

MODEL F1FR LO K8.0 (115 METRIC) QUICK RESPONSE SPRINKLERS

Model F1FR LO Sprinkler



Upright



Pendent



Conventional

Model F1FR LO Recessed Sprinkler



Recessed Pendent (Model FP Shown)

PRODUCT DESCRIPTION

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

The Models F1FR LO and F1FR LO Recessed automatic sprinklers utilize a 3.0 mm frangible glass bulb. These sprinklers have demonstrated response times in laboratory tests which are five to ten times faster than standard response sprinklers. This quick response enables the Model F1FR LO and F1FR LO Recessed 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.

At normal temperatures, the glass bulb contains the fluid in both the liquid and vapor phases. 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 temperature rating of the sprinkler is identified by the color of the glass bulb.

REF: SRBRK115_032021_REVO

AQL PROTECCION

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APPROVAL ORGANIZATIONS

1. Listed by Underwriters Laboratories, Inc. (UL).
2. Listed by Underwriters' Laboratories of Canada (ULC).
3. Factory Mutual Approvals (FM).
4. Loss Prevention Council (LPCB, UK).
5. Verband der Schadenversicherer GmbH.
6. EC Certificate:
 - 1438-CPD-0049 (R3612).
 - 1438-CPD-0048 (R3622).
 - 1438-CPD-0047 (R3672).

UL LISTING CATEGORY

Sprinklers, Automatic & Open.
Quick Response Sprinkler.

ULGUIDE NUMBER

VNIV.

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, FM Global Loss Prevention Data Sheet 2-0 or other applicable standards. Quick response sprinklers and standard response sprinklers should not be intermixed.

INSTALLATION

The Model F1FR LO Recessed Quick Response 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 LO Sprinklers. The use of any other recessed escutcheon will void all approvals and negate all warranties.

When installing Model F1FR LO Sprinklers, use the Model D Sprinkler Wrench or Model W2 Sprinkler Wrench. When installing Model F1FR LO Recessed Pendent or Sidewall Sprinklers, use the Model GFR2 Sprinkler Wrench. Any other type of wrench may damage these sprinklers.

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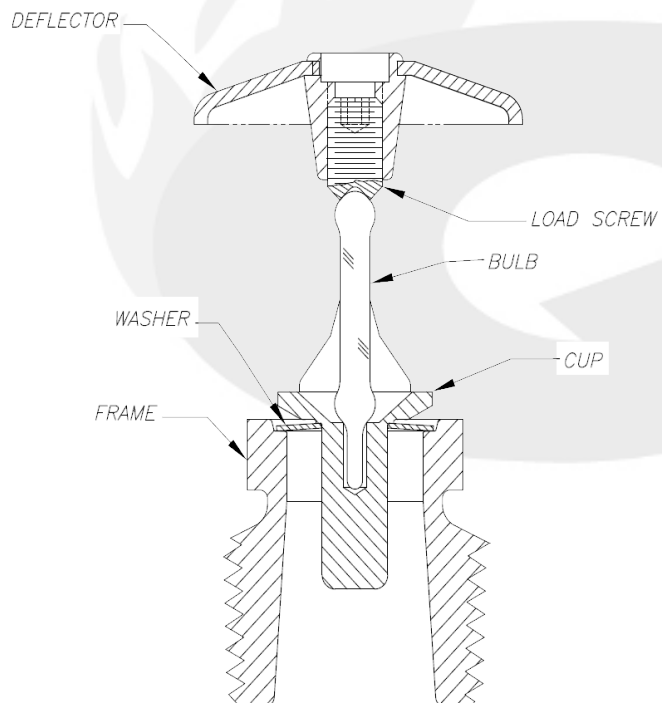
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SPRINKLER TYPES

Standard Upright.
Standard Pendent.
Conventional.
Recessed Pendent.



Technical Data:

Models	Response	Deflector Orientation	Nominal K-Factor	Thread Size	Max. Working pressure	Min. Working Pressure	Temperature Rating	Finish
F1FR LO	Quick Response	Upright Pendent Conventional	8.0 (115 Metric)	3/4" NPT or ISO 7-1R3/4	175 PSI ⁽¹⁾	7 PSI	See "Temperature Ratings" table	See "Finish Table"

Material Data:

Frame	Deflector	Load Screw	Cup	Washer	Bulb
DZR Brass QM Brass	CDA Alloy 510	CDA Alloy 210, 220, 314, 316, 360 or CDA Alloy 544	CDA Alloy 314 or CDA Alloy 353	Nickel Alloy 440 or Alloy 360 coated with PTFE Adhesive Tape	Glass

See "Installation Data" tables for additional information on each sprinkler model.

⁽¹⁾ Model F1FR LO Pendent, Recessed Pendent, and Upright sprinklers (SIN R3612 and R3622) are cULus Listed for 250 psi (17 bar).

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Model F1FR LO Quick Response Upright, Pendent & Conventional Sprinklers

Deflector: Model D Sprinkler Wrench or Model W2 Sprinkler Wrench.

Installation Wrench: Model W2 Sprinkler Wrench.



Upright

Pendent

Conventional

Installation Data:

Sprinkler Type	Nominal K-Factor		Sprinkler Height	Approval Organizations	Saprinkler Identification Number (SIN)		
	US	Metric			SSU	SSP	
Standard-Upright (SSU) and pendent (SSP) Deflectors Marked to Indicate Position							
17/32" (20mm) Large Orifice with 3/4" NPT (R3/4) Thread	8.0	115	2.3" (58mm)	1, 2, 3, 4, 5, 6	R3622 ⁽¹⁾⁽²⁾⁽³⁾	R3612 ⁽²⁾⁽³⁾	
Conventional-Install in Upright or Pendent Position							
20mm Large Orifice with 3/4" NPT (R3/4)	8.0	115	58 mm	4	R3672		

⁽¹⁾ Polyester coated upright UL and ULC listed corrosion resistant R3622.

⁽²⁾ FM Approved for polyester coated sprinkler. R3622, R3612.

⁽³⁾ Electroless Nickel PTFE Plated - FM Approved/cULus Listed Corrosion Resistant

Model F1FR LO Quick Response Recessed Pendent Sprinkler⁽¹⁾

Installation Wrench: Model GFR2 Sprinkler Wrench.

Installation Data:

Nominal Orifice	Thread Size "T"	Nominal K-Factor		Sprinkler Height	Approval Organizations			Sprinkler Identification Number (SIN)
		US	Metric		F1	F2	FP	
17/32" (20mm)	3/4" NPT (R3/4)	8.0	115	2.3" (58mm)	1, 2	1, 2, 3	1, 2	R3612 ⁽²⁾

⁽¹⁾ Polyester coated upright UL and ULC listed corrosion resistant R3622.

⁽²⁾ FM Approved for polyester coated sprinkler. R3622, R3612.

⁽³⁾ Electroless Nickel PTFE Plated - FM Approved/cULus Listed Corrosion Resistant.

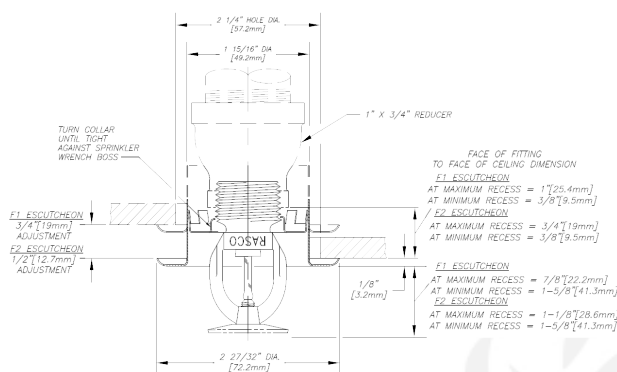
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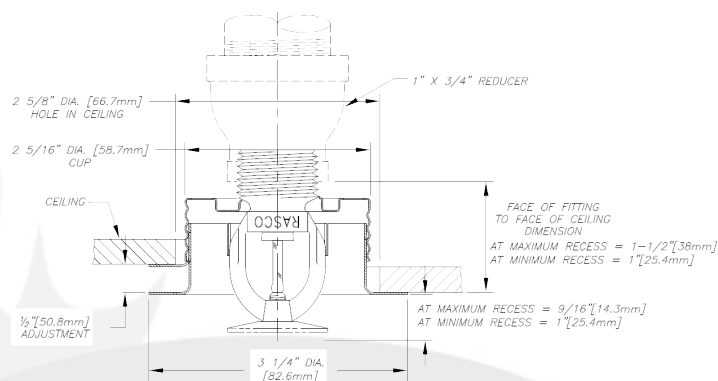
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RECESSED PENDENT W/F1 OR F2 ESCUTCHEON

*SPRINKLER NOT FM APPROVED WITH F1 ESCUTCHEON



RECESSED PENDENT W/FP ESCUTCHEON

*SPRINKLER NOT FM APPROVED WITH FP ESCUTCHEON

Note: A leak tight 1/2" NPT (R1/2) sprinkler joint can be obtained with a torque of 8 - 18 ft-lbs (11 - 24 N-m). Do not tighten sprinklers over maximum recommended torque. It may cause leakage or impairment of the 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.

Temperature Ratings:

Classification	Sprinkler Temperature		Max. ambient Temperature		Bulb Color
	° C	° F	° C	° F	
Ordinary	57	135	38	100	Orange
Ordinary	68	155	38	100	Red
Intermediate	79	175	66	150	Yellow
Intermediate	93	200	66	150	Green
High ⁽¹⁾	141	286	107	225	Blue

⁽¹⁾ Not available for recessed sprinklers.

MAXIMUM WORKING PRESSURE

175 psi (12 bar).

SIN R3612 & R3622 cULus listed for 250 psi (17 bar).

100% Factory tested hydrostatically to 500 psi (34.5 bar).

MAINTENANCE

The Models F1FR LO and F1FR LO Recessed 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 using a soft brush or 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.

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FINISHES⁽¹⁾

Standard Finishes	
Sprinkler	Escutcheon
Bronze	Brass
Chrome Plated	Chrome Plated (3)
Polyester Coated (4)(5)	White Painted (3)
Special Application Finishes	
Sprinkler	Escutcheon
Electroless Nickel PTFE ⁽⁶⁾	Electroless Nickel PTFE
Bright Brass	Bright Brass
Black Plated	Black Plated
Black Paint ⁽⁵⁾	Black Paint
Off White ⁽⁵⁾	Off White
Satin Chrome	Chrome Dull

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

⁽²⁾ FM Approvals is limited to bronze and brass, chrome or black plated finishes only.

⁽³⁾ FP Push-on/Thread-off escutcheon.

⁽⁴⁾ cULus listed corrosion resistance. SIN R3622.

⁽⁵⁾ FM Approved for SIN R3622, R3612.

⁽⁶⁾ cULus listed corrosion resistant SIN R3622 & R3612.

Note: For ½" orifice pendent FM approved white polyester coated, cULus listed white and black polyester and Electroless Nickel PTFE Plated corrosion resistant sprinklers refer to bulletin 014.

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 LO 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.

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