

Omega R-1M

Residential Pendent Automatic Sprinkler

Manufactured by: Central Sprinkler Company
451 North Cannon Avenue, Lansdale, Pennsylvania 19446

Product Description

The Omega Model R-1M Residential Pendent Automatic Sprinkler is a low profile, aesthetically pleasing, ceiling mounted sprinkler that operates five to six times faster than a standard sprinkler. It offers a high degree of protection for human life and features a spray pattern that has been shown to be effective in the control or extinguishment of fire.

The Model R-1M is Listed* by Underwriters Laboratories as a Residential Sprinkler with a K-factor of 3.9, a temperature rating of 160°F/71°C, and a maximum working pressure of 175 psi. It qualifies for installation in residential occupancies in accordance with current NFPA 13, NFPA 13D and NFPA 13R.

The Model R-1M Residential Pendent Sprinkler is available in three standard finishes, brass, chrome plated and white painted. Its mating escutcheon plate is available in three standard finishes, brass, chrome plated and white painted with additional special finishes available.

Operation: A fusible alloy pellet is compressed with a bearing disc into a copper housing by a ball plunger. Heat is absorbed by the heat collecting fins and conducted to the

*For specific listing requirements see the appropriate information contained in this brochure.

alloy pellet. At the rated temperature, the alloy melts, causing the ball plunger to drop, freeing balls from the retaining groove. This movement allows system water pressure to force the orifice sealing mechanism and deflector assembly open. Water is then discharged in a pre-designed flow pattern.

Technical Data

Model: R-1M

Style: Pendent (Adjustable)

Escutcheon: Model R-1A

Note: Only the Model R-1A Residential Escutcheon may be used. Substitution of other escutcheons may impair the operating sensitivity and distribution pattern. The R-1M may be installed below a ceiling with the deflector up to the maximum allowed by NFPA of 4".

Wrench: Omega Adjustable

Approvals: U.L., U.L.C.

Orifice Size: 3/8" (9.5 mm)

K-Factor: 3.9 (55.77)

Thread Size: 1/2" (12.7 mm) N.P.T.

Temperature Rating: 160°F/71°C

Adjustment Range: Flush to Extended



3/8" Orifice Pendent Automatic Sprinkler

Maximum Working Pressure: 175 p.s.i.

Factory Hydro Test: 100% at 500 p.s.i.

Standard Finishes:

Sprinkler: brass, chrome plated and white painted

Escutcheon: brass, chrome plated and white painted

Highest Allowable Ambient Temperature: 100°F/38°C

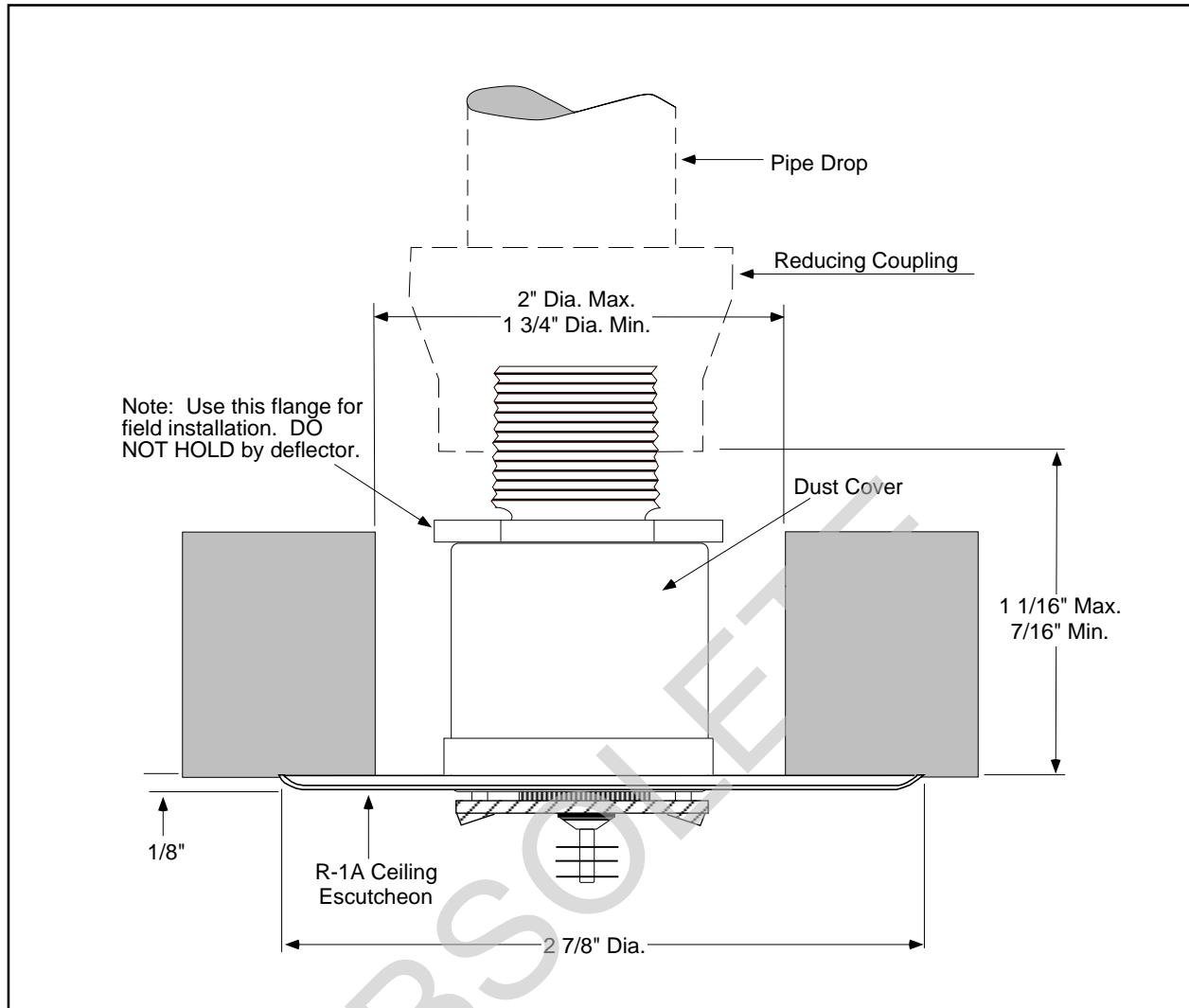
Field Adjustment Range: 5/8" (15.9 mm)

Length: 2 1/8" (54 mm)

Width: 1 1/4" (31.8 mm) (Dust Cover)

Weight: 3.2 oz. (90.7 grams)

Figure 1
Omega R-1M



Installation

The Model R-1M Sprinklers must be installed according to current NFPA 13, NFPA 13D or NFPA 13R Standards. Deviations from these Standards or any alteration to the sprinkler itself will void any warranty made by Central Sprinkler Company. In addition, installation must also meet local government provisions, codes, and standards as applicable.

The system piping must be properly sized to ensure the minimum required flow rate at the sprinkler.

Prior to installation, check for the proper model, style, orifice size, and temperature rating prior to installation. Install sprinklers after the piping is in place to avoid mechanical damage; replace any damaged units.

The Model R-1M Pendent Sprinklers are not listed for use in dry systems. Wet pipe systems must be protected from freezing.

Upon completion of the installation, the system must be tested per recognized standards.

In the event of a thread leak, remove the unit, apply new pipe joint compound or tape, and reinstall.

Installation Sequence

Step 1. The unit must be installed in the pendent position. **The R-1M may be installed below a ceiling with the deflector up to the maximum allowed by NFPA of 4".**

Step 2. The face of the sprinkler fitting should be installed a nominal 7/16" minimum to 1 1/16" maximum behind the finished ceiling line. Adjustments may be made via the push-on escutcheon plate to compensate for variations in the fittings.

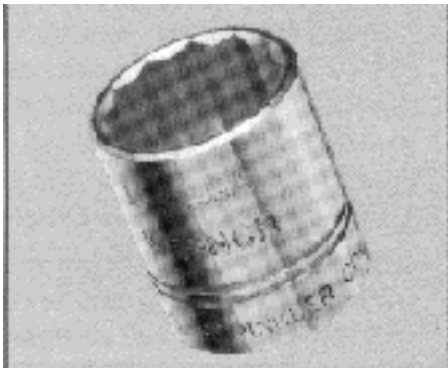
Do not use the push-on escutcheon plate to hold the unit in position. The sprinkler will function properly, only when the system piping is anchored

to the building structure. Otherwise, reaction forces from system initiation could alter the sprinkler alignment and disrupt the distribution pattern.

Step 3. Use only a non-hardening pipe joint compound or Teflon* tape. Apply only to the male threads.

Step 4. Hand tighten the sprinkler into the fitting. Use a Central Sprinkler Omega Model R-1 Sprinkler Wrench to tighten the unit into the fitting. The wrench attaches easily to any 1/2" socket drive ratchet. A leak tight joint requires the application of only 7-14 ft.-lbs. of torque. A tangential force of 14-28 lbs. delivered through a 6" handle will deliver adequate torque. Torque levels over 21 ft.-lbs. may distort the orifice seal, resulting in leakage.

Omega Adjustable (Part #15674100)



Step 5. To install the Model R-1A Escutcheon Plate, align it with and press it over the sprinkler body until the outer edge of the escutcheon meets the mounting surface.

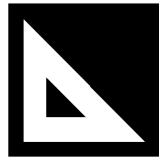
Do not over or under tighten the sprinkler to compensate for inaccurate escutcheon plate adjustment. Readjust the sprinkler fitting as required.

Never add any leak stopping additives to a sprinkler system. It will impair the operation of the sprinklers and is strictly prohibited.

Caution: Special care must be taken when installing with a CPVC system. Sprinklers must be installed after the CPVC manufacturer's recommended setting time for the primer and cement to ensure that neither accumulate within the sprinkler.

*Teflon is a trademark of the DuPont Corp.

Special care must be taken when installing with a copper system. Sprinklers must be installed only after the inside of the sprinkler drop and associated fittings have been wire brushed to remove any flux. Residual flux can cause corrosion and in extreme cases can impair proper sprinkler operation.



Design Data

Design Requirements — Residential Applications

Maximum Spacing Between Sprinklers	Maximum Distance from Any Wall	Minimum Design Flow (pressure)	
		One Sprinkler	Two or More Sprinklers
12 feet (or less)	6 feet (or less)	10 GPM (6.6 psi)	9 GPM (5.3 psi)
14 feet	7 feet	10 GPM (6.6 psi)	9 GPM (5.3 psi)
16 feet	8 feet	14 GPM (12.9 psi)	11 GPM (8.0 psi)
18 feet	9 feet	14 GPM (12.9 psi)	12 GPM (9.5 psi)
20 feet	10 feet	16 GPM (16.8 psi)	16 GPM (16.8 psi)



Care & Maintenance

Sprinklers must be handled carefully. They must not be transported or stored where ambient temperatures may exceed 100°F/38°C. For best results, store them in a cool, dry location in the original shipping package.

Do not install sprinklers that have been dropped or visibly damaged.

Sprinklers must never be painted, coated, plated, or altered in any other way from manufactured condition or they may not function properly. Any sprinklers altered in such manner must be replaced.

The owner is responsible for the proper operating condition of all fire protection devices and accessories. The NFPA Standard 25 entitled, "Inspection, Testing and Maintenance of Water-Based Fire Protection Systems", contains guidelines and minimum maintenance requirements. Furthermore, the local Authority Having Jurisdiction may have additional regulations and requirements for maintenance, testing and inspection that must be obeyed.

It is recommended that sprinkler systems be inspected regularly by a

qualified inspection service. Length of time between such inspections can vary due to accessibility, ambient atmosphere, water supply and site activity.

Do not attempt to re-assemble or otherwise reuse a sprinkler that has operated. Replace any sprinkler exhibiting corrosion or damage; always use new sprinklers of the same type and temperature rating as replacements.

Because the discharge pattern is critical to protection of life and property, nothing should be hung or attached to the sprinkler unit that would disrupt the pattern. Such obstructions must be removed. In the event that construction has altered the original configuration, additional sprinklers may need to be installed to maintain the protection level.

Do not attempt to replace sprinklers without first removing the fire protection system from service.

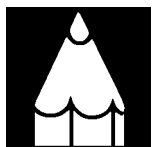
Be certain to secure permission from all Authorities Having Jurisdiction, and notify all personnel who may be affected during system shutdown. A fire watch during maintenance periods is a recommended precaution.

To remove the system from service mode, first refer to the system operating guide and valve

instructions. Drain water and relieve pressure in the pipes. Remove the existing unit and install the replacement, using only the special sprinkler wrench. Be certain to match model, style, orifice and temperature rating.

A fire protection system that has been shut off after an activation should be returned to service immediately. Inspect the entire system for damage and replace or repair as necessary. Sprinklers that did not operate but were subjected to corrosive elements of combustion or excessive temperatures should be inspected, and replaced if need be. The *Authority Having Jurisdiction* will detail minimum replacement requirements and regulations.

Guarantee: Central Sprinkler Company will repair and/or replace any products found to be defective in material or workmanship within a period of one year from the date of shipment. Please refer to the current Price List for further details of the warranty.



Ordering Information

Ordering Information: When placing an order, indicate the full product name. Please specify the quantity, model, style, orifice size, temperature rating, type of finish, escutcheon plate finish and sprinkler wrench.

For special painted escutcheon finishes, the customer must provide quick-drying or lacquer-based paint to ensure proper color duplication. Without such a guide, Central Sprinkler Company cannot be responsible for acceptable color matching.

Availability and Service: Central sprinklers, valves, accessories, and other products are available throughout the U.S. and Canada, and internationally through a network of Central Sprinkler distribution centers. You may write directly to Central Sprinkler Company, or call (215) 362-0700 for the distributor nearest you.

Patents: Patents are pending.

Conversion Table:

1 inch = 25.400 mm
1 foot = 0.3048 M
1 pound = 0.4536 kg
1 foot pound = 1.36 Nm
1 psi = 6.895 kpa
= 0.0689 bar
= 0.0703 kg/cm²
1 U.S. gallon = 3.785 dm³
= 3.785 liters

Conversions are approximate.



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