

Omega C-1A

Quick Response Commercial Automatic Sprinkler

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

Product Description

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

The Model C-1A incorporates a significant cost saving feature; a special escutcheon assembly that provides for $\frac{7}{8}$ " (22.2 mm) of field adjustment resulting in an easily accomplished, tight fit against the ceiling.

The Model C-1A carries a Listing* by Underwriters Laboratories for use as a Quick Response Commercial Sprinkler that qualifies for installation in accordance with current NFPA 13 and NFPA 13R Standards.

The Model C-1A is available in three standard finishes. Its mating escutcheon plate is available in three standard finishes with additional special finishes available.

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

Technical Data

Model: C-1A
Style: Pendent (adjustable)
Escutcheon:
Wrench: Omega Adjustable Model A Sprinkler Wrench
Orifice Size: $\frac{3}{8}$ " (9.5 mm) or $\frac{1}{2}$ " (12.7 mm)
K-Factor: $\frac{3}{8}$ " = 2.7 (38.6 Metric)
 $\frac{1}{2}$ " = 5.6 (80.1 Metric)
Thread Size: $\frac{1}{2}$ " (15 mm) N.P.T.
Temperature Rating: 145°F/63°C
160°F/71°C
200°F/93°C
Approvals: $\frac{3}{8}$ " (10 mm) - U.L. only
 $\frac{1}{2}$ " (15 mm) - U.L., ULC,
MEA (46-92-E Vol. III)
Maximum Working Pressure:
175 psi / 12.1 bar
Factory Hydro Test: 100% at
500 psi / 34.5 bar
Standard Finishes:
Sprinkler: chrome plated, brass
plated, white painted
Escutcheon: chrome plated, brass
plated, white painted
Adjustable Range Below Ceiling:
 $\frac{3}{8}$ " (9.5 mm) to $1\frac{1}{4}$ " (31.8 mm)

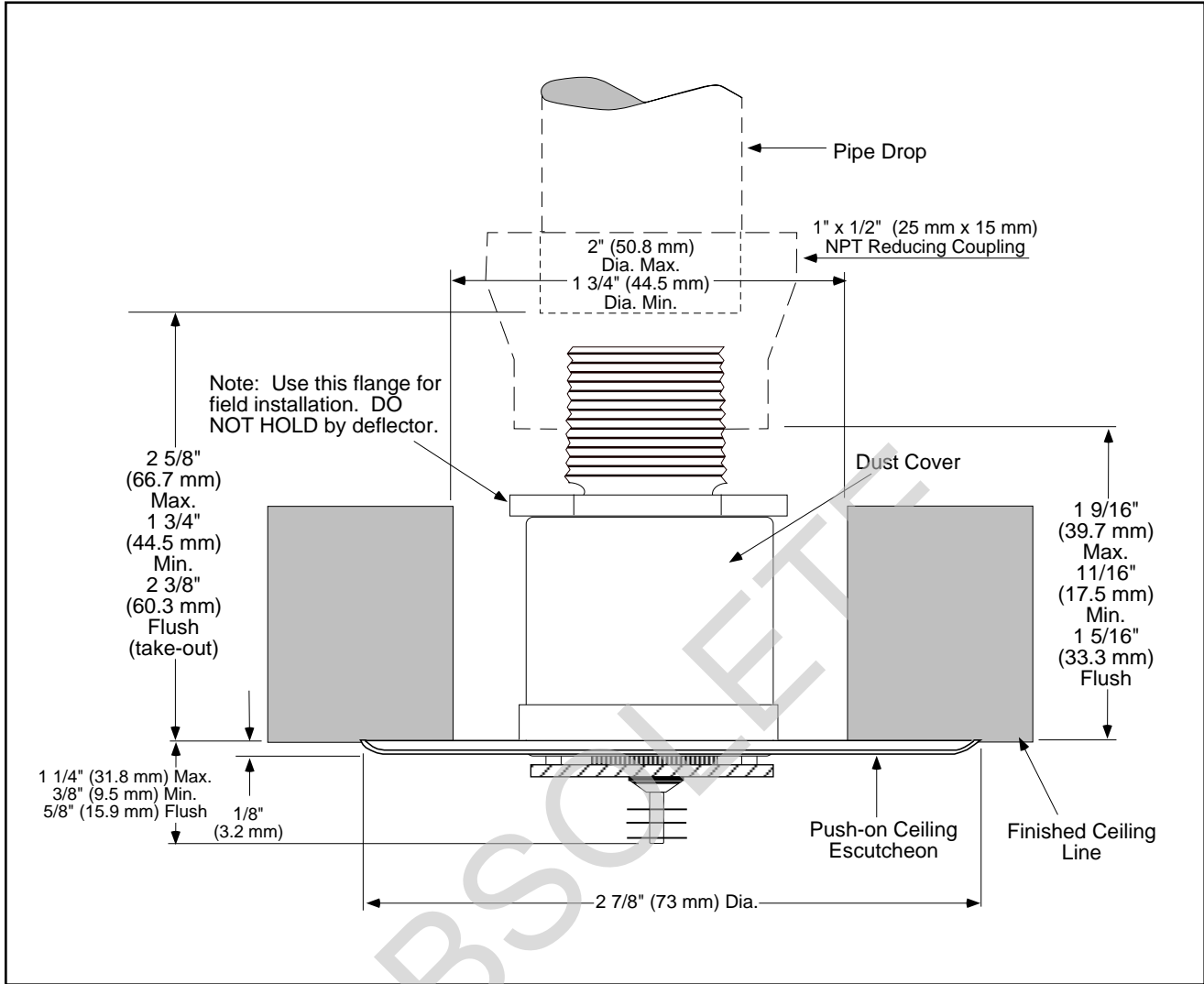


**$\frac{3}{8}$ " & $\frac{1}{2}$ "
(9.5 mm) & (12.7 mm)
Orifice
Adjustable
Pendent
Automatic
Sprinkler**

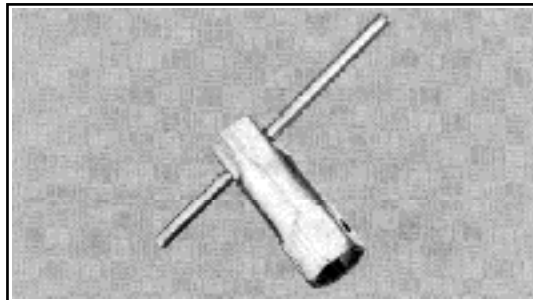
Highest Allowable Ambient Temp.:
100°F/38°C for 145°F rating
100°F/38°C for 160°F rating
150°F/66°C for 200°F rating
Length: $2\frac{7}{16}$ " (61.9 mm)
Width: $1\frac{1}{4}$ " (31.8 mm)
Weight: 3.2 oz. (91 grams)

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

Installation Diagram Omega C-1A Commercial Quick Response



Omega Adjustable Model A Sprinkler Wrench





Design Data

Design Requirements — Quick Response Commercial Applications

In Quick Response Commercial applications, the Omega C-1A sprinklers are intended for standard area coverages and standard flow and pressure requirements as specified in current NFPA 13 and NFPA 13R Standards.



Installation

All Central Model C-1A Sprinklers must be installed according to current NFPA 13 Standards and these installation instructions. Deviations from these requirements and 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. 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.

Wet pipe systems must be protected from freezing. Refer to the Installation section of Central Bulletins on the Model A-1 Dry Pendent Sprinklers for use in dry pipe sprinkler installations.

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.

Step 2. The face of the sprinkler fitting should be installed a nominal $1\frac{1}{8}'' \pm \frac{7}{16}''$ (28.6 mm \pm 11.1 mm) behind the ceiling line as shown in the installation diagram on page two.

Adjustments may be made via the push-on escutcheon plate to compensate for variations in the fitting.

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 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. Leaving the protector cap in place, Use a Central Sprinkler Omega Model A Sprinkler wrench to tighten the unit into the fitting. A leak-tight joint requires only 7 to 14 ft.-lbs. (9.5 to 19.0 Nm) of torque; a tangential force of 14 to 28 lbs. (16.3 to 124.5 Newtons) delivered through a 6" (150 mm) handle will deliver adequate torque. Torque levels over 21 ft.-lbs. (28.6 Nm) may distort the orifice seal, resulting in leakage.

Step 5. Leave the protector cap in place until the installation is finished. When the system is ready for service, remove the cap.

Step 6. To install the escutcheon plate, align it with and press it over the sprinkler body until the outer edge of the escutcheon meets the mounting surface.

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.

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.



Care & Maintenance

Sprinklers must be handled carefully. They must not be transported or stored where ambient temperature may exceed 100°F/38°C for 145°F/63°C or 160°F/71°C sprinklers. For 200°F/93°C rated sprinklers, the ambient temperature should not exceed 150°F/66°C. For best results, store them in a dry, cool 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 a 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 advisable to have sprinkler systems 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;

*Teflon is a trademark of the DuPont Corp.

always use new sprinklers of the same type and temperature rating as replacements.

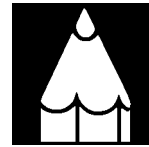
Because the discharge pattern is critical to protection of life and property, nothing should be hung or attached to the sprinkler unit that would disrupt the pattern. Such obstructions must be removed. In the event that construction has altered the original configuration, additional sprinklers should 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 the pressure in the system piping. 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 or coating, and sprinkler wrench.

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.

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/cm ²
1 U.S. gallon	= 3.785 dm ³
	= 3.785 liters

Conversions are approximate.



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