

# Reliable®

## Model P25 ESFR Pendent Sprinklers

175 psi (12 bar) rated

### Features

- cULus Listed as an ESFR sprinkler
- cULus Specific Application Listing for Protection of Storage under Ceiling Heights up to 48 ft (14.6 m)
- FM Approved as a quick-response storage and non-storage sprinkler
- CE Certificate of Constancy of Performance
- Robust fusible link operating element
- Compact design

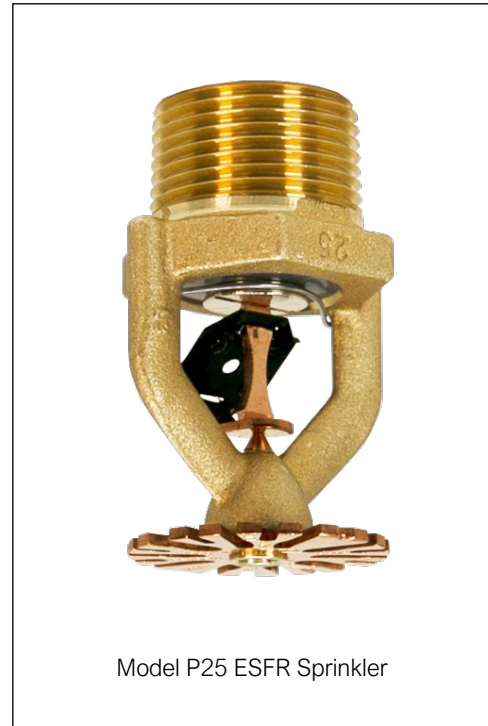
### Product Description

The Reliable Model P25 is an Early Suppression Fast Response (ESFR) fire sprinkler with a nominal K-factor of 25.2 (360 metric). The sprinkler uses 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 a fire. Suppression is considered a higher level of control characterized by a sharp reduction in heat release rate along with preventing regrowth of the fire.

Model P25 ESFR sprinklers are designed to be shorter and more compact than other ESFR sprinklers, allowing greater flexibility with regard to distance from ceilings and obstructions. The sprinklers are also less susceptible to damage due to smaller deflector and frame design. The lighter P25 ESFR sprinklers passed rough use and abuse listing tests without plastic protectors.

The Model P25 sprinkler is cULus Listed as a K25.2 (K360 metric) ESFR sprinkler for installation in accordance with NFPA 13, including the design criteria for K25.2 (K360 metric) ESFR sprinklers. FM Approvals classifies the Model P25 as a quick-response storage and non-storage sprinkler when used in accordance with FM Global Property Loss Prevention Data Sheets. Refer to Table B for additional information on applicable NFPA 13 and FM Global design criteria.

In addition to the general cULus Listing, the Model P25 ESFR sprinkler in 212°F (100°C) temperature rating also has a cULus Specific Application Listing for protection of Class I-IV and cartoned unexpanded Group A plastic commodity in single- and double-row open frame racks for storage up to 40 ft (12.2 m)



Model P25 ESFR Sprinkler

tall under ceiling heights up to 48 ft (14.6 m) where aisles of 5 ft (1.5 m) or greater are provided. Refer to Table C for additional information on the cULus Specific Application Listing.

The Model P25 fire sprinkler may also be used as an in-rack sprinkler where permitted by NFPA or FM. FM Approved sprinkler guards and water shields are available when the Model P25 is used in this application.

The Model P25 sprinkler also has a Certificate of Constancy of Performance in compliance with EU Regulation No. 305/2011, the Construction Products Regulation (CPR), based on ETA 23/0132 issued 23 January 2024 and EAD 10002-00-1006 dated March 2016 (CE).

To further the development of environmentally compatible and more sustainable construction methods, Reliable has developed and ASTM International has published an [Environmental Product Declaration \(EPD\) for the Model P25 sprinkler](#).

### Model P25 ESFR Pendent Sprinklers

Table A

Model	Nominal K-factor gpm/psi <sup>1/2</sup> (L/min/bar <sup>1/2</sup> )	Approvals	Sprinkler Identification Number (SIN)
P25	25.2 (360)	cULus, FM, CE	R602

**Technical Specifications**

- Style:** Pendent
- Connection:**
  - 1" NPT
  - ISO7-1R1 (BSPT) threads
- Nominal K-Factor:** 25.2 (360 metric)
- Max. Working Pressure:** 175 psi (12 bar)

**Material Specifications**

- Thermal Sensor:** Nickel Alloy Solder Link
- Sprinkler Frame:** Brass Alloy
- Cap:** Bronze Alloy
- Sealing Assembly:** Nickel Alloy with PTFE
- Load Screw:** Bronze Alloy
- Deflector:** Bronze Alloy
- Kick Spring:** Nickel Alloy

**Sprinkler Finishes**

- Bronze

**Sensitivity**

- Fast-Response
- Quick-Response (FM)

**Temperature Ratings**

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

**Sprinkler Wrench**

- Model W5
- Model W16 (with guard)

**Guards & Shields\***

- Model D-14 Guard
- Model S-5 Shield

**Listings and Approvals**

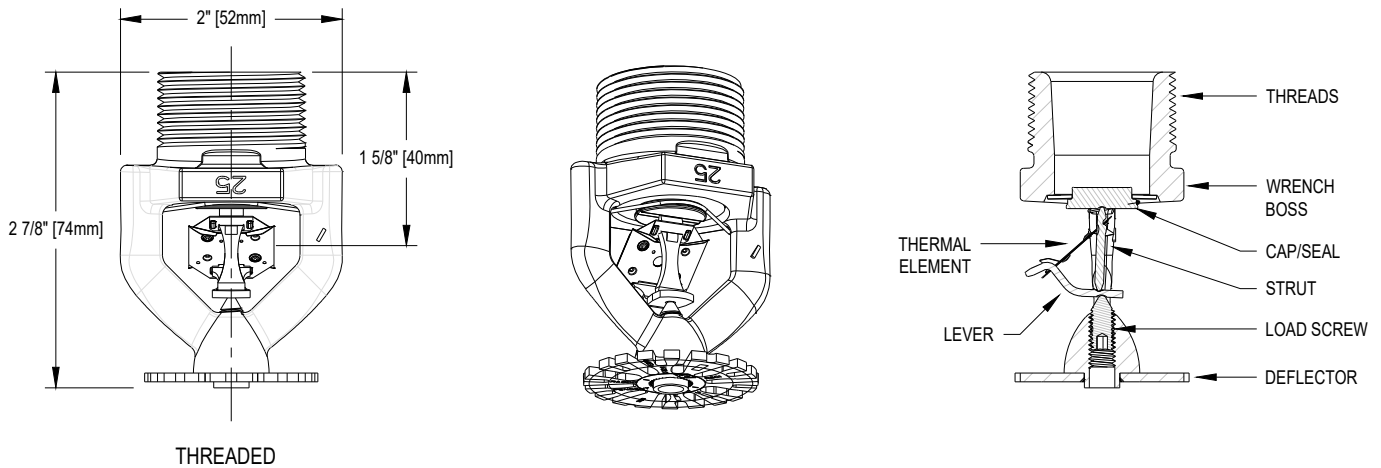
- cULus Listed
- cULus Spec App Listed (Intermediate Temperature only)
- FM Approved
- CE (2809-CPR\_M0055)



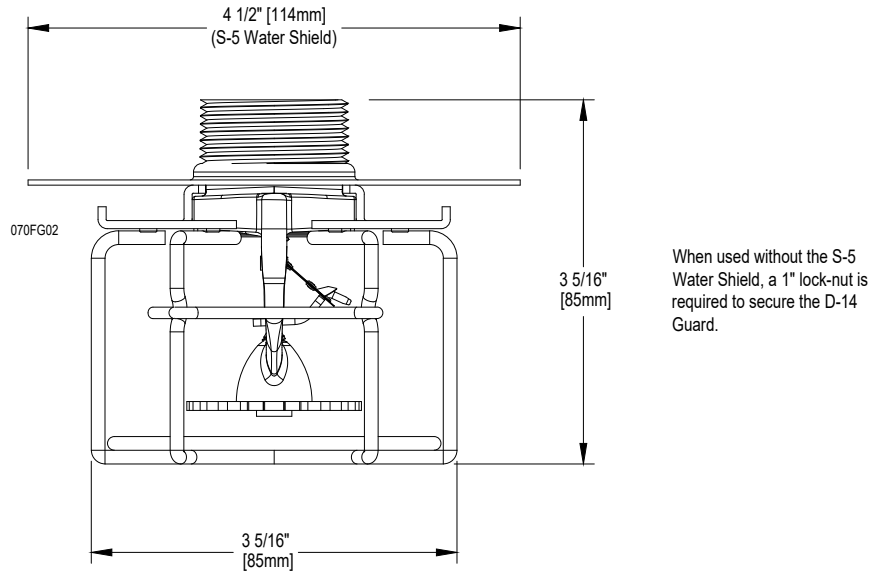
**\*Note:** Guard and guard/shield combination is available and is FM Approved for in-rack or intermediate level use only. Not approved for general use elsewhere.

**Model P25 Sprinkler Dimensions and Components**

**Figure 1**



070FG01



**Note:** Guard and guard/shield combination is available and is FM Approved for in-rack or intermediate level use only. Not approved for general use elsewhere.

Model P25 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, and Group A Plastics	See NFPA 13	See FM 2-0 & 8-9
Solid Pile or Palletized Storage of Class I - IV and Group A 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	See NFPA 13	See FM 2-0 and 8-9

**Model P25 Sprinkler Specific Application Listing**
**Table C**

Specification	Model P25
Sprinkler Identification Number (SIN)	R602
Response Type	ESFR
Orientation	Pendent
Nominal K-factor, gpm/psi <sup>1/2</sup> (L/min/bar <sup>1/2</sup> )	25.2 (360)
Temperature Rating °F (°C)	212 (100)
System Type	Wet Pipe
Max. Ceiling Slope, rise:run	2:12
Max. Sprinkler Spacing, ft (m)	10 (3.0)
Min. Sprinkler Spacing, ft (m)	8 (2.4)
Max. Area of Coverage, ft <sup>2</sup> (m <sup>2</sup> )	100 (9.3)
Min. Area of Coverage, ft <sup>2</sup> (m <sup>2</sup> )	64 (5.9)
Min. Distance from Walls, in. (mm)	4 (100)
Max. Distance from Walls, ft. (m)	5 (1.5)
Max. Deflector to Ceiling Distance, in. (mm)	14 (350)
Min. Deflector to Ceiling Distance	Per NFPA 13
Min. Deflector to Top of Storage Distance, in. (mm)	36 (900)
Obstruction Criteria	Per NFPA 13
Max. Ceiling Height, ft (m)	48 (14.6)
Max. Storage Height, ft (m)	40 (12.2)
Storage Arrangement	Palletized, solid piled; open frame single-row, double-row, and portable rack
Min. Aisle Width, ft (m)	5 (1.5)
Flue Spaces	Per NFPA 13
Commodity	Class I-IV commodities encapsulated and unencapsulated; and cartoned unexpanded Group A plastic commodities
Sprinkler System Design	NFPA 13 for ESFR sprinklers based upon 50 psi (3.4 bar) min. design pressure with 12 sprinkler remote area
Hose Stream Allowance, gpm (L/min)	250 (950)
Water Supply Duration, minutes	60

## Installation

Model P25 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 P25 sprinkler.

**Caution:** When handling sprinklers, hold sprinklers only by the frame arms and do not apply any force on the link assembly.

Use only the Reliable Model W5 wrench to remove and install Model P25 ESFR sprinklers. If the Model P25 ESFR sprinkler and Model D-14 guard assembly is being removed or installed as a unit, then the Model W16 wrench must be used. Any other type of wrench may damage the sprinkler. The Model W5 wrench is designed to engage both the sides and back of the wrench boss to limit the potential for the wrench to slip during installation. After applying a thread sealant to the male sprinkler threads, Model P25 sprinklers should be tightened between 22-30 lb-ft (30-40 N-m) torque. Exceeding the maximum recommended torque may cause leakage or impairment of the sprinkler. Damaged sprinklers must be replaced immediately.

Failure to follow these installation instructions may result in leaks, inadvertent operation, or non-operation of sprinklers.

## Maintenance

Reliable Model P25 sprinklers should be inspected and the sprinkler system maintained in accordance with NFPA 25, as well as the requirements of any Authorities Having Jurisdiction.

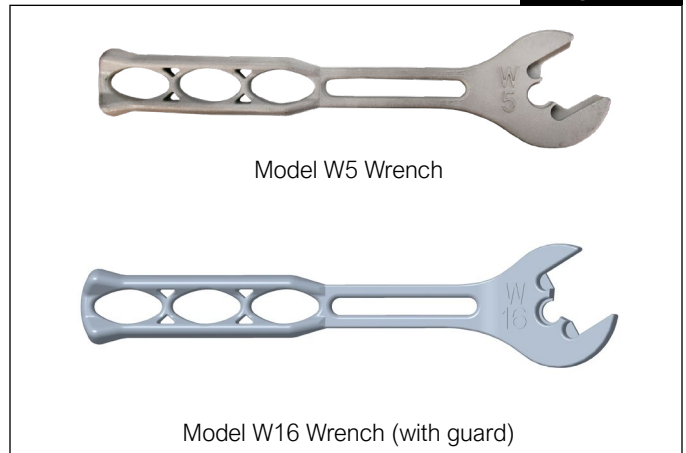
Prior to installation, sprinklers should remain in the original cartons and packaging until used. This will minimize the potential for damage to sprinklers that could cause improper operation or non-operation.

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).

Once operated, automatic sprinklers cannot be reassembled and/or reused. 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.

## Wrenches

Figure 3



## Guarantee

For the Reliable Automatic Sprinkler Co., Inc. guarantee, terms, and conditions, visit [www.reliablesprinkler.com](http://www.reliablesprinkler.com).

## Ordering Information

### Specify:

#### Sprinkler

- P25

#### Temperature Rating

- 165°F (74°C)
- 212°F (100°C)

**Note:** Sprinklers must be 212°F (100°C) for Specific Application (48 ft [14.6 m] ceiling) use.

#### End Connection

- 1" NPT
- ISO7-1R1 (BSPT)

#### Optional FM Approved Guard and Shield

- Model D-14 Guard
- Model S-5 Shield

## Product Selector

Table D

Part Number	Temperature Rating	Thread Type	Approvals
DB16115971	165°F (74°C)	NPT	cULus, FM, CE
DB21115971	212°F (100°C)		
DB16115973	165°F (74°C)	BSPT (coming soon)	
DB21115973	212°F (100°C)		
DB16115991	165°F (74°C)	NPT	FM, CE
DB21115991	212°F (100°C)		
DB16115993	165°F (74°C)	BSPT	
DB21115993	212°F (100°C)		