

Reliable®

Model HL22 (SIN R7711) Specific Application Early Suppression Fast Response (ESFR) Sprinkler

Features

1. Eliminates in-rack sprinklers for 48' high buildings.
2. Lower flows offer opportunities to reduce:
 - Interior Piping
 - Fire Pump Sizes
 - Underground Pipe
 - Tank Sizes
3. Maximum deflector distance from ceiling (roof) is 14" (356mm).
4. Available in 212°F (100°C).
5. UL approved.

Ceiling Height	Pressure	Flow
48 ft. (14.6m)	55 psi (3,8 bar)	166 gpm (632 L/min)

Product Description

The HL22 Specific Application Early Suppression Fast Response (ESFR) Sprinkler is intended for use against severe fire challenges. This sprinkler is designed to respond quickly to growing fires with a high volume of water discharge to "suppress" rather than "control" fires at lower pressures and without in-rack sprinklers for 48' (14.6m) ceiling height with 43' (13.1m) storage as is required with a K14 or K17 ESFR.

The HL22 Sprinkler utilizes a levered fusible alloy solder link in 212°F (100°C) temperature rating. The sprinkler has a Nominal K Factor of 22.4 (320 metric) and will deliver approximately 166 gpm (632 L/min) of water at 55 psi (3,8 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 maintaining good central core distribution to penetrate and suppress fires occurring directly beneath the sprinkler.

Application and Installation

The HL22 Specific Application ESFR sprinkler is intended for installation in accordance with the ESFR sprinkler criteria referenced in NFPA 13.

This sprinkler is intended for protection of Class I to IV Commodities and cartoned unexpanded Group A or B plastics. The storage can be palletized and solid piled, open frame single row or multiple row and portable rack storage for storage heights to 43ft. (13m) in buildings with ceilings to 48ft. (14.6m) high.



Model HL22 Specific Application ESFR Sprinkler

Approval Organizations

1. Listed by Underwriters Laboratories Inc.

Design Criteria

General guidelines:

Sprinkler Position: Pendent, align frame arms with the pipe. Deflectors 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: 80 ft² (7,4m²) per NFPA 13

Maximum slope ceiling: 2/12 pitch (9.5°)

Maximum spacing: 10 ft (3,1m)

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 36 in (914mm).

Deflector to ceiling Distance: 6-14 in (152-356mm) per NFPA 13.

Center Line of Thermal Sensing

Element To Ceiling Distance: 4³/₄ in - 12³/₄ in (120-324mm).

Sprinkler System Design: NFPA 13 for ESFR sprinklers based upon 55 psi design pressure (166 gpm per sprinkler).

Minimum Aisle Width: 8 ft (2,4m)

Model HL22 Temperature Ratings and Approvals

Classification	Sprinkler Temperature Rating		Link Color	Frame Color	Maximum Ambient Temperature		Approvals	Sprinkler Identification Number (SIN)
	°F	°C			°F	°C		
Intermediate	212	100	White	White	150	66	UL	R7711

Installation Data

Sprinkler Type	Nominal Orifice	Thread Size	"K" Factor		Maximum Working Pressure	Finish ⁽¹⁾
			US	Metric		
Pendent Only	0.87" (22,1mm)	1" NPT (R1)	22.4	320	175 psi (12,1 bar)	Bronze

⁽¹⁾ Deflector is Chrome Plated - Sprinkler frame is painted white to meet NFPA #13 (2007) Table 6.2.5.1- color code - in order to provide a visual identifier of the temperature rating.



Use only the Model H1 sprinkler wrench for removal and installation. Any other type of wrench may damage the sprinkler.

Sprinklers should be tightened between 22 to 30 ft-lbs (29,8 - 40,7 Nm) torque. Sprinklers not tightened to recommended torque may cause leakage or impairment of the sprinklers. Damaged sprinklers must be replaced immediately.

Maintenance

The HL22 Sprinkler 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 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. This will minimize the potential for damage to sprinklers that would cause improper operation or non-operation.

Engineering Specification

Model HL22 Specific Application ESFR

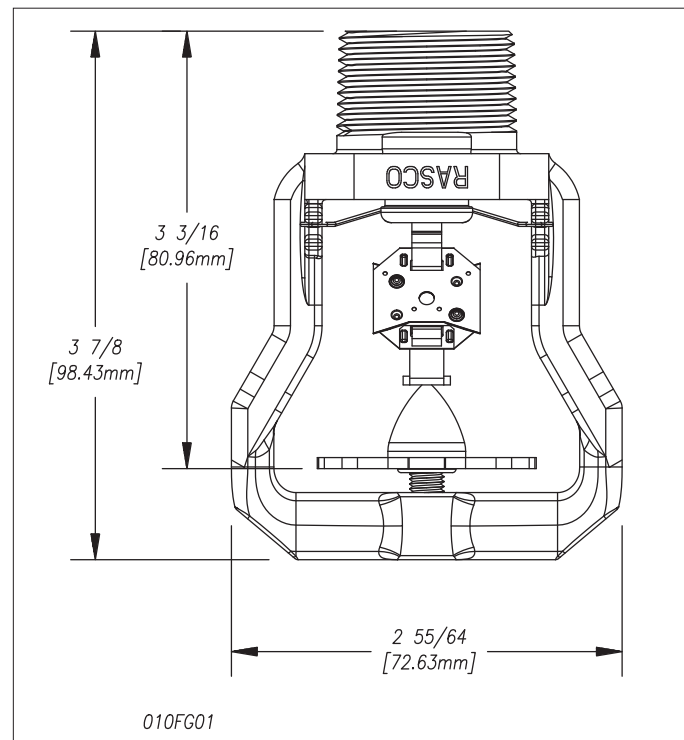
Sprinklers shall be Specific Application Early Suppression Fast Response (ESFR) pendent suppression mode sprinklers [UL Listed] for commodity storage applications. Sprinkler frame and deflector to be of bronze construction with chrome plated deflector located inside of the frame arms. Sprinkler shall have a maximum listed/approved ceiling-to-deflector distance of 14". Fusible alloy solder link assembly shall utilize the strut and lever principle of operation with approved fast response beryllium-nickel thermal element with protective [white painted (212°F)] coating. Water seal shall consist of a Teflon-coated Belleville spring washer and brass cap assembly containing no plastic parts. ESFR sprinklers shall have a nominal K-factor of 22.4 and 1" NPT or ISO 7-R1 threaded end connections. Sprinkler temperature rating shall be [Intermediate 212°F (100°C)].

Ordering Information

Specify:

1. Thread type 1" NPT (DBA4115391) or ISO 7-R1 (DBA4115393)

Patents: This product is covered by one or more of the following patents; US 6,450,265; US 6,502,643; US 6,868,917; AU 722593, GB 2336777



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

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