sup>(1)</sup> 1 9/16" (40mm) <sup>(2)</sup>	3/16" (5mm) - 1 1/16" (18mm)

<sup>(1)</sup> EC Pendent

<sup>(2)</sup> EC HSW

## Ordering Information

### Specify:

1. Sprinkler Model
2. Sprinkler Type
3. Orifice Size
4. Deflector Type
5. Temperature Rating
6. Sprinkler Finish
7. Escutcheon Type
8. Escutcheon Finish (where applicable)

**Note:** When Model F1FR Recessed sprinklers are ordered, the sprinklers and escutcheons are packaged separately.

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.

(800) 431-1588

(800) 848-6051

(914) 829-2042

www.reliablesprinkler.com

Sales Offices

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Internet Address



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