

ITEM OPPORTUNITY SYNOPSIS

Scouting Number:	2024-094
Name of the item to be scouted:	Fire Sprinkler Heads
State item to be used in:	New Hampshire

Describe the Item:

Please describe the item application/the end use of the item.	Fire Sprinkler systems require a head assembly that is the control point for fire suppression discharge.
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Supplier Information:

Type of Supplier Being Sought (select from the list below):

Manufacturer	x
Contract Manufacturer	
Distributor	
Other (Please Specify)	

Reason for Scouting Submission (select from the list below)

2nd Supplier	
Price	
Re-Shore	
Past supplier no longer available	
New Product Startup	
BABA	x
Other (Please Specify)	

Summary of Technical Specifications and Performance Requirements:

Describe the manufacturing processes (elaborate to provide as much detail as possible)	Bread Loaf Corporation (BLC) is not qualified to provide fire safety design, specific engineering and testing required for product.
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Provide dimensions / size / tolerances / performance specifications of the item	1 5/8" x 3"
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List required materials needed to make the product, including materials of product components, if applicable	See attached cut sheets for reference.
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Are there applicable certification requirements?	
Yes	x
No	
Please explain:	UL

Are there any applicable regulations that apply to the production of this item?	
Yes	x
No	
Please explain:	National Fire Protection Association (NFPA) 1 National Fire Protection Association (NFPA) 13 (https://www.nfpa.org/codes-and-standards/nfpa-13-standard-development/13)

Are there any other standards / requirements?	
Yes	
No	x
Please explain:	

Additional Comments:

Additional technical comments:	See additional product data on non domestic assembled product.
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Volume and Pricing:

Estimated Potential Business Volume (i.e. #units per day, month, year):	150 sprinkler heads
Estimated Target Price/Unit Cost Information:	200

Delivery Requirements:

When is it needed by? (Immediate, 30 days, 6 months, etc.)	40 days
Describe packaging requirements (i.e. individually/group packaging, etc.)	Product must be delivered to job site undamaged with a industry accepted warranty.
Where will this item be shipped?	New Hampshire

Additional Comments:

Is there other information you would like to include?	Fire suppression supplier indicated these sprinkler heads are not produced domestically that satisfy governing authority. This submission for scouting is a part of a BABAA compliance waiver process. Doing what we can to be supportive of the program and project.
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Reliable®

F1FR56 Series Quick Response Sprinklers

K-factor 5.6 (80)

Features

- Standard coverage quick-response sprinklers
- Upright, pendent, horizontal sidewall, and vertical sidewall deflectors
- Low profile, compact design
- Available in a wide variety of finishes

Product Description

Reliable Model F1FR56 series sprinklers are quick-response standard spray automatic fire sprinklers utilizing a sensitive 3.0 mm glass bulb thermal element.

Pendent and horizontal sidewall sprinklers may be installed exposed or surface mounted using escutcheons such as the Reliable Models B, C, or HB (reference Technical Bulletin 204). When installed recessed or concealed, the Model F1FR56 series sprinklers are specifically listed with and may only be installed with listed Reliable escutcheons and cover plates. Refer to the technical information on the following pages for specific listings for recessed and concealed installations and refer to Figures 5 and 6 for dimensional information.

When fitted with an approved water shield, these sprinklers may be considered intermediate sprinklers for use in racks, below grated walkways, and other areas where intermediate level sprinklers are required.

Table A provides a summary of the approvals and availability of specific Model F1FR series sprinkler configurations. Additional technical information for each sprinkler model is provided on the following pages.



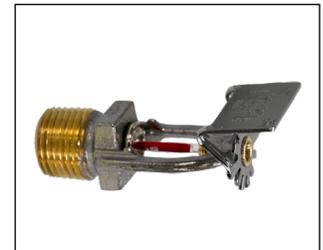
Model F1FR56 Pendent



Model F1FR56 Upright



Model F1FR56 Vertical Sidewall

Model F1FR56
Horizontal Sidewall

Note: Not all versions of the product are shown.

Note: This bulletin may contain information on New and Legacy sprinklers that reflects a dimensional change only. Sprinkler Identification Number (SIN), application, performance, and listings/approval are not otherwise affected. Sprinklers with New frames will include the suffix "N" in the order.

F1FR Series Sprinkler Summary

Table A

Sprinkler Model	K-Factor gpm/psi ^{1/2} (lpm/bar ^{1/2})	Orientation	Listings & Approvals	Max. Working Pressure psi (bar)	Sprinkler Identification Number (SIN)
F1FR56	5.6 (80)	Upright Intermediate Upright	cULus, FM, LPCB, VdS, EC, WM, UKCA	175 (12) 250 (17) (cULus only)	RA1425
		Pendent	cULus, FM, LPCB, VdS, EC, WM, UKCA	175 (12) 250 (17) (cULus only)	RA1414
		Concealed Pendent	cULus, VdS, EC, WM, UKCA	175 (12) 250 (17) (cULus only)	RA1414
		Horizontal Sidewall	cULus, FM	175 (12)	RA1435
		Vertical Sidewall	cULus, FM, LPCB, UKCA	175 (12)	RA1485

Technical Specifications

Style: Upright, Intermediate Upright
Threads: 1/2" NPT or ISO 7-R1/2
Nominal K-Factor: 5.6 (80 metric)
Max. Working Pressure:
 175 psi (12 bar)
 250 psi (17 bar) (cULus only)

Material Specifications

Thermal Sensor: 3 mm Glass Bulb
Sprinkler Frame: Brass Alloy
Cap: Bronze Alloy
Sealing Washer: Nickel with PTFE
Load Screw: Copper Alloy
Deflector: Brass Alloy

Sprinkler Finishes

(See Table B)

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)

Guards & Shields (New Frames)

Factory Water Shield (cULus, FM)
 F-1 Guard (cULus, FM)
 F-3 Guard with Shield (cULus, FM)

Guards and Shields (Legacy Frames)

Factory Water Shield
 C-1 Guard (FM)
 C-3 Guard with Shield (cULus, FM)
 D-1 Guard (cULus)
 D-3 Guard with Shield (cULus)

Sprinkler Wrench

Model W2
 Model W14 (New frame with guard installed)
 Model W13 (Legacy frame with guard installed)

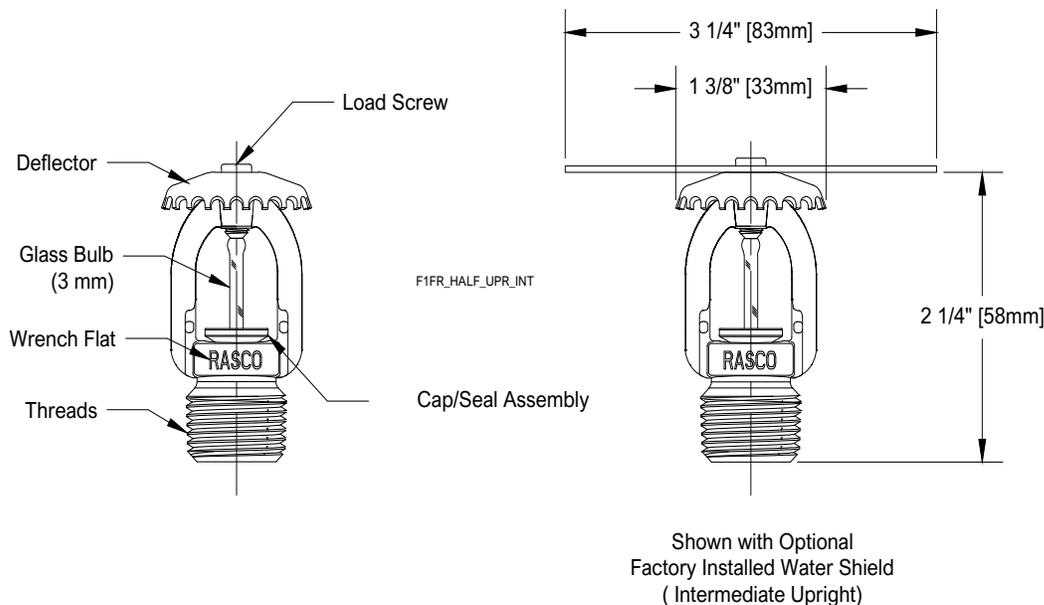
Listings and Approvals

cULus Listed
 FM Approved
 LPCB
 VdS
 EC
 WM
 UKCA: 0832-UKCA-CPR-S5045



Model F1FR56 Upright Sprinkler Components and Dimensions

Figure 1



Technical Specifications

Style:

- Pendent
- Recessed Pendent
- Concealed Pendent

Threads: 1/2" NPT or ISO 7-R1/2

Nominal K-Factor: 5.6 (80 metric)

Max. Working Pressure:

- 175 psi (12 bar)
- 250 psi (17 bar) (cULus only)

Material Specifications

Thermal Sensor: 3 mm Glass Bulb

Sprinkler Frame: Brass Alloy

Cap: Bronze Alloy

Sealing Washer: Nickel with PTFE

Load Screw: Copper Alloy

Deflector: Brass Alloy

Sprinkler Finishes

(See Table B)

Sensitivity

Quick response

Temperature Ratings⁽¹⁾

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

Recessed Escutcheons

- Model F1 (cULus, LPCB, VdS, CE, WM)
- Model F2 (cULus, FM, LPCB, VdS, CE, WM)
- Model FP (cULus, VdS, CE, WM)

Cover Plate

Model CCP (cULus, VdS⁽²⁾, CE⁽²⁾)

Guards & Shields (New Frames)⁽³⁾

- F-1 Guard (FM)
- F-5 Guard/Shield Kit (FM)
- F-7 Guard (cULus)
- F-8 Guard/Shield Kit (cULus)
- S-1 Shield (cULus, FM)

Guards & Shields (Legacy Frames)⁽³⁾

- C-1 Guard (FM)
- C-5 Guard/Shield Kit (FM)
- D-1 Guard (cULus, FM)
- D-4 Guard/Shield Kit (FM)
- D-5 Guard/Shield Kit (cULus, FM)
- S-1 Shield (cULus, FM)

Sprinkler Wrenches

- Model W2 (pendent)
- Model W4 (recessed or concealed)
- Model W14 (New frame with guard installed)
- Model W13 (Legacy frame with guard installed)

Listings and Approvals⁽⁴⁾

- cULus Listed
- FM Approved
- LPCB
- VdS
- EC
- WM
- UKCA: 0832-UKCA-CPR-S5045, 0831-UK-CA-CPR-5072 (CCP)

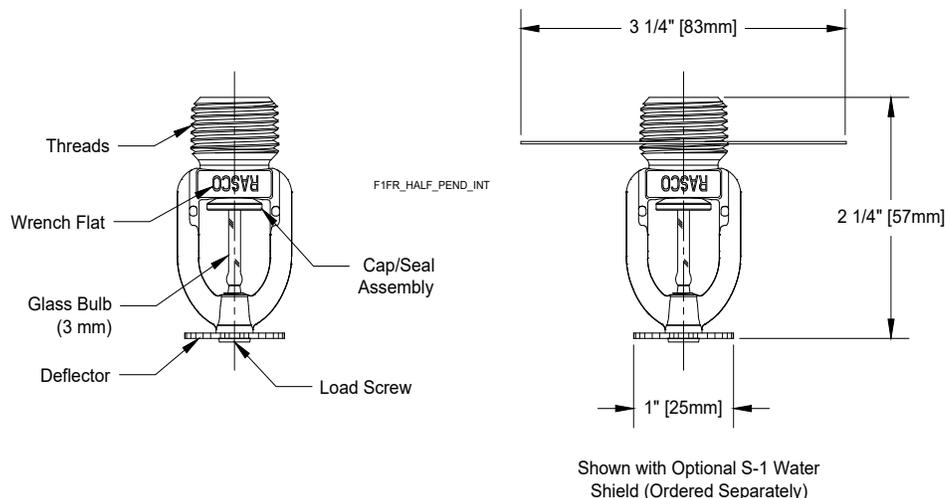


Notes:

1. 286°F (141°C) temperature rated sprinkler not listed for recessed or concealed use.
2. VdS and CE approval for CCP concealed use is for 155°C (68°C) sprinkler ONLY.
3. Not suitable for recessed or concealed pendent installations.
4. When used surface mounted or exposed. See Recessed Escutcheon and Cover Plate section for specific approvals when installed recessed or concealed.

Model F1FR56 Pendent Sprinkler Components and Dimensions

Figure 2



Note: Please refer to Figure 8 for recessed and concealed installation.

Technical Specifications

Style:

Horizontal Sidewall
Recessed Horizontal Sidewall

Threads: 1/2" NPT or ISO 7-R1/2

Nominal K-Factor: 5.6 (80 metric)

Max. Working Pressure:

175 psi (12 bar)

Material Specifications

Thermal Sensor: 3 mm Glass Bulb

Sprinkler Frame: Brass Alloy

Cap: Bronze Alloy

Sealing Washer: Nickel with PTFE

Load Screw: Copper Alloy

Deflector: Brass Alloy

Sprinkler Finishes

(See Table B)

Sensitivity

Quick response

Temperature Ratings ⁽¹⁾

135°F (57°C)

155°F (68°C)

175°F (79°C)

200°F (93°C)

286°F (141°C)

Recessed Escutcheons⁽²⁾

Model F1 (cULus)

Model F2 (cULus, FM)

Model FP (cULus)

Guards & Shields (New Frames)⁽³⁾

F-4 Guard (FM)

F-7 Guard (cULus)

Guards & Shields (Legacy Frames)⁽³⁾

C1 Guard (FM)

D1 Guard (cULus)

Sprinkler Wrenches

Model W2 (non-recessed)

Model W4 (recessed)

Model W14 (New frame with guard installed)

Model W13 (Legacy frame with guard installed)

Listings and Approvals

cULus Listed⁽⁴⁾

FM Approved⁽⁵⁾

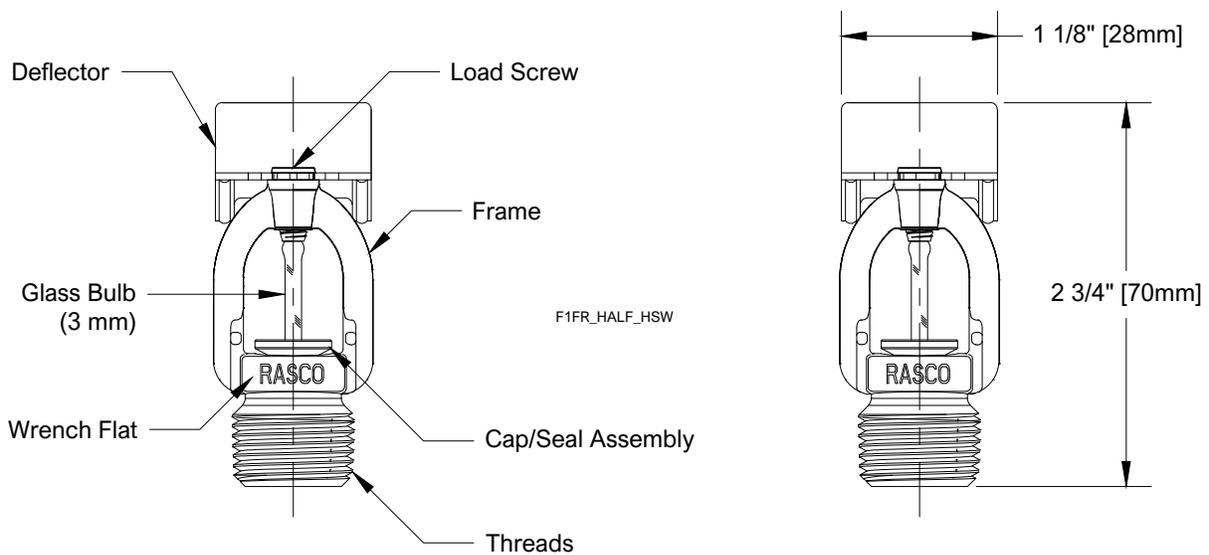


Notes:

1. 286°F (141°C) temperature rated sprinkler not listed for recessed use.
2. FM approved recessed installation when used with Model F2 escutcheon ONLY.
3. Not suitable for recessed horizontal sidewall installations.
4. cULus Listed for Light and Ordinary Hazard when installed exposed or surface mounted. Listed for Light Hazard ONLY when installed recessed.
5. FM Approved for Light Hazard ONLY.

Model F1FR56 Horizontal Sidewall Sprinkler Components and Dimensions

Figure 3



Note: Please refer to Figure 9 for recessed installation.

Technical Specifications

Style:

Upright Vertical Sidewall
Pendent Vertical Sidewall

Threads: 1/2" NPT or ISO 7-R1/2

Nominal K-Factor: 5.6 (80 metric)

Max. Working Pressure: 175 psi (12 bar)

Material Specifications

Thermal Sensor: 3 mm Glass Bulb

Sprinkler Frame: Brass Alloy

Cap: Bronze Alloy

Sealing Washer: Nickel with PTFE

Load Screw: Copper Alloy

Deflector: Brass Alloy

Sprinkler Finishes

(See Table B)

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)

Guards & Shields (New Frames)

F-2 Guard (FM)

Guards & Shields (Legacy Frames)

C1 Guard (FM)

Sprinkler Wrenches

Model W2

Model W14 (New frame with guard installed)

Model W13 (Legacy frame with guard installed)

Listings and Approvals⁽¹⁾

cULus Listed

FM Approved

LPCB⁽²⁾

UKCA: 0832-UKCA-CPR-S5045

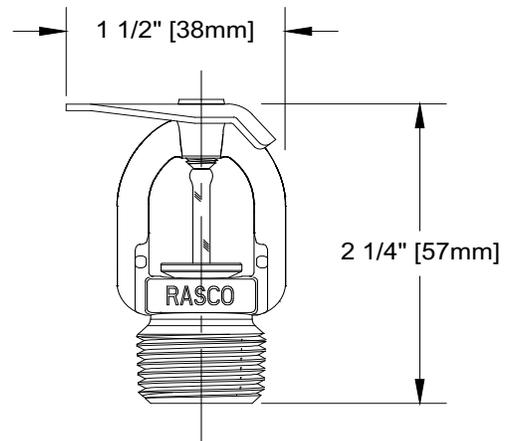
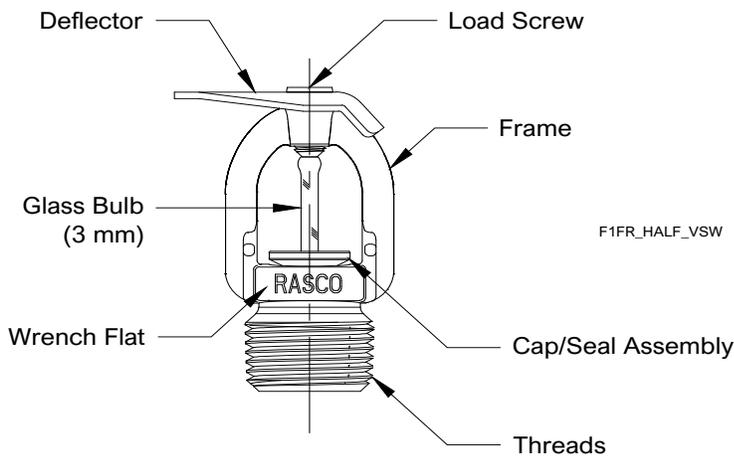


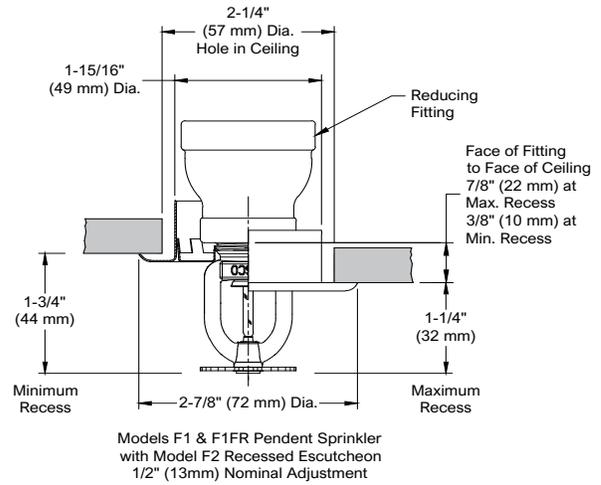
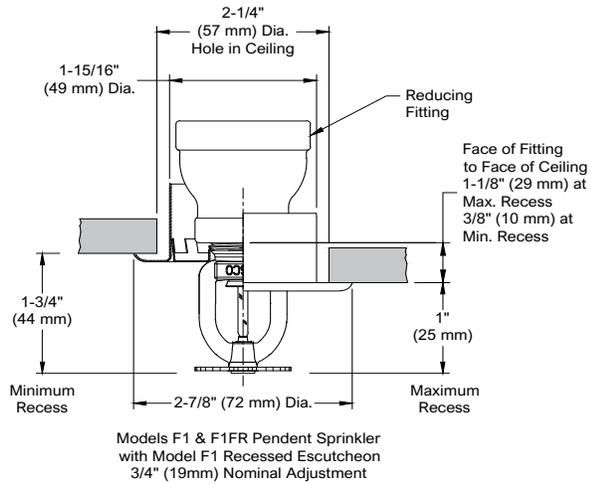
Notes:

1. Listed and approved for Light Hazard ONLY.
2. LPCB approved for use in pendent position ONLY.

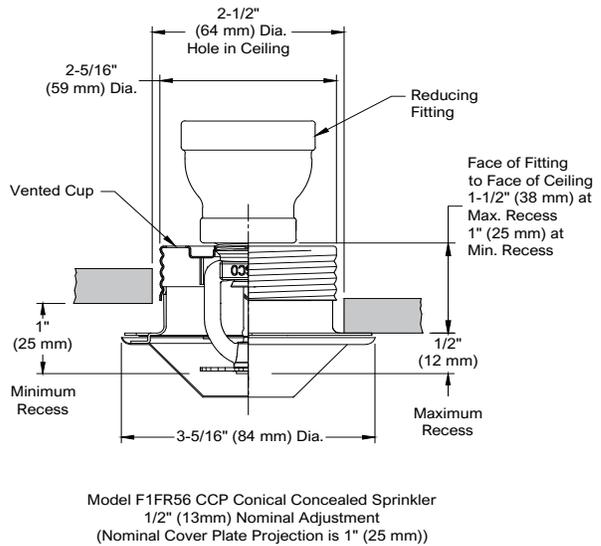
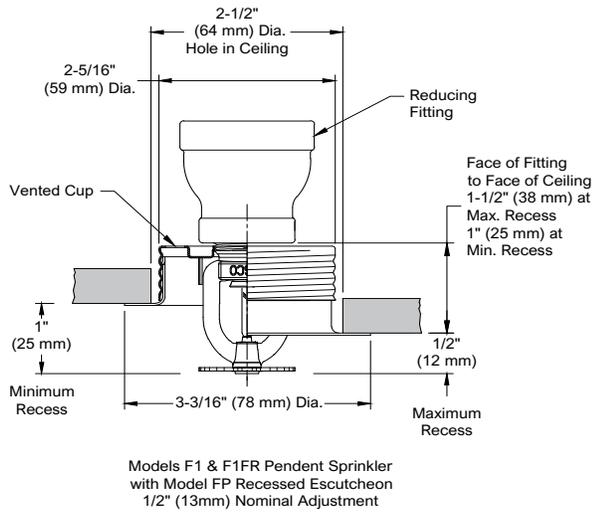
Model F1FR56 Vertical Sprinkler Components and Dimensions

Figure 4





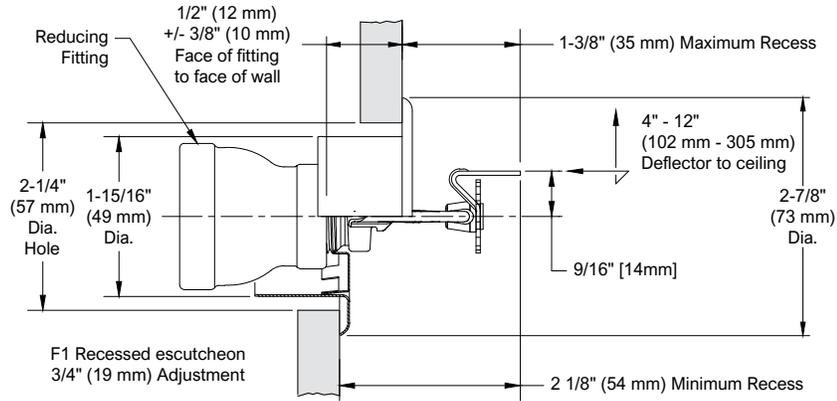
F1_REC_PEND_CCP



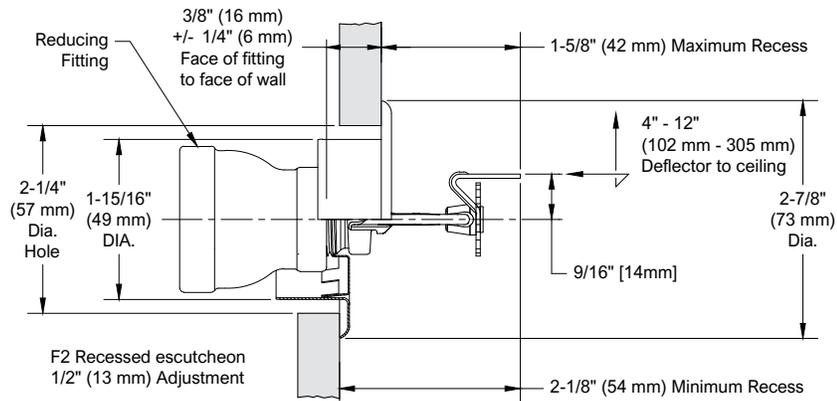
Note: Model FP recessed assemblies may not be used where the pressure in the space above the ceiling is positive with respect to the protected area. Ensure that the openings in the Model FP cup are unobstructed following installation.

Note: Model CCP concealed assemblies may not be used where the pressure in the space above the ceiling is positive with respect to the protected area. Ensure that the openings in the Model CCP cup are unobstructed following installation.

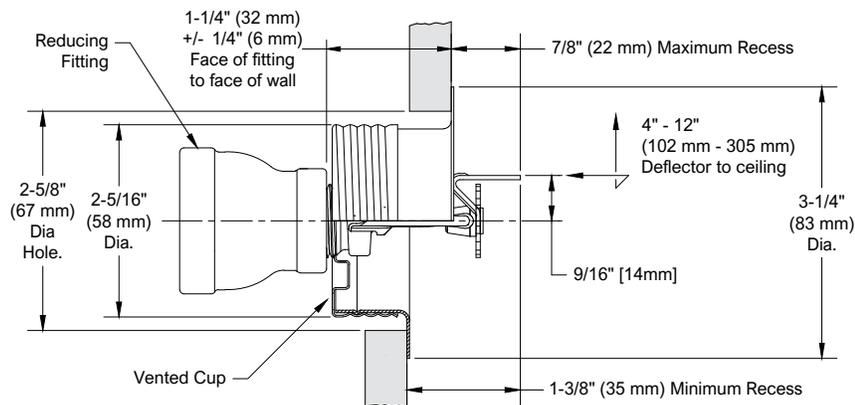




Model F1FR Horizontal Sidewall Sprinkler with Model F1 Recessed Escutcheon
3/4" (19mm) Nominal Adjustment F1FR_REC_HSW



Model F1FR Horizontal Sidewall Sprinkler with Model F2 Recessed Escutcheon
1/2" (13mm) Nominal Adjustment



Model F1FR Horizontal Sidewall Sprinkler with Model FP Recessed Escutcheon
1/2" (13mm) Nominal Adjustment

Note: Model FP recessed assemblies may not be used where the pressure in the space behind the sprinkler is positive with respect to the space in the protected area. Ensure that the openings in the Model FP cup are unobstructed following installation.

Wrenches



Model W2 (upright, pendent)



Model W13 (Legacy frame with guard installed)



Model W14 (New frame with guard installed)



Model W4
(recessed, concealed pendent)

Finishes⁽¹⁾

Table B

Standard Finishes			Special Application Finishes		
Sprinkler	F1, F2 and FP ⁽²⁾ Escutcheons	CCP Cover Plate ⁽²⁾	Sprinkler	F1, F2 and FP ⁽²⁾ Escutcheons	CCP Cover Plate ⁽²⁾
Bronze	Brass	Chrome	Electroless Nickel PTFE ⁽³⁾⁽⁴⁾	Bright Brass	Bright Brass
Chrome	Chrome	White Paint	Bright Brass ⁽⁵⁾	Satin Chrome	Satin Chrome
White Polyester ⁽³⁾	White Polyester		Satin Chrome	Custom Color Polyester	Custom Color Paint
			Custom Color Polyester ⁽³⁾		

Notes:

1. Paint or any other coating applied over the factory finish will void all approvals and warranties.
2. Model FP escutcheons and Model CCP sprinklers utilize a galvanized steel cup with a finished trim ring or cover plate.
3. cULus Listed as corrosion resistant.
4. FM Approved as corrosion resistant.
5. For 200°F (93°C) maximum temperature rated sprinklers only.

Installation

Model F1FR Series sprinklers must be installed in accordance with NFPA13 and the requirements of all applicable authorities having jurisdiction. Model F1FR Series sprinklers must be installed with the Reliable sprinkler installation wrench identified in this Bulletin. Any other wrench may damage the sprinkler. The Models W2 and W4 wrenches have two sets of jaws. Use the smallest set of jaws that fit on the wrench flats of 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 F1FR 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 guarantee, terms, and conditions, visit www.reliablesprinkler.com.

Ordering Information

Specify the following when ordering:

Model

- F1FR56

Deflector/Orientation

- Upright
- Intermediate Upright
- Pendent
- CCP Concealed Pendent
- Horizontal Sidewall
- Vertical Sidewall

Temperature Rating

- See sprinkler technical specifications

Sprinkler Finish

- See Table B

Recessed Escutcheon⁽¹⁾⁽²⁾

- F1
- F2
- FP

Escutcheon Finish

- See Table B

CCP Cover Plate Temperature Rating

- 135°F (57°C) [For use with 135°F (57°C) and 155°F (68°C) sprinklers.]
- 165°F (74°C) [For use with 175°F (79°C) and 200°F (93°C) sprinklers.]

CCP Cover Plate Finish

- See Table B

Sprinkler Wrench

- Model W2
- Model W4 (recessed, concealed)
- Model W14 (New frame with guard installed)
- Model W13 (Legacy frame with guard installed)

Notes:

1. 286°F (141°C) sprinklers are not listed to be used recessed or concealed.
2. For FM, recessed sprinklers must use the Model F2 escutcheon.

Reliable®

Model J112 and JL112 Sprinklers

Extended Coverage Sprinklers for
Light Hazard and Ordinary Hazard

cULus Listed
K11.2 (160 metric)

Product Description

Model J112 and JL112 series sprinklers are cULus Listed extended coverage spray sprinklers intended for installation in accordance with NFPA 13. The sprinklers also have cULus Listed Specific Application Criteria for installation under concrete tee construction in accordance with the requirements documented in this bulletin. Coverage areas up to 400 ft² (37 m²) per sprinkler with a maximum spacing of up to 20 ft by 20 ft (6.1 m by 6.1 m) are permitted for both Light Hazard and Ordinary Hazard occupancies. Listed flows and pressures for each hazard classification and sprinkler spacing are provided in this bulletin. Model J112 and JL112 series sprinkler are cULus Listed as quick-response sprinklers for Light Hazard occupancies. When used in the Ordinary Hazard occupancies, Model J112 and JL112 series sprinklers are cULus Listed as quick-response for spacings up to 14 ft by 14 ft (4.3 m by 4.3 m) and standard-response for other listed spacings up to 20 ft by 20 ft (6.1 m by 6.1 m).

Model J112 Pendent and J112 Upright sprinklers use a glass bulb operating element and are cULus Listed as Corrosion Resistant Sprinklers when ordered with Polyester or Electroless Nickel PTFE (ENT) finish. Model JL112 Pendent and JL112 Upright sprinklers use a fusible link operating element. Model J112 Pendent and Model JL112 Pendent sprinklers are cULus Listed for use with the Model F2 and Model FP recessed escutcheons, which provide up to ½ inch (13 mm) of adjustment. In addition, for Ordinary Hazard occupancies, the Model J112 Pendent and Model JL112 Pendent sprinklers are cULus Listed for use with the Model F1 recessed escutcheon that provides up to ¾ inch (19 mm) of adjustment.

Application

Model J112 and JL112 series sprinklers are intended for installation in Light Hazard and Ordinary Hazard occupancies in accordance with NFPA 13. The sprinklers must be installed in accordance with the requirements of NFPA 13 for extended coverage spray sprinklers and the requirements identified in this bulletin. In addition to the installation requirements of NFPA 13, cULus Listed Specific Application Criteria for installation under concrete tee construction is provided in this bulletin.



Model JL112 Upright



Model J112 Upright



Model JL112 Pendent



Model J112 Pendent



F1/F2 Recessed Escutcheon



FP Recessed Escutcheon

Model J112 and JL112 Series Sprinkler Summary

Table A

Model	Orientation	Operating Element	Sprinkler Identification Number (SIN)
J112	Pendent	Glass Bulb	RA7216
JL112	Pendent	Fusible Link	R7216
J112	Upright	Glass Bulb	RA7326
JL112	Upright	Fusible Link	R7326

Model J112 Pendent Sprinkler

SIN RA7216

Technical Specifications

Style: Extended Coverage Pendent
Threads: 3/4" NPT or ISO 7-1R3/4
Nominal K-Factor: 11.2 (160 metric)
Max. Working Pressure: 175 psi (12 bar)
Min. Spacing: 8 ft. (2.4 m)

Material Specifications

Thermal Sensor: Glass Bulb
Cup: Bronze Alloy
Frame: Brass Alloy
Sealing Assembly: Nickel Alloy with PTFE
Load Screw: Bronze Alloy
Kick Spring: Steel Alloy
Deflector: Brass Alloy

Sprinkler Wrench

Model J1
 Model RJ (recessed)

Finishes

(See Table G)

Sensitivity

(See Table B)

Temperature Ratings

155°F (68°C)
 200°F (93°C)
 286°F (141°C)

Recessed Escutcheons

F1-3/4" (19mm) adjustment (Ordinary Hazard only)
 F2-1/2" (13mm) adjustment
 FP-1/2" (13mm) adjustment

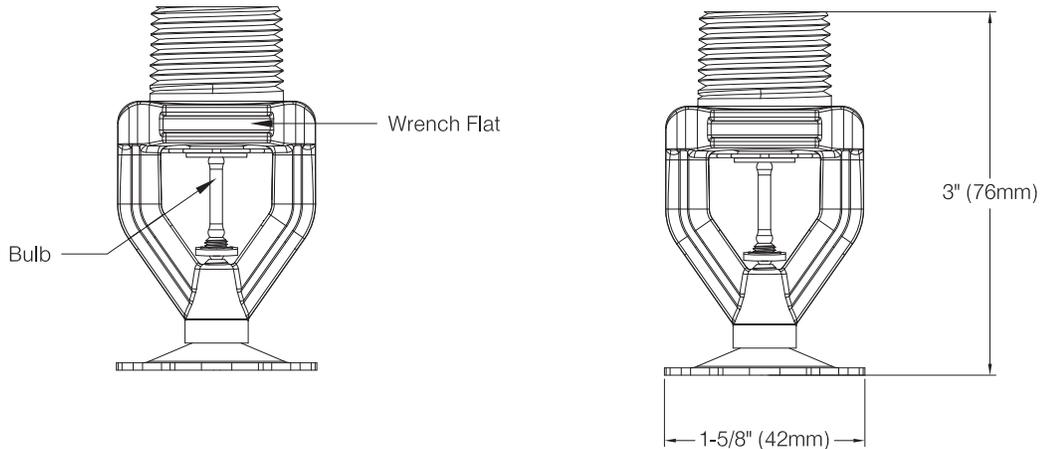
Listings and Approvals

cULus Listed
 cULus Listed as Corrosion Resistant with Polyester and ENT finish only



Model J112 Pendent Sprinkler Components

Figure 1



Listed Design Criteria and Sensitivity

Table B

Max. Spacing ft. x ft. (m x m)	Light Hazard		Ordinary Hazard Group 1		Ordinary Hazard Group 2	
	Flow gpm (l/m)	Pressure psi (bar)	Flow gpm (l/m)	Pressure psi (bar)	Flow gpm (l/m)	Pressure psi (bar)
12 x 12 (3.7 x 3.7)	30 (114) QR	7.2 (0.50) QR	30 (114) QR	7.2 (0.50) QR	39 (148) QR	12.1 (0.8) QR
14 x 14 (4.3 x 4.3)	30 (114) QR	7.2 (0.50) QR	30 (114) QR	7.2 (0.50) QR	39 (148) QR	12.1 (0.8) QR
16 x 16 (4.9 x 4.9)	30 (114) QR	7.2 (0.50) QR	39 (148) SR	12.1 (0.8) SR	51 (193) SR	20.7 (1.4) SR
18 x 18 (5.5 x 5.5)	33 (125) QR	8.7 (0.60) QR	49 (186) SR	19.1 (1.3) SR	65 (246) SR	33.7 (2.3) SR
20 x 20 (6.1 x 6.1)	40 (152) QR	12.8 (0.88) QR	60 (227) SR	28.7 (2.0) SR	80 (303) SR	51.0 (3.5) SR

QR = Quick-response
 SR = Standard-response

Model JL112 Pendent Sprinkler

SIN R7216

Technical Specifications

Style: Extended Coverage Pendent
Threads: 3/4" NPT or ISO 7-1R3/4
Nominal K-Factor: 11.2 (160 metric)
Max. Working Pressure: 175 psi (12 bar)
Min. Spacing: 8 ft. (2.4 m)

Material Specifications

Thermal Sensor: Nickel Alloy Solder Link
Frame: Brass Alloy
Levers: Brass Alloy
Cap: Bronze Alloy
Sealing Assembly: Nickel Alloy with PTFE
Load Screw: Bronze Alloy
Deflector: Brass Alloy
Strut: Copper Alloy

Sprinkler Wrench

Model J1
 Model RJ (recessed)

Finishes

(See Table G)

Sensitivity

(See Table C)

Temperature Rating*

165°F (74°C)
 212°F (100°C)

Recessed Escutcheons

F1-3/4" (19mm) adjustment (Ordinary Hazard only)
 F2-1/2" (13mm) adjustment
 FP-1/2" (13mm) adjustment

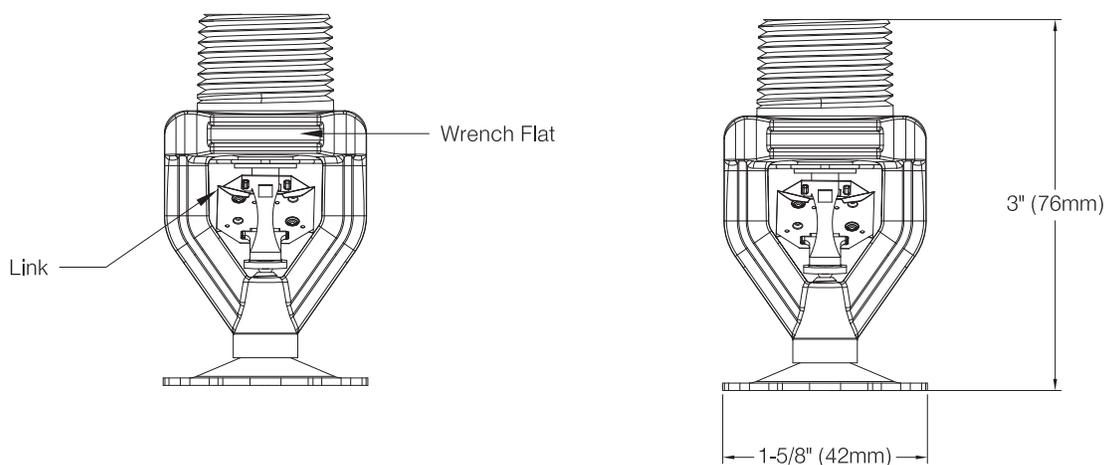
Listings and Approvals

cULus Listed



Model J112 Pendent Sprinkler Components

Figure 2



Listed Design Criteria and Sensitivity

Table C

Max. Spacing ft. x ft. (m x m)	Light Hazard		Ordinary Hazard Group 1		Ordinary Hazard Group 2	
	Flow gpm (l/m)	Pressure psi (bar)	Flow gpm (l/m)	Pressure psi (bar)	Flow gpm (l/m)	Pressure psi (bar)
12 x 12 (3.7 x 3.7)	30 (114) QR	7.2 (0.50) QR	30 (114) QR	7.2 (0.50) QR	39 (148) QR	12.1 (0.8) QR
14 x 14 (4.3 x 4.3)	30 (114) QR	7.2 (0.50) QR	30 (114) QR	7.2 (0.50) QR	39 (148) QR	12.1 (0.8) QR
16 x 16 (4.9 x 4.9)	30 (114) QR	7.2 (0.50) QR	39 (148) SR	12.1 (0.8) SR	51 (193) SR	20.7 (1.4) SR
18 x 18 (5.5 x 5.5)	33 (125) QR	8.7 (0.60) QR	49 (186) SR	19.1 (1.3) SR	65 (246) SR	33.7 (2.3) SR
20 x 20 (6.1 x 6.1)	40 (152) QR	12.8 (0.88) QR	60 (227) SR	28.7 (2.0) SR	80 (303) SR	51.0 (3.5) SR

QR = Quick-response
 SR = Standard-response

Model J112 Upright Sprinkler

SIN RA7326

Technical Specifications

Style: Extended Coverage Upright
Threads: 3/4" NPT or ISO 7-1 R3/4
Nominal K-Factor: 11.2 (160 metric)
Max. Working Pressure: 175 psi (12 bar)
Min. Spacing: 8 ft. (2.4 m)

Material Specifications

Thermal Sensor: Glass Bulb
Cup: Bronze Alloy
Frame: Brass Alloy
Sealing Assembly: Nickel Alloy with PTFE
Load Screw: Bronze Alloy
Kick Spring: Steel Alloy
Deflector: Brass Alloy

Finishes

(See Table G)

Sensitivity

(See Table D)

Temperature Rating

155°F (68°C)
 200°F (93°C)
 286°F (141°C)

Sprinkler Wrench

Model J1

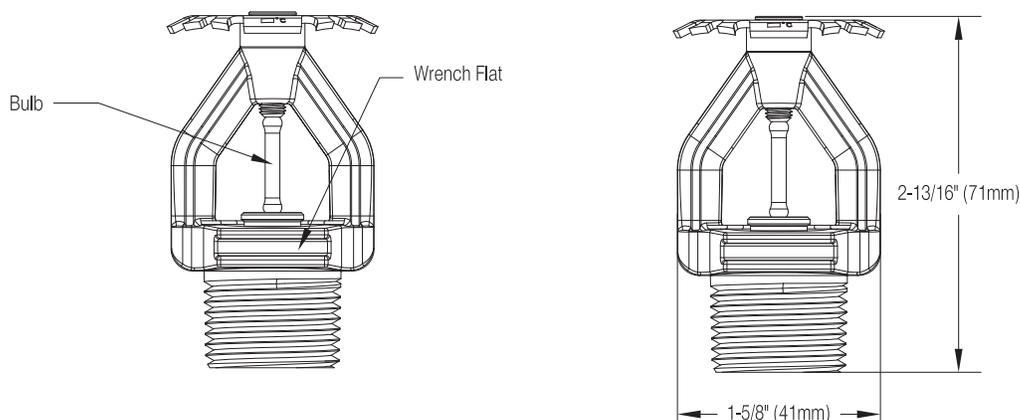
Listings and Approvals

cULus Listed
 cULus Listed as Corrosion Resistant
 with Polyester and ENT finish only



Model J112 Upright Sprinkler Components

Figure 3



Listed Design Criteria and Sensitivity

Table D

Max. Spacing ft. x ft. (m x m)	Light Hazard		Ordinary Hazard Group 1		Ordinary Hazard Group 2	
	Flow gpm (l/m)	Pressure psi (bar)	Flow gpm (l/m)	Pressure psi (bar)	Flow gpm (l/m)	Pressure psi (bar)
12 x 12 (3.7 x 3.7)	30 (114) QR	7.2 (0.50) QR	30 (114) QR	7.2 (0.50) QR	39 (148) QR	12.1 (0.8) QR
14 x 14 (4.3 x 4.3)	30 (114) QR	7.2 (0.50) QR	30 (114) QR	7.2 (0.50) QR	39 (148) QR	12.1 (0.8) QR
16 x 16 (4.9 x 4.9)	30 (114) QR	7.2 (0.50) QR	39 (148) SR	12.1 (0.8) SR	51 (193) SR	20.7 (1.4) SR
18 x 18 (5.5 x 5.5)	33 (125) QR	8.7 (0.60) QR	49 (186) SR	19.1 (1.3) SR	65 (246) SR	33.7 (2.3) SR
20 x 20 (6.1 x 6.1)	40 (152) QR	12.8 (0.88) QR	60 (227) SR	28.7 (2.0) SR	80 (303) SR	51.0 (3.5) SR

QR = Quick-response
 SR = Standard-response

Model JL112 Upright Sprinkler

SIN R7326

Technical Specifications

Style: Extended Coverage Upright
Threads: 3/4" NPT or ISO 7-1 R3/4
Nominal K-Factor: 11.2 (160 metric)
Max. Working Pressure: 175 psi (12 bar)
Min. Spacing: 8 ft. (2.4 m)

Material Specifications

Thermal Sensor: Nickel Alloy Solder Link
Frame: Brass Alloy
Levers: Brass Alloy
Strut: Brass Alloy
Cap: Bronze Alloy
Sealing Assembly: Nickel Alloy with PTFE
Load Screw: Bronze Alloy
Deflector: Brass Alloy

Finishes

(See Table G)

Sensitivity

(See Table E)

Temperature Rating*

165°F (74°C)
 212°F (100°C)

Sprinkler Wrench

Model J1

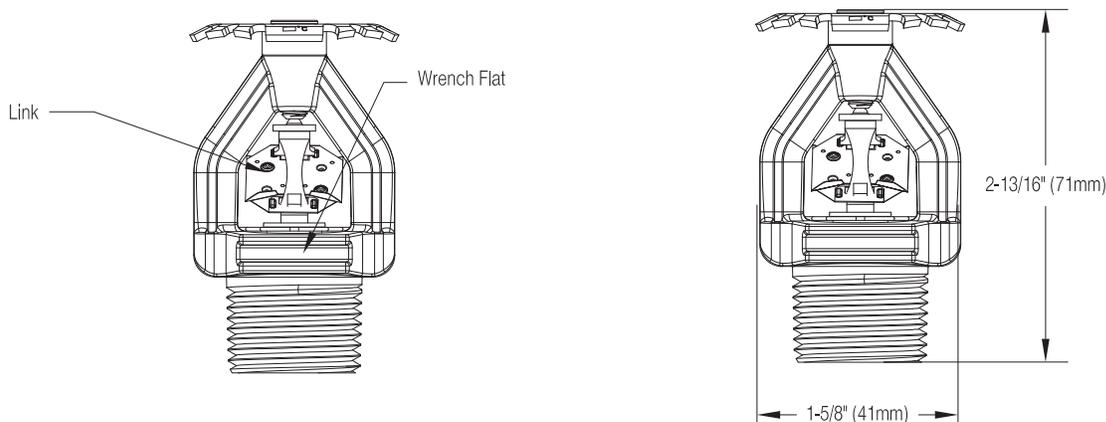
Listings and Approvals

cULus Listed



Model JL112 Upright Sprinkler Components

Figure 4



Listed Design Criteria and Sensitivity

Table E

Max. Spacing ft. x ft. (m x m)	Light Hazard		Ordinary Hazard Group 1		Ordinary Hazard Group 2	
	Flow gpm (l/m)	Pressure psi (bar)	Flow gpm (l/m)	Pressure psi (bar)	Flow gpm (l/m)	Pressure psi (bar)
12 x 12 (3.7 x 3.7)	30 (114) QR	7.2 (0.50) QR	30 (114) QR	7.2 (0.50) QR	39 (148) QR	12.1 (0.8) QR
14 x 14 (4.3 x 4.3)	30 (114) QR	7.2 (0.50) QR	30 (114) QR	7.2 (0.50) QR	39 (148) QR	12.1 (0.8) QR
16 x 16 (4.9 x 4.9)	30 (114) QR	7.2 (0.50) QR	39 (148) SR	12.1 (0.8) SR	51 (193) SR	20.7 (1.4) SR
18 x 18 (5.5 x 5.5)	33 (125) QR	8.7 (0.60) QR	49 (186) SR	19.1 (1.3) SR	65 (246) SR	33.7 (2.3) SR
20 x 20 (6.1 x 6.1)	40 (152) QR	12.8 (0.88) QR	60 (227) SR	28.7 (2.0) SR	80 (303) SR	51.0 (3.5) SR

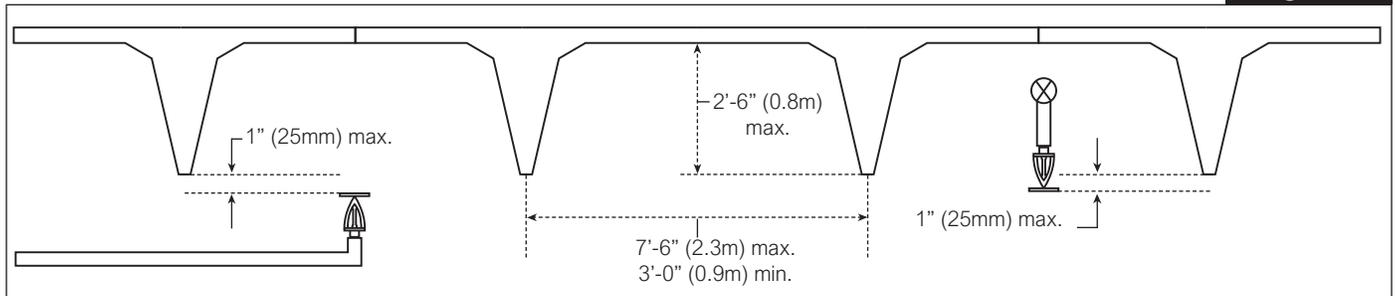
QR = Quick-response
 SR = Standard-response

The Model J112 and JL112 pendent and upright sprinklers are cULus Listed for installation under concrete tee construction in accordance with the following specific application criteria:

- Max. Tee Depth: 2'- 6" (0.8m)
- Max. Tee Stem Spacing: 7'- 6" (2.3m)
- Min. Tee Stem Spacing: 3'- 0" (0.9m)
- Max. Tee Length: 32'- 0" (9.8m) or non-combustible baffles not less than the depth of the tees must be installed so that the longitudinal space between baffles does not exceed 32ft (9.8m) in length.
- Max. Deflector distance below Tee: 1" (25mm)
- Comply with obstructions to the Sprinkler Discharge Pattern Development requirements of the NFPA13 where deflector is located above bottom of tee.

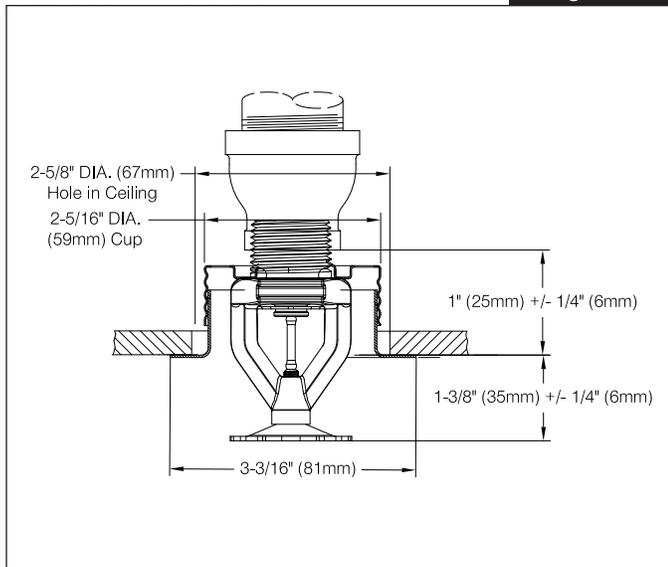
Application and Installation for Use Under Concrete Tee

Figure 5



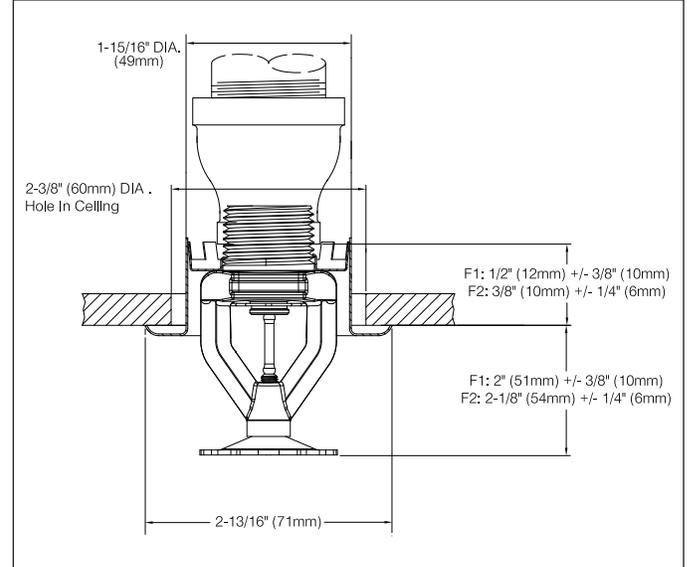
Model FP Escutcheon Installation Dimensions

Figure 6



Model F1/F2 Escutcheon Installation Dimensions

Figure 7



Note: The Model FP, F1, or F2 may be used for ordinary hazard occupancies. For light hazard occupancies, the Model FP or F2 recessed escutcheon must be used. Model J112 and JL112 sprinklers with Model F1 recessed escutcheon are not listed for use in light hazard occupancies.

Standard Finishes		Special Application Finishes	
Sprinkler	F1, F2, & FP ⁽³⁾ Escutcheons	Sprinkler	F1, F2, & FP ⁽³⁾ Escutcheons
Bronze Chrome Plated White Polyester ⁽²⁾	Brass Chrome Plated White Polyester	Bright Brass Satin Chrome Custom Color Polyester ⁽²⁾ Electroless Nickel PTFE ^{(2) (4)}	Bright Brass Satin Chrome Custom Color Polyester Type 316 Stainless Steel

- Notes:** ⁽¹⁾ Paint or any other coating applied over the factory finish will void all approvals and warranties.
⁽²⁾ cULus Listed Corrosion Resistant when ordered with Model J112 Pendent (RA7216) or Model J112 Upright (RA7326).
⁽³⁾ The Model FP escutcheon assembly consists of an unfinished galvanized cup with a finished escutcheon ring.
⁽⁴⁾ Available with Model J112 Pendent (RA7216) and Model J112 Upright (RA7326) only.

Installation

Glass bulb sprinklers have orange bulb protectors 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.

Models J112 and JL112 series sprinklers must be installed with the Reliable sprinkler installation wrench identified in this bulletin. Any other wrench may damage the sprinkler. Recommended installation torque is 14 to 20 lb.ft (19 to 27 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.

Recessed pendent sprinklers are to be installed as shown in Fig. 6 or Fig 7., as applicable to the specific model being installed. Models J112 and JL112 series recessed pendent sprinklers may only be installed with the Reliable Model F1, Model F2, or Model FP recessed escutcheon. The use of any other recessed escutcheon will void all approvals and negate all warranties. The Reliable Model FP escutcheon may not be used in ceilings having positive pressure with respect to the space below. Ensure that the openings in the Model FP escutcheon/can assembly are unobstructed following installation.

Maintenance

Models J112 and JL112 series sprinklers should be inspected 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 gentle vacuuming. Replace 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.

J1 Wrench



RJ Wrench



Listings and Approvals

Listed by Underwriters Laboratories, Inc. and certified by Underwriters Laboratories of Canada (cULus)

UL Listing Category

Sprinklers, Automatic and Open Extended Coverage Sprinklers
 UL Guide Number – VNIV.

Ordering Information

Specify:

- Sprinkler Model: [J112 Pendent] [JL112 Pendent] [J112 Upright] [JL112 Upright]
- Temperature Rating: J112: [155°F (68°C)] [200°F (93°C)] [286°F (141°C)]
 JL112: [165°F (74°C)] [212°F (100°C)]
- Finish: (See Table G)
- Escutcheon (Pendent Only; for 3/4" threads)
 Model F1 (Ordinary Hazard Only)
 Model F2
 Model FP