

# Reliable®

## K-22 Magnum Model HL22 (SIN RA1011) Early Suppression Fast Response (ESFR) Sprinkler

### Performance Characteristics: Single Sprinkler Minimum Pressure and Flow Requirements

#### Features

- Utilizes a levered fusible alloy solder link.
- Eliminates in-rack sprinklers for 45' high buildings.
- Lower flows offer opportunities to reduce:
  - Interior Piping
  - Fire Pump Sizes
  - Underground Pipe
  - Tank Sizes
- Maximum deflector distance from ceiling (roof) is 18" (457mm).
- Available in 165°F (74°C) and 212°F (100°C) - cULus Listed and FM Approved.
- Available in 165°F (74°C) and 212°F (100°C) - VdS and LPCB Approved.

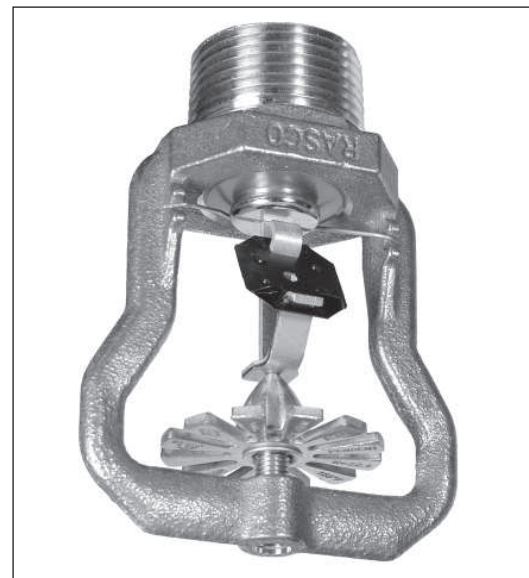
Bldg. Height	UL		FM, VdS & LPCB	
	Pressure	Flow	Pressure	Flow
* 45 ft. (13.7m)	40 psi (2, 8 bar)	142 gpm (537L/min)	50 psi (3,4 bar)	158 gpm (597 L/min)
40 ft. (12.2 m)	40 psi (2, 8 bar)	142 gpm (537L/min)	45 psi (3,1 bar)	150 gpm (567 L/min)
35 ft. (10.7m)	35 psi (2,4 bar)	133 gpm (503 L/min)	35 psi (2,4 bar)	133 gpm (503 L/min)
30 ft. (9.1 m)	25 psi (1,7 bar)	112 gpm (423 L/min)	25 psi (1,7 bar)	112 gpm (423 L/min)

\* with up to 40 ft. (12.2 m) storage (In-rack sprinklers are not required)

#### Product Description

The HL22 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 35' (10.7m) to 40' (12.2m) storage as is required with a K14 or K17 ESFR.

The HL22 Sprinkler utilizes a levered fusible alloy solder link in either 165°F (74°C) or 212°F (100°C) temperature ratings. FM Global considers this a "Quick Response" storage sprinkler for use in data sheet 8-9. The sprinkler has a Nominal K Factor of 22.4 (320 metric) and will deliver approximately 112 gpm (424 L/min) of water at 25 psi (1,7 bar).



Model HL22 Sprinkler

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 ESFR sprinkler is intended for installation in accordance with NFPA 13 and Factory Mutual (FM) Loss Prevention Data Sheets 2-0 and 8-9, as well as the Authority Having Jurisdiction.

This sprinkler is intended for protection of Class I to IV Commodities and Group A or B plastics, which includes cartoned unexpanded plastics. The storage can be palletized and solid piled, open frame single row or multiple row and portable rack storage.

#### Approvals Organizations (See following table)

- Listed by Underwriters Laboratories Inc. and UL certified for Canada (cULus). Listed for installation in accordance with NFPA standards for storage heights to 40ft. (12.2m) in buildings to 45ft. (13.7m) high.
- FM Approved as a storage sprinkler.
- The HL22 Sprinkler is for use in buildings with ceilings up to 45ft. (13.7m) high with storage heights to 40 ft. (12.2m) when installed in accordance with FM Loss Prevention Data Sheets 2-0 and 8-9.
- NYC MEA 258-93-E
- VdS Schadenverhütung (VdS)
- Loss Prevention Certification Board (LPCB)

## 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		
Ordinary	165	74	Black	Uncolored	100	38	cULus, FM, VdS, LPCB	RA1011
Intermediate	212	100	White	White	150	66	cULus, FM, VdS, LPCB	RA1011

## Installation Data

Sprinkler Type	Nominal Orifice	Thread Size	Nominal K Factor		Maximum Working Pressure	Finish
			US	Metric		
Pendent Only	0.87" (22.1mm)	1" NPT (R1)	22.4	320	175 psi (12,1 bar)	Bronze

## Maintenance

The HL22 Sprinkler 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. 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 ESFR

Sprinklers shall be Early Suppression Fast Response (ESFR) pendent suppression mode sprinklers [cULus Listed] [FM Approved] for commodity storage applications. Sprinkler frame and deflector to be of bronze construction with deflector located inside of the frame arms. Sprinkler shall have a maximum listed/approved ceiling-to-deflector distance of 18". Fusible alloy solder link assembly shall utilize the strut and lever principle of operation with approved fast response beryllium-nickel thermal element with protective [black painted (165°F)] [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 [Ordinary 165°F (74°C)] [Intermediate 212°F (100°C)]. ESFR pendent sprinklers shall be Reliable Model HL22, SIN RA1011 (Bulletin 010).



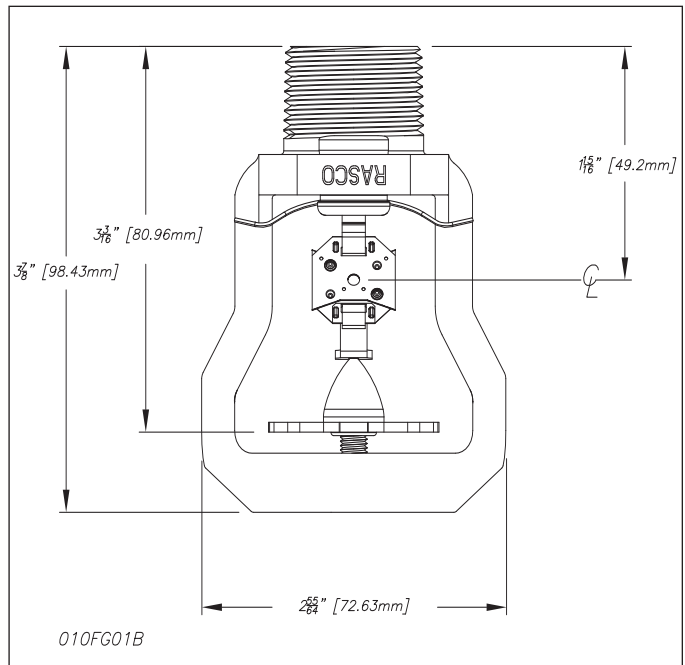
Use only the Model H1 sprinkler wrench for removal and installation. Any other type of wrench may damage the sprinkler.

## Ordering Information

**Specify:**

1. Temperature rating
2. Thread type 1" NPT or ISO 7-R1

**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 90 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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