

Reliable®

Model HL22 ESFR Pendent Sprinkler

175 psi (12 bar) rated

Features

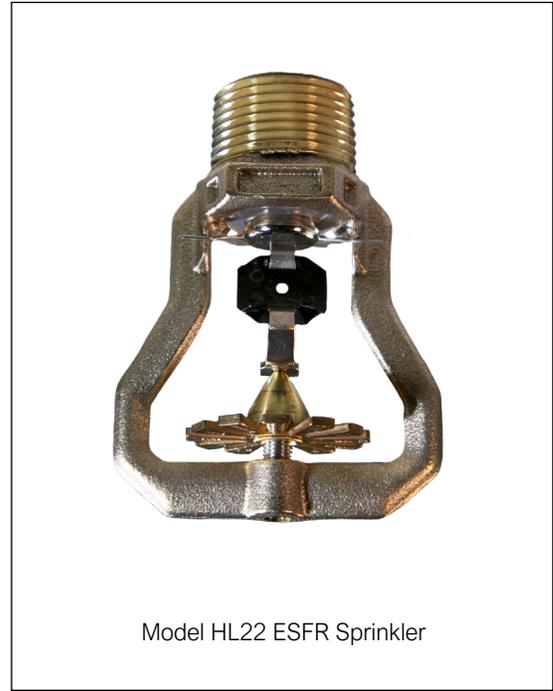
- cULus, VdS, and LPCB listed as an ESFR sprinkler
- FM Approved as a quick-response, storage and non-storage sprinkler
- Fusible link operating element

Product Description

The Reliable Model HL22 is an Early Suppression Fast Response (ESFR) Sprinkler with a nominal K-factor of 22.4 (320 metric). The sprinklers use a levered fusible alloy solder link in either a 165°F (74°C) or a 212°F (100°C) temperature rating. These sprinklers are designed to respond quickly to growing fires and will deliver a heavy water discharge to “suppress” rather than “control” fires.

FM Approvals classifies the Model HL22 as a quick-response sprinkler, storage and non-storage, when used in accordance with FM Global Property Loss Prevention Data Sheets.

In addition to the design criteria provided in NFPA 13, the Model HL22 also has a Specific Application UL listing for 43' storage of Class I - IV and cartoned unexpanded Group A plastic in a 48' building (reference Table C for full details).



Model HL22 ESFR Sprinkler

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Table A

Model	Nominal K-factor gpm/psi ^{1/2} (L/min/bar ^{1/2})	Approvals	Sprinkler Identificaiton Number (SIN)
HL22	22.4 (320)	cULus, FM, LPCB, VdS	RA1011

Technical Specifications

Style: Pendent
Connection: 1" NPT or ISO7 R-1 threads
Nominal K-Factor: 22.4 (320)
Max. Working Pressure: 175 psi (12 bar)

Material Specifications

Thermal Sensor: Beryllium Nickel Solder Link
Sprinkler Frame: Brass Casting
Button: Copper Alloy
Sealing Assembly: Nickel with PTFE
Load Screw: Bronze
Deflector: Bronze
Levers: Stainless Steel
Ejection Spring: Stainless Steel

Sprinkler Finishes

Standard (Brass Only)

Sensitivity

Fast-Response (cULus)
 Quick-Response (FM)

Temperature Ratings

Ordinary: 165°F (74°C)
 Intermediate: 212°F (100°C)

Guards and Shields

K22 Guard (Intermediate level ONLY)
 S-5 Shield (Intermediate level ONLY)

Sprinkler Wrench

Model W5

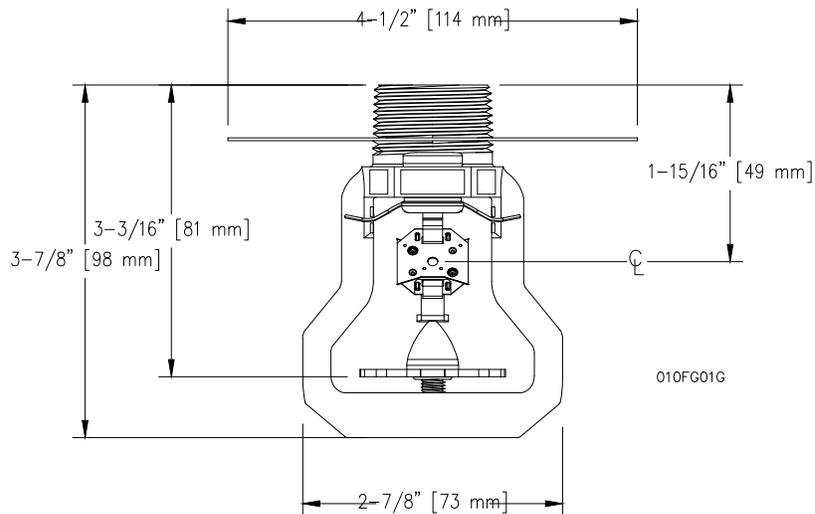
Listings and Approvals

cULus
 FM Approved
 LPCB
 VdS



Model HL22 Sprinkler Components and Dimensions

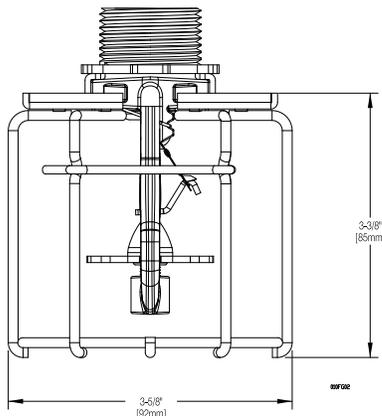
Figure 1



Shown with optional S-5 Water Shield, ordered separately.

Model HL22 ESFR Sprinkler with Model 22 Guard (ONLY for intermediate level use)

Figure 2



Note: When using the S-5 Water Shield with the Model 22 Guard, the S-5 Water Shield replaces the locking nut shown.



Model HL22 ESFR Commodity Selection and Design Criteria Overview
Table B

Storage Type	NFPA	FM GLOBAL
Sprinkler Type	ESFR	Storage
Response Type	ESFR	Quick Response
System Type	Wet	Wet
Temperature Rating °F (°C)	165 (74), 212 (100)	165 (74), 212 (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 Commodity and Group A Plastic	See NFPA 13	See FM 2-0 & 8-9
Solid Pile or Palletized Storage of Class I - IV Commodity and Group A Plastic	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	See NFPA 13	See FM 2-0 and 8-9

Description	UL Specific Application Criteria
Sprinkler Type	ESFR
Temperature Rating °F (°C)	212 (100)
Response Type	ESFR
System Type	Wet
Maximum Area of Coverage	See NFPA 13
Minimum Area of Coverage	See NFPA 13
Maximum Slope Ceiling	See NFPA 13
Maximum Spacing	See NFPA 13
Minimum Spacing	See NFPA 13
Deflector Distance from Walls	See NFPA 13
Deflector to Top of Storage	See NFPA 13
Deflector to Ceiling Distance	6"- 14" (150-350mm)
Maximum Ceiling Height	48ft (14.6m)
Maximum Storage Height	43ft (13.1m)
Storage Arrangement	Single and double row rack storage, palletized and solid pile storage. No open top containers or solid shelves.
Commodity	Class I-IV commodities, encapsulated or nonencapsulated, and Cartoned Group A Unexpanded plastics
Sprinkler System Design	55 PSI (3.8 bar) design pressure, 12 sprinklers in remote area
Obstruction Criteria	See NFPA 13
Minimum Aisle Width	8ft (2.4m)
Hose Stream Allowance and Duration	See NFPA 13

Installation

Model HL22 sprinklers are 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 HL22 sprinklers.

For threaded sprinklers only, use the Model W5 sprinkler wrench for removal and installation (Figure 3). 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 HL22 sprinklers should be tightened between 14 - 40 lbs-ft (19 - 54 N·m) torque. Do not tighten sprinklers over the maximum recommended torque. Exceeding the maximum recommended torque may cause leakage or impairment of the sprinklers.

Caution: When handling sprinklers, hold sprinklers only by the frame arms and do not apply any force on the link assembly. Damaged sprinklers must be replaced immediately.

Maintenance

Reliable Model HL22 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.

Model W5 Sprinkler Wrench

Figure 3



Guarantee

For the Reliable Automatic Sprinkler Co., Inc. guarantee, terms, and conditions, visit www.reliablesprinkler.com.

Ordering Information

Specify:

- Sprinkler: [HL22]
- Temperature Rating: [165°F (64°C)] [212°F (100°C)]
- End Connection: [1" NPT] [ISO7 R-1]