

Reliable®

Model N252 EC (SIN RA0842) K25.2 (360 metric) Pendent and Recessed Pendent Extended Coverage Density Area Sprinkler

cULus Listed and FM Approved for Storage and Non-storage applications

Features

1. Provides maximum coverage areas up to 196 ft² (18.21 m²) per sprinkler and 14 ft. (4.27 m) by 14 ft. (4.27 m) spacing.
2. cULus Listed for recessed installation in finished ceilings with 1/2" (13 mm) adjustment.
3. Available in brass, white polyester, black polyester, and custom color polyester finishes.
4. Ordinary, 165 °F (74 °C), and Intermediate, 212 °F (100 °C) temperature ratings.
5. cULus Listed for unobstructed or noncombustible obstructed construction.

Listings and Approvals

1. Listed by Underwriters' Laboratories Inc. and UL certified for Canada (cULus).
2. FM Approved (**Pendent only**) as a K25.2 Extended Coverage Quick-Response Pendent Storage and Non-storage sprinkler.
3. Approved for use in New York City based on UL Listing per Local Law 33/2007 and MEA 258-93-E

UL Listing Categories

Sprinklers, Automatic & Open
Sprinklers for Storage Protection (Standard Response Area/Density)

UL Guide Number

VNIV

US Pat. No. 7,624,812



N252 EC Pendent
(cULus Listed and FM Approved)



N252 EC Recessed Pendent
(cULus Listed)

Product Description

The Models N252 EC Pendent and Recessed Pendent Sprinklers are control mode, extended coverage sprinklers for storage and non-storage density/area applications. This includes protection of the storage and display of Class I through Class IV commodities, non-expanded Group A Plastics, and non-expanded, exposed Group A Plastics in retail stores. The Model N252 EC sprinklers offer maximum coverage areas up to 14 ft by 14 ft (196 ft²), which is almost twice of that provided by standard coverage sprinklers. This offers the advantage of decreasing the number of required sprinklers, reducing labor and material costs.

Operation

The Reliable Model N252 Extended Coverage Pendent and Recessed Pendent Sprinklers utilize a levered fusible alloy solder link. When the link reaches the rated temperature, the solder melts and the two link halves separate allowing sprinkler to operate and water to flow.

CEILING OR UNDERSIDE OF ROOF DECK

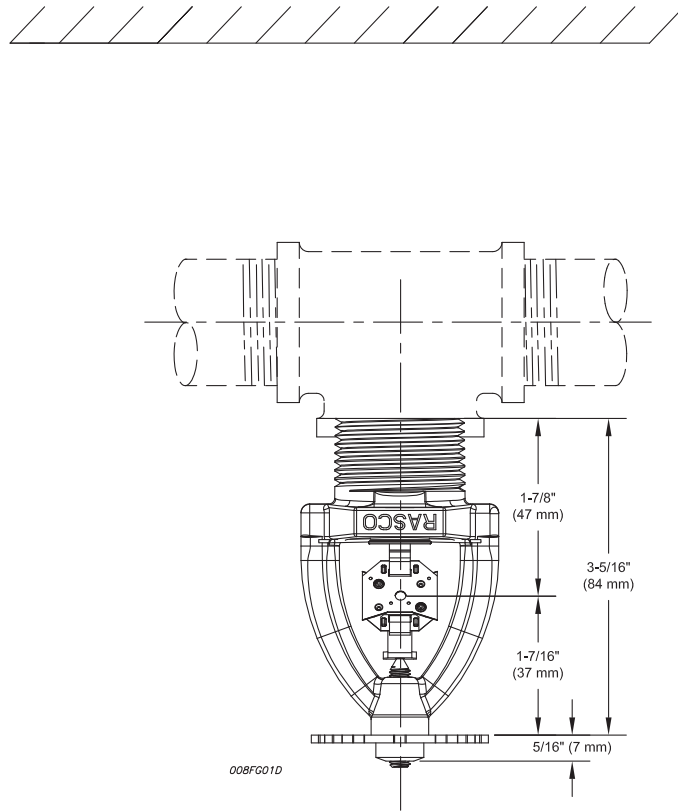


Fig. 1
Model N252 EC Pendant

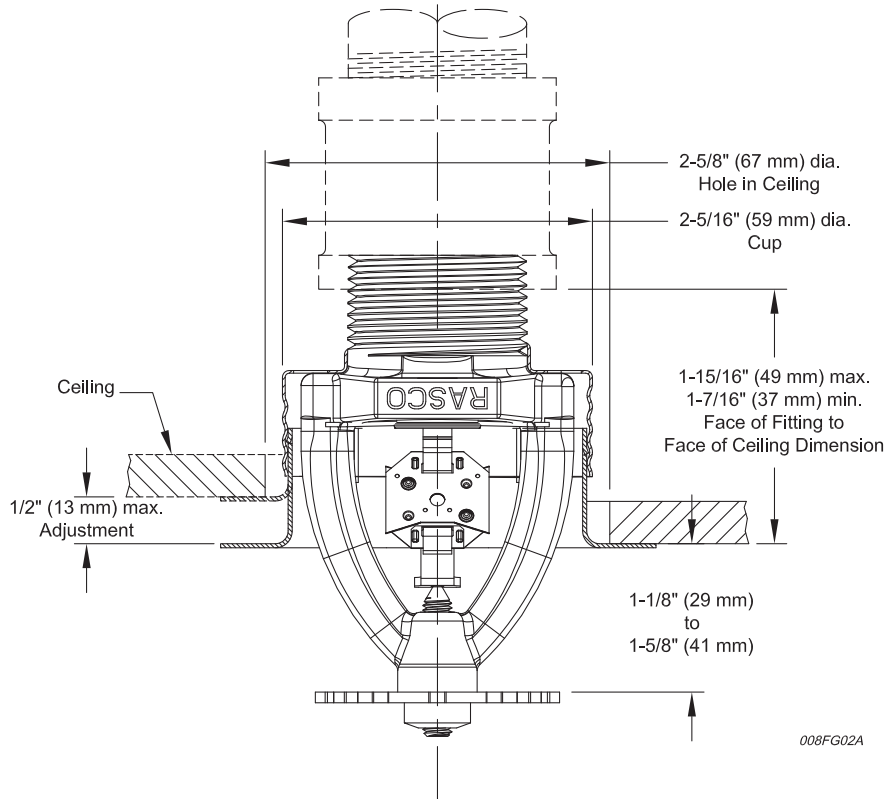


Fig. 2
Model N252 EC Recessed Pendant with Model FP Escutcheon

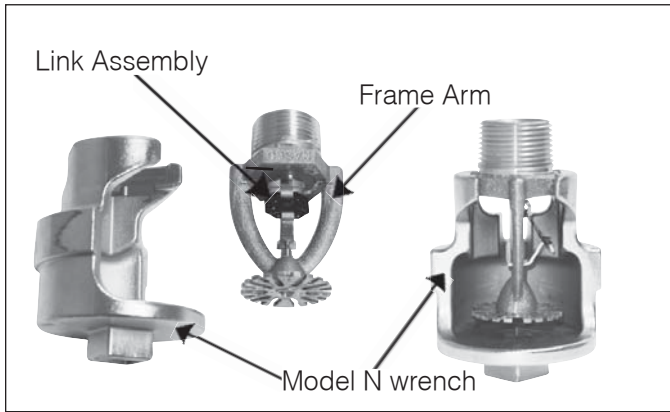


Fig. 3
Model N Wrench



Fig. 4
Model N1 Wrench

Installation

Model N252 sprinklers are to be installed as shown. Reliable Model FP escutcheons are the only recessed escutcheons Listed for use with Model N252 EC sprinklers. Use of any other recessed escutcheon will void all listings and warranties. When handling sprinklers, hold sprinklers only on frame arms and do not apply any force on the link assembly. Model N252 EC pendent sprinklers must be installed with the Model N (Fig. 3) or Model N1 (Fig.

4) sprinkler wrench. Model N252 EC recessed pendent sprinklers must be installed with the Model N (Fig. 3) sprinkler wrench. Usage of wrenches other than those specified may damage these sprinklers. Sprinklers should be tightened between 22 to 40 ft. - lbs. (30 - 54 Nm) torque. Sprinklers not tightened to recommended torque may cause leakage or impairment of the sprinklers. Damaged sprinklers must be replaced immediately.

Technical Data

Temperature Classification	Temperature Rating		Maximum Ambient Ceiling Temp.		Link Color	Nominal K-Factor gpm/psi ^{1/2} (l/min.bar ^{0.5})	Thread Size	Thermal Sensitivity	Sprinkler Identification Number (SIN)
	°F	°C	°F	°C					
Ordinary	165	74	100	38	Black	25.2 (360)	1" NPT (ISO 7-1 R1)	Response Time Index (RTI) of 50 (m.s) ^{1/2} or less cULus Standard Response FM Quick Response	RA0842
Intermediate	212	100	150	66	White				

Design Criteria for UL and C-UL

The Models N252 EC Pendent and Recessed Pendent Sprinklers are cULus Listed standard response control-mode, extended coverage density/area sprinklers for installation in accordance with the extended coverage pendent spray sprinkler criteria of NFPA 13, or other applicable NFPA standards, when used in combination with the following guidelines:

- Protection for extra hazard and high-piled storage occupancies using NFPA 13 density/area criteria.
- Suitable for use in wet pipe systems, and in dry-pipe and preaction systems as specifically allowed for pendent sprinklers in NFPA 13.
- cULus Listed for "unobstructed" or non-combustible "obstructed" construction. Given that the Model N252 EC sprinklers are specifically listed for noncombustible obstructed construction, they may be installed within trusses or bar joists having noncombustible web members greater than 1 inch (25.4 mm) when applying the "Four Times Rule" as defined in NFPA 13 under "Obstructions to Sprinkler Discharge Pattern Development."

- Maximum area of coverage per sprinkler is 196 ft² (18.2 m²); minimum area of coverage is 100 ft² (9.3 m²). Maximum spacing between sprinklers is 14 ft (4.3 m); minimum spacing between sprinklers is 8 ft (2.4 m).
- Minimum flow requirement is based on the design density applied over the actual area of coverage per sprinkler. Example 1, a design density of 0.43 gpm/ft² (17.5 mm/min) applied over 14 ft x 14 ft (4.3 m x 4.3 m) spacing, or 196 ft² (18.2 m²), would require a minimum sprinkler design flow rate and pressure of 84.3 gpm (319.2 L/min) at 11.2 psi (0.77 bar). Example 2, a design density of 0.43 gpm/ft² (17.5 mm/min) applied over 14 ft x 12 ft (4.3 m x 3.7 m) spacing, or 168 ft² (15.6 m²), would require a minimum sprinkler design flow rate and pressure of 72.2 gpm (273.3 L/min) at 8.2 psi (0.57 bar).

- Maximum working pressure - 175 psi (12.1 bar).
- Minimum end head pressure - 7 psi (0.5 bar).
- The minimum clearance between the deflector and the top of storage is 3 ft. (0.92m). For clearances of 3 ft. (0.92m) up to 4 ft. (1.21m), the minimum design pressure is 22 psi (1.52 bar). For clearances of 4 ft. (1.21m) and greater, the minimum design pressure is established by the minimum flow requirement (however, the pressure can never be less than 7 psi (0.48 bar)).
- Available temperature ratings are Ordinary, 165 °F (74°C) and Intermediate, 212°F (100°C). Selection of temperature rating is based on the expected maximum ambient temperature exposure, and in accordance with the applicable design criteria from NFPA 13. In accordance with the listing of the sprinkler, the density curves normally associated with high temperature rated sprinklers [286°F (141°C)] may be used with either the ordinary or intermediate temperature rating of the N252 EC sprinklers.
- The obstruction criteria in NFPA 13 for Extended Coverage Pendent Sprinklers shall be used for the locating and positioning Model N252 EC sprinklers relative to obstructions.

Design Criteria for FM

The Model N252 EC Pendent sprinkler is FM Approved for use in accordance with the following guidelines:

- FM Approved for installations governed by data sheets 2-0 and 8-9.
- The Model N252 EC Pendent is FM Approved as a K25.2 Extended Coverage Quick Response Pendent Storage and Non-storage sprinkler.

Maintenance

The Models N252 EC Pendent and Recessed Pendent Sprinklers should be inspected and the sprinkler system maintained in accordance with NFPA 25, and local jurisdictional requirements. Do not clean sprinklers with soap and water, ammonia, or any other cleaning fluids or solvents. Remove dust by gentle vacuuming. Replace any sprinkler that has been painted (other than factory-applied) or otherwise altered after leaving the factory. 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 sprinkler that would cause improper operation or non-operation.

Ordering Information

Specify:

1. Sprinkler: Model N252 EC
2. Temperature Rating: [Ordinary, 165°F (74°C)][Intermediate, 212°F (100°C)]
3. Threads: [1" NPT][ISO 7-1R1]
4. Finish: [Brass*][White Polyester][Black Polyester][Custom Color Polyester - Specify]
5. Recessed Escutcheon: [None][Model FP - cULus Listed only]
6. Sprinkler Wrench: [None][Model N - Pendent and Recessed Pendent][Model N1 - Pendent only]

***Note:** Intermediate temperature rated, 212°F (100°C), sprinklers in Brass finish are supplied with non-decorative white paint on the frame arms for identification of the temperature rating.

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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