

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-8 Deflector
 - EC-9 Deflector

Model F1FR QREC Recessed Sprinkler Types

- Recessed Extended Coverage Pendant
- Recessed Extended Coverage Horizontal Sidewall:
 - EC-8 Deflector
 - EC-9 Deflector

Approval Organizations

1. Underwriters' Laboratories, Inc.
2. Underwriters Laboratories of Canada
3. Factory Mutual Research Corporation
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 sprinklers. This quick response enables these sprinklers to apply water to a fire much faster than standard sprinklers of the same temperature rating.

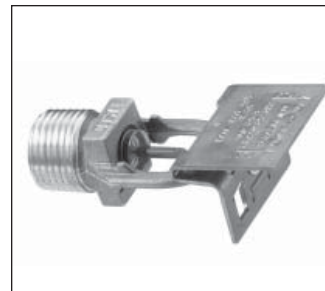
The glass bulb consists of an accurately controlled amount of special fluid hermetically sealed inside a precisely manufactured glass capsule. This glass bulb is specially con-



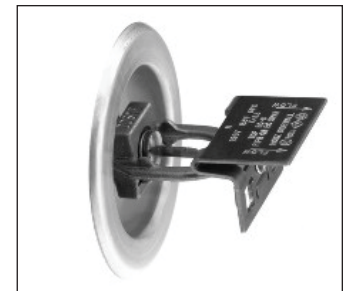
Extended Coverage
Pendant



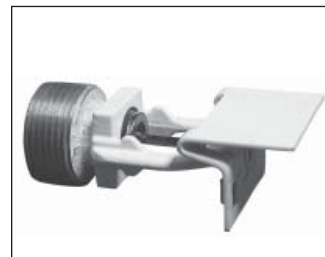
Recessed Extended
Coverage Pendant



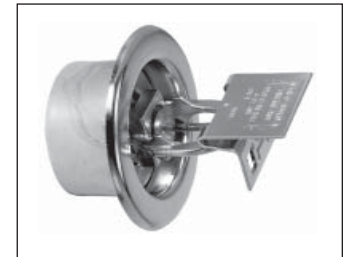
Extended Coverage
Horizontal Sidewall EC-8



Recessed Extended
Coverage Horizontal Sidewall
EC-8



Extended Coverage
Horizontal Sidewall EC-9



Recessed Extended
Coverage Horizontal Sidewall
EC-9

structed 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 ⁽¹⁾ Rating	Approval Organizations	Sprinkler Identification Number (SIN)
		US	Metric				
17/32" (20mm)	3/4" NPT (R3/4)	8.0	115	2.2" (56.1mm)	135°F (57°C) 155°F (68°C)	1,2,3,4	R4842
1/2" (15mm)	1/2" NPT (R1/2)	5.6	80	2.1" (53.4mm)	135°F (57°C) 155°F (68°C)	1,2,4	R4845

⁽¹⁾ FM Approval of pendent sprinkler - 135°F (57°C) only



Model F1FR Recessed Quick Response Extended Coverage Pendant Sprinkler

Deflector: EC

Installation Wrench: Model GFR1 Sprinkler Wrench

Approval Type: Quick Response Extended Coverage-Light Hazard Occupancy

Installation Data:

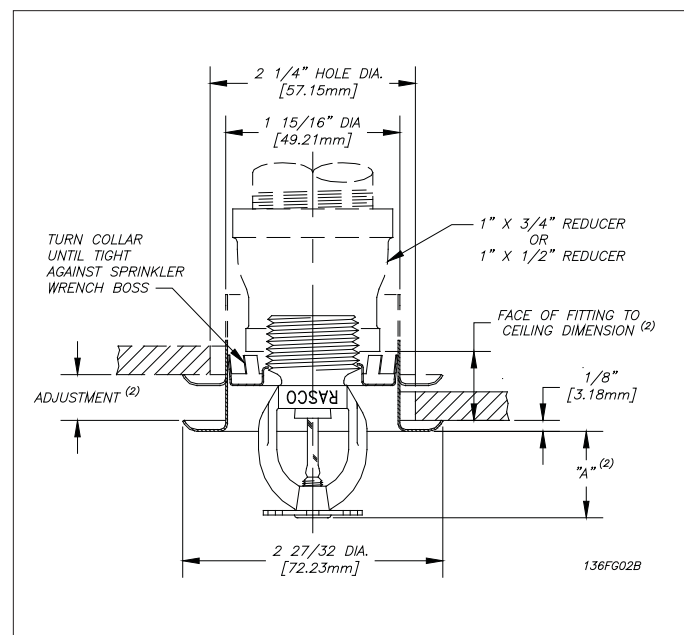
Nominal Orifice	Thread Size	"K" Factor		Sprinkler Length	Temperature ⁽¹⁾ Rating	Approval ⁽²⁾ Organizations	Sprinkler Identification Number (SIN)
		US	Metric				
17/32" (20mm)	3/4" NPT (R3/4)	8.0	115	2.2" (56.1mm)	135°F (57°C) 155°F (68°C)	1, 2, 3, 4	R4842
1/2" (15mm)	1/2" NPT (R1/2)	5.6	80	2.1" (53.4mm)	135°F (57°C) 155°F (68°C)	1, 2, 4	R4845

⁽¹⁾ FM Approval of recessed sprinkler — 135°F (57°C) only.

⁽²⁾ Refer to escutcheon data table for approvals and 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)	K = 5.6 (80)		
26 (98.4)	10.6 (0,7)	21.6 (1,5)	16 x 16 (4.9 x 4.9)	
33 (125.0)	17.0 (1,2)	34.7 (2,4)	18 x 18 (5.5 x 5.5)	
40 (151.4)	25.0 (1,7)	51.0 (3,5)	20 x 20 (6.0 x 6.0) ⁽³⁾	

⁽³⁾ 135°F (57°C) only for both Pendent and Recessed Pendent.



Model F1FR Quick Response Extended Coverage Horizontal Sidewall Sprinkler

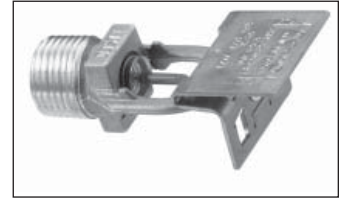
Deflector: EC-8

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	Approval Organizations	Temperature Rating	Sprinkler Identification Number (SIN)
		US	Metric				
1/2" (15mm)	1/2" NPT (R1/2)	5.6	80	2.8" (71.1mm)	1, 2, 3, 4	135°F (57°C) 155°F (68°C) 175°F (79°C)	R4865



Model F1FR Recessed Quick Response Extended Coverage Horizontal Sidewall Sprinkler

Deflector: EC-8

Installation Wrench: Model GFR1 Sprinkler Wrench

Approval Type: Quick Response Extended Coverage-Light Hazard Occupancy

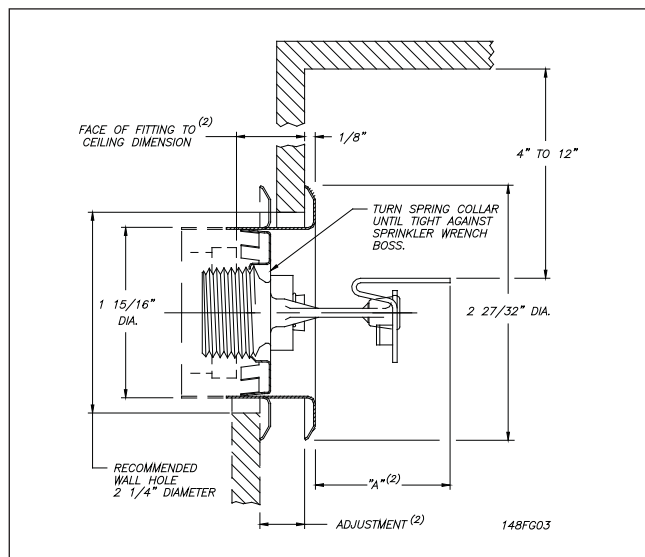
Installation Data:

Nominal Orifice	Thread Size	"K" Factor		Sprinkler Length	Approval ⁽²⁾ Organizations	Temperature ⁽¹⁾ Rating	Sprinkler Identification Number (SIN)
		US	Metric				
1/2" (15mm)	1/2" NPT (R1/2)	5.6	80	2.8" (71.1mm)	1, 2, 3, 4	135°F (57°C) 155°F (68°C) 175°F (79°C)	R4865

⁽¹⁾ FM Approval of recessed sprinkler - 135°F (57°C) only

⁽²⁾ Refer to escutcheon data table for approvals and dimensions.

COVERAGE AREA						
Flow Rate gpm (L/min)		Pressure psi (bar)		Maximum Coverage Area Width x Length ft. x ft. (m x m)	Deflector to Ceiling Dimension Min. - Max. Inches (mm)	
UL	FM	UL	FM			
26 (98.4)	26 (98.4)	21.4 (1,5)	21.4 (1,5)	16 x 16 (4.9 x 4.9)	4 - 12 (102 - 305)	
29 (109.8)	30 (113.6)	26.6 (1,8)	28.5 (2,0)	16 x 18 (4.9 x 5.5)	4 - 12 (102 - 305)	
32 (121.1)	33 (125.0)	32.4 (2,2)	34.5 (2,4)	16 x 20 (4.9 x 6.0)	4 - 12 (102 - 305)	



Model F1FR Quick Response Extended Coverage Horizontal Sidewall Sprinkler

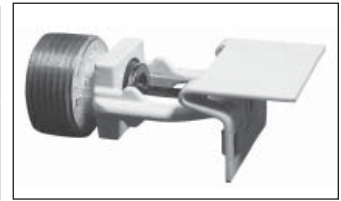
Deflector: EC-9

Installation Wrench: Model D Sprinkler Wrench

Approval Type: Quick Response Extended Coverage-Light Hazard Occupancy

Installation Data:

Nominal Orifice	Thread Size	"K" Factor		Sprinkler Length	Approval ⁽²⁾ 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 Quick Response Extended Coverage Horizontal Sidewall Sprinkler

Deflector: EC-9

Installation Wrench: Model GFR1 Sprinkler Wrench

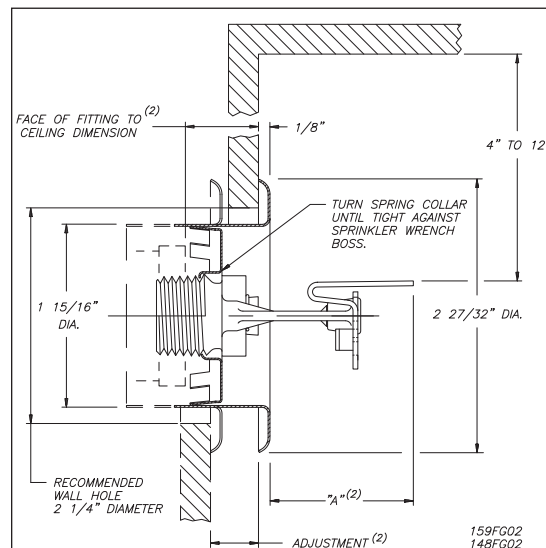
Approval Type: Quick Response Extended Coverage-Light Hazard Occupancy

Installation Data:

COVERAGE AREA							
Flow Rate gpm (L/min)		Pressure psi (bar)		Maximum Coverage Area Width x Length ft. x ft. (m x m)	Temperature Rating ⁽¹⁾	Approval ⁽²⁾ Organizations	Deflector to Ceiling Dimension Min. - Max. Inches (mm)
UL	FM	UL	FM				
26 (98.4)	-	10.6 (0,7)	-	16 x 16 (4.9 x 4.9)	135°F (57°C)	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)	175°F (78°C)		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)	16 x 24 (4.9 x 7.3)	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	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)

⁽¹⁾ FM Approval of recessed sprinkler - 135°F only.

⁽²⁾ Refer to escutcheon data table for approvals and dimensions.



Model F1FR & F1FR Recessed Quick Response Extended Coverage Sprinklers

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-8 HSW Deflector
- EC-9 HSW Deflector

Recessed Extended Coverage Pendent

Recessed Extended Coverage Sidewall

- EC-8 HSW Deflector
- EC-9 HSW Deflector

Finishes⁽¹⁾

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

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

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

Escutcheon Data

Escutcheon Model	Approvals	Adjustment	"A" Dimension	Face of Fitting to Ceiling or Wall Dimension
F1	1, 2, 4	$\frac{3}{4}$ " (19mm)	$\frac{3}{4}$ " (19mm) ⁽¹⁾ $1\frac{3}{8}$ " (35mm) ⁽²⁾	$\frac{3}{16}$ " (5mm) - $1\frac{5}{16}$ " (24mm)
F2	1, 2, 3, 4	$\frac{1}{2}$ " (13mm)	1" (25mm) ⁽¹⁾ $1\frac{9}{16}$ " (40mm) ⁽²⁾	$\frac{3}{16}$ " (5mm) - $1\frac{11}{16}$ " (18mm)

⁽¹⁾ EC Pendent

⁽²⁾ 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.

Reliable...For Complete Protection

Reliable offers a wide selection of sprinkler components. Following are some of the many precision-made Reliable products that guard life and property from fire around the clock.

- Automatic sprinklers
- Flush automatic sprinklers
- Recessed automatic sprinklers
- Concealed automatic sprinklers
- Adjustable automatic sprinklers
- Dry automatic sprinklers
- Intermediate level sprinklers
- Open sprinklers
- Spray nozzles
- Alarm valves
- Retarding chambers
- Dry pipe valves
- Accelerators for dry pipe valves
- Mechanical sprinkler alarms
- Electrical sprinkler alarm switches
- Water flow detectors
- Deluge valves
- Detector check valves
- Check valves
- Electrical system
- Sprinkler emergency cabinets
- Sprinkler wrenches
- Sprinkler escutcheons and guards
- Inspectors test connections
- Sight drains
- Ball drips and drum drips
- Control valve seals
- Air maintenance devices
- Air compressors
- Pressure gauges/identification signs
- Fire department connection

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 80 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

Reliable[®]

The Reliable Automatic Sprinkler Co., Inc.

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Sales Offices

Sales Fax

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EG. Printed in U.S.A 11/09

P/N 9999970142