

Reliable®

Model JL-14 (SIN RA1812) K14.0 (200 metric) Early Suppression Fast Response Sprinkler

Product Description

The Reliable Model JL-14 Early Suppression Fast Response (ESFR) Sprinkler is intended for use against severe fire challenges. This sprinkler is designed to respond quickly to growing fires and will deliver a heavy water discharge to "suppress" rather than "control" fires.

Note: The Model JL-14 ESFR sprinkler utilizes a levered fusible alloy solder link in either a 165°F (74°C) or a 212°F (100°C) rating. FM Global considers this a "Quick Response" storage sprinkler for use in Data Sheet 8-9.

The sprinkler has a Nominal K Factor of 14.0 (metric 200) and will deliver approximately 100 gpm (378 L/min) of water at 50 psi (3,5 bar).

The deflector and frame provide a broad, very symmetrical, hemispherical pattern capable of suppressing fires between sprinklers in high storage height areas and at the same time retaining a high momentum central core to penetrate and suppress fires occurring directly beneath the sprinkler in low storage height areas.

Application and Installation

The Model JL-14 ESFR sprinkler is intended for installation in accordance with NFPA 13 and FM Loss Prevention Data Sheets 2-0 and 8-9 as well as the Authority Having Jurisdiction.

This sprinkler is intended for protection of palletized and solid piled and open frame single row, double row, multiple row and portable rack storage of most common materials including unexpanded and cartoned expanded plastics.

The JL-14 ESFR sprinkler was designed to be shorter, and more compact than other ESFR sprinklers. The shorter sprinkler allows piping to be installed further from the ceiling and obstructions. The JL-14 ESFR sprinkler is also less susceptible to damage due to smaller deflector and frame design. The lighter JL-14 ESFR passed rough use and abuse test in the labs without plastic protectors.

The Model JL-14 ESFR Sprinkler is FM approved when installed in accordance with Factory Mutual Loss Prevention Data Sheet 8-9 and Data Sheet 2-0 and other FM Installation Standards.

The Model JL-14 ESFR Sprinkler is UL Listed and Certified for Canada for installation in accordance with NFPA 13 Standards.



Model JL-14 ESFR Sprinkler

Design Criteria

General guidelines:

Orientation: Pendent. Deflector should be parallel with the ceiling or roof.

System Type: Wet Pipe Systems Only

Maximum area of coverage: 100 ft² (9,3m²), greater coverage area are allowable in some cases.

Minimum area of coverage: 64 ft² (5,8m²)

Maximum slope ceiling: 2/12 pitch (9,5°)

Maximum spacing: 12 ft (3,7m) for building heights up to 30 ft (9,1m) and 10 feet (3,1m) for building heights greater than 30 ft (9,1m)

Minimum spacing: 8 feet (2,4m)

Deflector distance from walls: At least 4 inches (102mm) from walls, and no more than one-half the allowable distance permitted between sprinklers.

Deflector to Top of Storage: at least 36in (914mm).

Deflector to ceiling Distance: 6-14 in (152-356mm) per NFPA 13. 5-14 in (121-35mm) per FM 2-2.

Center Line of Thermal Sensing

Element To Ceiling Distance: 4-13 in (102-330mm) per FM

Listings and Approvals

1. Listed by Underwriters Laboratories Inc. and UL certified for Canada (cULus)
2. FM Approved as a storage sprinkler
3. VdS Schadenverhütung GmbH (VdS)
4. Loss Prevention Certification Board (LPCB)
5. CNBOP-PIB Technical Approval

Model JL-14 Temperature Ratings

Classification	Sprinkler Temperature		Link Color	Frame Color	Maximum Ceiling Temperature		Sprinkler Identification Number (SIN)
	°F	°C			°F	°C	
Ordinary	165	74	Black	Uncolored	100	38	RA1812
Intermediate	212	100	White	White	150	66	

Installation Data

Sprinkler Type	Thread Size	Nominal "K" Factor		Maximum Working Pressure	Finish
		US	Metric		
Pendent Only	¾" (R¾)	14.0	200	175 psi (12,1 bar)	Bronze

Maintenance

The Model JL-14 ESFR Sprinkler should be inspected and the sprinkler system maintained in accordance with NFPA 25. Do not clean sprinkler with soap and water, ammonia or any other cleaning fluid. Replace any sprinkler that 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.

Once operated, automatic sprinklers cannot be reassembled and reused. New sprinklers of the same size, type and temperature rating must be installed. A cabinet of replacement sprinklers should be provided for this purpose.

Model JL-14 ESFR Sprinkler Specification

Sprinklers shall be Early Suppression Fast Response (ESFR) pendent suppression mode sprinklers specifically tested and [UL Listed] [FM Approved] for commodity storage applications. Sprinkler frame and deflector to be of bronze construction. Fusible link assembly shall utilize the strut and lever principle of operation with approved fast response black-painted or white-painted beryllium-nickel thermal element. Water seal shall consist of a Electroless Nickel PTFE coated Bellville spring washer and brass cap assembly containing no plastic parts. ESFR sprinklers shall have a nominal K-factor of 14.0 with ¾" NPT threaded end connections. Sprinkler temperature rating shall be [Ordinary 165°F (74°C)] [Intermediate 212°F (100°C)]. ESFR pendent sprinklers shall be Reliable Model JL-14 (Bulletin 018).

Model J1 Sprinkler Wrench



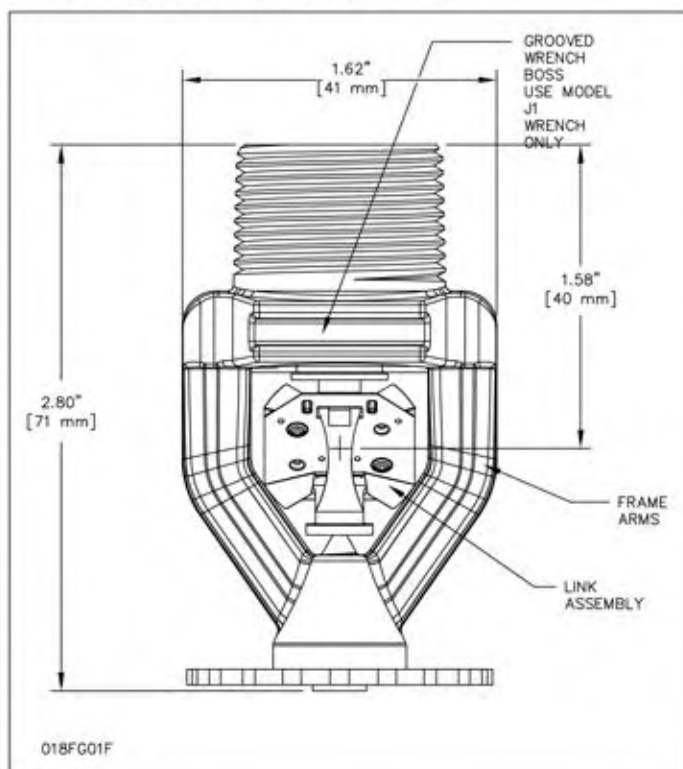
Use only the Model J1 sprinkler wrench for removal and installation. Any other type of wrench may damage the sprinkler.

Note: Sprinklers should be tightened between 14 - 20 ft-lbs (19 - 27,1 N-m) torque. Sprinklers not tightened to recommended torque may cause leakage or impairment of the sprinklers. Damage sprinklers must be replaced immediately.

Ordering Information

Specify:

1. Temperature rating
2. Thread type ¾" NPT or ISO 7-R¾



Note: Grooved sprinkler boss provided to ensure that the sprinkler wrench does not slip during installation.

Reliable®

Model JL-17 (SIN RA1914) K16.8 (240 metric) Early Suppression Fast Response Sprinkler

Features:

1. cULus, VdS, and LPCB listed as a nominal K16.8 (240 metric) ESFR sprinkler.
2. FM Approved as a quick-response, storage and non-storage, sprinkler.
3. Fusible link operating element.
4. Compact design allows piping to be installed farther from the ceiling and obstructions compared with larger sprinklers.

Listings and Approvals

1. Listed by Underwriters Laboratories Inc. and UL certified for Canada (cULus) - Category Code VNWH.
2. FM Approved as a quick-response, storage and non-storage, sprinkler.
3. VdS Schadenverhütung GmbH (VdS).
4. Loss Prevention Certification Board (LPCB).
5. CNBOP Technical Approval.

Product Description

The Reliable Model JL-17 Early Suppression Fast Response (ESFR) Sprinkler with a nominal k-factor of 16.8 (240 metric). This sprinkler is designed to respond quickly to growing fires and will deliver a heavy water discharge to "suppress" rather than "control" fires. FM Global classifies the Model JL-17 as a quick-response sprinkler, storage and non-storage, when the sprinkler is used in accordance with FM Global Property Loss Prevention Data Sheets.

The Model JL-17 ESFR sprinkler utilizes a levered fusible alloy solder link in either a 165°F (74°C) or a 212°F (100°C) rating. Model JL-17 sprinklers are cULus Listed for compliance with UL/ULC 1767, including the high clearance test for rack storage.

The Model JL-17 ESFR sprinkler was designed to be shorter and more compact than other ESFR sprinklers. The shorter sprinkler allows piping to be installed farther from the ceiling and obstructions. The JL-17 ESFR sprinkler is also less susceptible to damage due to smaller deflector and frame design. The lighter JL-17 ESFR passed rough use and abuse listing tests without plastic protectors.



Model JL-17 ESFR Sprinkler

Application and Installation

The Model JL-17 ESFR sprinkler is intended for installation in accordance with NFPA 13 and FM Loss Prevention Data Sheets 2-0 and 8-9, as well as the requirements of any Authorities Having Jurisdiction. See Table B for information on NFPA and FM Global design criteria for the Model JL-17 sprinkler.

Use only the Model J1 sprinkler wrench for removal and installation. Any other type of wrench may damage the sprinkler. A grooved wrench boss is provided on the sprinkler to limit the potential for the wrench to slip during installation.



**Model J1
Sprinkler Wrench**

When handling sprinklers, hold sprinklers only on frame arms and do not apply any force on the link assembly. Sprinklers should be tightened between 14 - 40 ft-lbs (19 - 54 N-m) torque.

Sprinklers not tightened to recommended torque may cause leakage or impairment of the sprinkler. Damage sprinklers must be replaced immediately.

Temperature Ratings and Approvals

Temperature Classification	Temperature Rating		Link Color	Frame Color	Maximum Ambient Temperature		Approvals	Sprinkler Identification Number (SIN)
	°F	°C			°F	°C		
Ordinary	165	74	Black	Uncolored	100	38	cULus, FM, VdS, LPCB, CNBOP	RA1914
Intermediate	212	100	White	White	150	66	cULus, FM, VdS, LPCB, CNBOP	

Installation Data

Sprinkler Type	Thread Size	Nominal K-Factor		Maximum Working Pressure	Finish
		US	Metric		
Pendent	¾" (R¾)	16.8	240	175 psi (12.1 bar)	Bronze

Installation Criteria

See Table B on page 3 of this document.

Maintenance

The Model JL-17 ESFR Sprinkler should be inspected and the sprinkler system maintained in accordance with NFPA 25. Do not clean sprinkler with soap and water, ammonia or any other cleaning fluid. Replace any sprinkler that 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.

Once operated, automatic sprinklers cannot be reassembled and reused. New sprinklers of the same size, type and temperature rating must be installed. A cabinet of replacement sprinklers should be provided for this purpose.

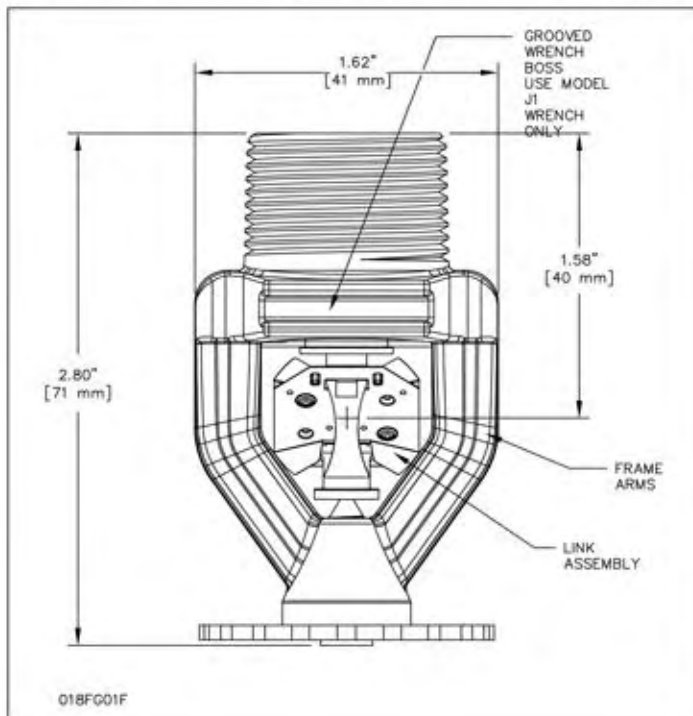
Model JL-17 ESFR Sprinkler Specification

Sprinklers shall be Early Suppression Fast Response (ESFR) pendent sprinklers specifically tested and [cULus Listed] [FM Approved] [VdS Approved] [LPCB Approved] for commodity storage applications. Sprinkler frame and deflector to be of bronze construction. Fusible link assembly shall utilize the strut and lever principle of operation with approved fast response black-painted or white-painted beryllium-nickel thermal element. Water seal shall consist of a PTFE coated Bellville spring washer and brass cap assembly containing no plastic parts. ESFR sprinklers shall have a nominal K-factor of 16.8 (240 metric) with [¾" NPT] [ISO 7-R¾] threaded end connections. Sprinkler temperature rating shall be [Ordinary 165°F (74°C)] [Intermediate 212°F (100°C)]. ESFR pendent sprinklers shall be Reliable Model JL-17 (Bulletin 019).

Ordering Information

Specify:

- Sprinkler: Model JL-17
- Temperature rating: [Ordinary 165°F (74°C)]
[Intermediate 212°F (100°C)]
- Thread type: [¾" NPT] [ISO 7-R¾]



ITEM	DESCRIPTION
Sprinkler Identification Number (SIN)	RA1914
K Factor US (Metric)	16.8 (240)
Thread Size	3/4" (R3/4)
Sprinkler Orientation	Pendent
Maximum Working Pressure, PSI (bar)	175 PSI (12 bar)

Model JL-17 Commodity Selection and Design Criteria Overview

Table B

Storage Type	NFPA	FM GLOBAL
Sprinkler Type	ESFR	Storage
Response Type	ESFR	QR
System Type	Wet	Wet
Temperature Rating F (C)	165F, 212 (74, 100)	165F, 212 (74, 100)
Roof Construction	See NFPA 13	See FM Global 2-0
Ceiling Slope	See NFPA 13	See FM Global 2-0
Maximum Coverage Area	See NFPA 13	See FM Global 2-0
Minimum Coverage Area	See NFPA 13	See FM Global 2-0
Maximum Spacing	See NFPA 13	See FM Global 2-0
Minimum Spacing	See NFPA 13	See FM Global 2-0
Minimum Clearance to Commodity	See NFPA 13	See FM Global 2-0
Sprinkler Distance to Ceiling	See NFPA 13	See FM Global 2-0
Open Frame, Single, Double, Multiple Row, or Portable Rack Storage of Class I - IV, Cartoned Unexp Plastics	See NFPA 13	See FM 2-0 & 8-9
Solid Pile or Palletized Storage of Class I - IV, Cartoned Unexp Plastics	See NFPA 13	See FM 2-0 & 8-9
Idle Pallet Storage	See NFPA 13	See FM 2-0,8-9 & 8-24
Rubber Tire Storage	See NFPA 13	See FM 2-0 & 8-3
Rolled Paper Storage	See NFPA 13	See FM 8-21
Flammable Liquid Storage	See NFPA 30	See FM 7-29
Aerosol Storage	See NFPA 30B	See FM 7-31
Auto Components in Portable Racks	N/A	N/A

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 almost 100 years.

Manufactured by

Reliable®

Reliable Automatic Sprinkler Co., Inc.

(800) 431-1588

(800) 848-6051

(914) 829-2042

www.reliablesprinkler.com

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