

Omega Prohibitor™ QR

Institutional Pendent & Sidewall Automatic Sprinklers

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

Product Description

The Omega Prohibitor™ QR series of automatic sprinklers have been specifically designed for use in institutional occupancies, such as correctional facilities and mental health facilities, where the occupants may attempt to employ the fire sprinklers for the purpose of self-inflicted injury.

Both pendent and horizontal sidewall styles of Prohibitor™ QR sprinklers are recessed into the mounting surface. Only a small portion of the heat collecting fin assembly and the tip of the deflector on the horizontal sidewall project into the protected space. The fin assembly has an average break-away load of 68 lbs. (30.8 kg), and a maximum break-away load of 85 lbs. (38.6 kg). Unlike other institutional sprinklers, the escutcheon plate and optional closure plates are firmly attached to the recessed sprinkler body with tamper resistant retaining screws.

The Omega Prohibitor™ QR sprinklers are designed with an aesthetically pleasing, low profile silhouette. They operate five to six times faster than standard sprinklers and offer a high degree of protection for human life. They feature a spray pattern that has been shown to be effective in the control or extinguishment of fire.

The Model C-1A PRO QR is a pendent style sprinkler Listed for quick response applications. The Model HEC-12 PRO QR is a horizontal sidewall sprinkler Listed for quick response sidewall applications with the deflector positioned 4" (101.6 mm) to 12" (304.8 mm) below the ceiling.

For all Models of Prohibitor™ QR sprinklers, an optional 4½" diameter x ⅛" (114.3 mm x 3.2 mm) thick security

closure plate is available for use where additional security is warranted. The security closure plate fits between the base of the escutcheon and the mounting surface.

For all Models of Prohibitor™ QR sprinklers, an optional 3⅝" (92.1 mm) diameter light gauge escutcheon closure plate is available, for use where the wall or ceiling penetration is greater than the recommended 2¼" (57.2 mm) diameter. The escutcheon closure plate fits between the base of the escutcheon and the mounting surface.

For all Models of Prohibitor™ QR sprinklers, the optional Ident-A-Fire™ feature is available to provide an alarm signal upon activation of the sprinkler. Please see the Central Sprinkler Corporation Ident-A-Fire™ bulletin.

All Prohibitor™ QR sprinklers are available in two standard finishes, chrome and brass plated. Their mating escutcheon and closure plates are available in three standard finishes, brass, chrome and white, with additional special finishes available. *(Note: The Prohibitor™ QR Sprinklers are also available for standard commercial spacing and response time with a smaller heat fin design. See the appropriate Central bulletins.)*

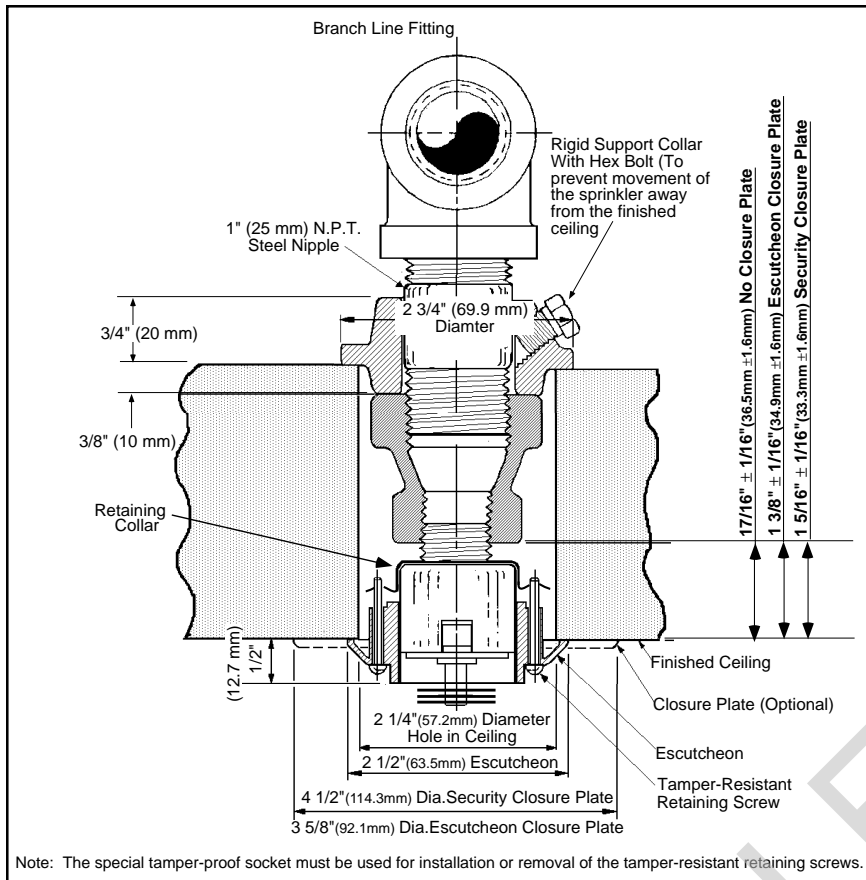
Operation: A fusible alloy pellet is compressed with a bearing disc into a copper housing by a ball plunger. Heat is absorbed by the heat collecting fins and conducted to the alloy pellet. At the rated temperature the alloy melts, causing the ball plunger to drop, freeing balls from the retaining groove. 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.



Security Closure Plate (optional)

½" (12.7mm)
Orifice
Pendent or
Horizontal
Sidewall
Automatic
Sprinklers

Figure 1 — C-1A PRO QR



Rigid Support Collar with Bolt (Part #162-018-01)



Decorative Escutcheon Closure Plate (optional)

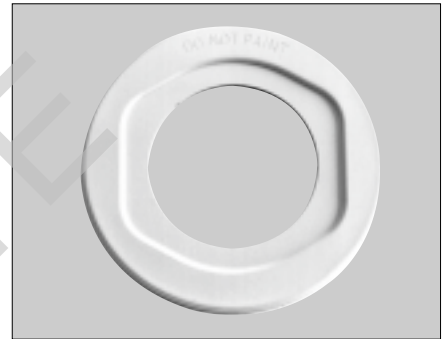
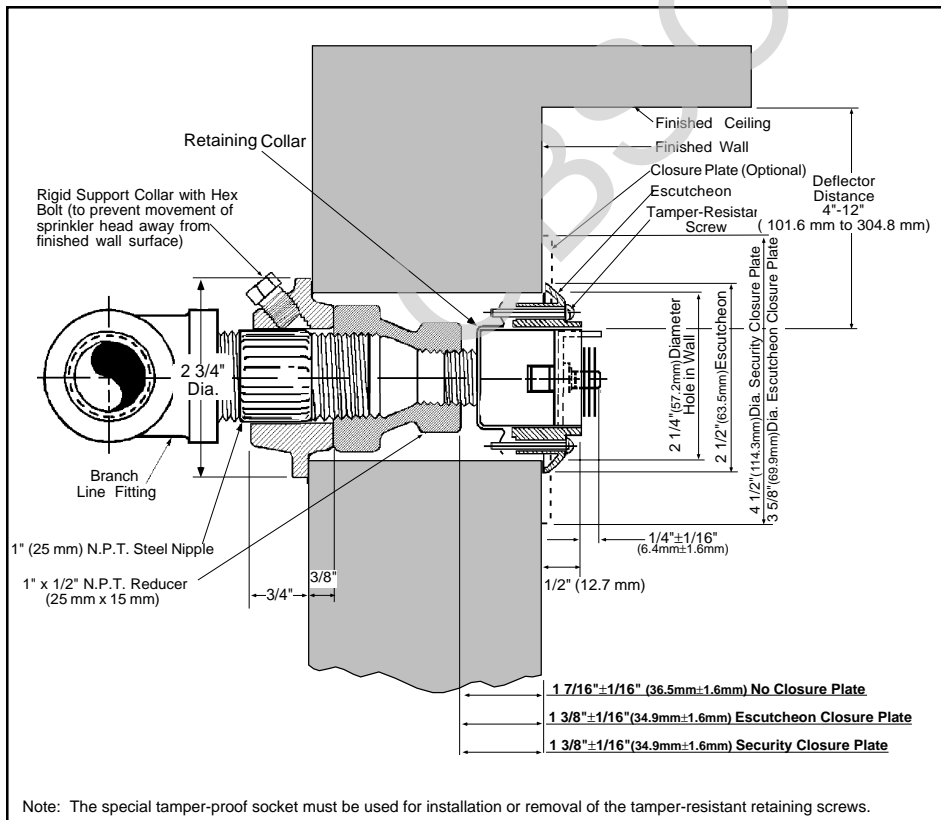
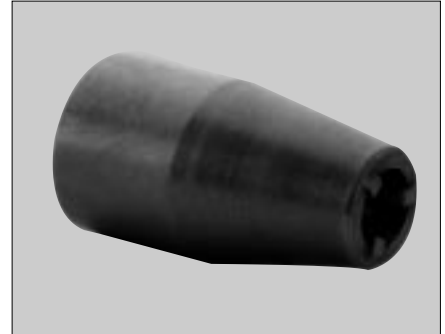


Figure 2 — HEC-12 PRO QR



Tamper-proof Socket (Part #160-07-00)



Omega HEC Sprinkler Wrench (Part #15932000) use for pend. & S/W





Technical Data

Model: C-1A PRO QR Pendent
HEC-12 PRO QR
Horizontal Sidewall

Orifice Size: 1/2" (12.7 mm)

K Factor:

C-1A PRO QR: 5.6 (80.8 metric)

HEC-12 PRO QR: 5.6 (80.8 metric)

Thread Size: 1/2" (15 mm) N.P.T.

Temperature Rating: 160°F/71°C

Approvals: U.L., U.L.C.,
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: brass, chrome plated

Escutcheon: brass, chrome plated,
and white painted

Escutcheon Closure: brass,
chrome plated,
white painted

Security Closure: chrome plated,
brass plated and
white painted

Length: 2 3/8" (60.3 mm)

Width: 2" (50.8 mm)

Weight: 6.8 oz. (193 grams)



Installation

All Prohibitor™ QR sprinklers must be installed in accordance with current NFPA 13 and the U.L Listing requirements described in this brochure. Deviations from these requirements and standards, or any alteration to the sprinkler itself, will void any warranty made by Central Sprinkler Corporation. In addition, installation must also meet local government provisions, codes, and standards as applicable.

The system piping must be properly pipe scheduled or hydraulically calculated to ensure the proper flow rate at the sprinkler.

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



Design Data

Design Requirements - Quick Response Commercial Applications

The Model C-1A PRO QR Pendent Sprinklers are listed for standard coverage areas and standard flow requirements as specified in the current NFPA 13. The sprinklers must be installed in the pendent position.

The Model HEC-12 PRO QR Horizontal Sidewall Sprinklers are intended for standard coverage areas and standard flow and pressure requirements as specified in the current NFPA 13 for light and ordinary hazard occupancies. The sprinklers must be installed in the horizontal sidewall position, from 4" to 12" (101.6 mm to 304.6 mm) below the ceiling.

damaged unit. Wet pipe systems must be protected from freezing.

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

Testing must be performed with the sprinklers installed, but should be done prior to installing the ceiling or wall escutcheons to avoid backing-out and reinstalling the retaining screws and/or closure plates.

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

Installation Sequence

Step 1. The pendent style sprinklers must be installed in the pendent position. The sidewall style sprinklers must be installed in the horizontal position 4" to 12" (101.6mm to 304.8 mm) below ceiling.

Step 2. Install the steel nipple into the branch line fitting, then slide the rigid support collar over the nipple prior to installing the 1" x 1/2" (25 mm x 15mm) NPT reducer. The face of the sprinkler fitting should be installed:

- (a) 1 7/16" ±1/16" behind the finished wall or ceiling line, if no closure plate is utilized. (36.5 mm ±1.6 mm)
- (b) 1 3/8" ±1/16" behind the finished wall or ceiling line, if the light-gauge, decorative escutcheon closure plate is utilized. (34.9 mm ±1.6 mm)
- (c) 1 5/16" ±1/16" behind the finished wall or ceiling line, if the security closure plate is utilized (33.3 mm ±1.6 mm)

The sprinkler nipple may be fitted

with the rigid support collar to prevent movement of the sprinkler away from the finished surface (see installation diagrams, page 2).

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

Step 4. Hand tighten the sprinkler into the fitting. Use a Central Omega HEC sprinkler wrench to tighten the unit into the fitting. A leak tight joint requires the application of only 7 to 14 ft.-lbs. (9.5 to 19.0 Nm) of torque.

A tangential force of 14 to 28 lbs. (62.3 to 124.5 N) delivered through a 6" (150 mm) long handle will deliver adequate torque. Torque levels over 21 ft.-lbs (28.6 Nm) may distort the orifice seal, resulting in leakage.

Step 5. During installation of the sprinkler, check the alignment of retaining collar holes with final orientation of sprinkler escutcheon.

Step 6. Test the system prior to installing the ceiling or wall escutcheons to avoid backing-out and reinstalling the retaining screws and/or closure plates.

Step 7. To install the escutcheon plate (and closure plate if applicable), align it (them) with and press it (them) over the sprinkler body until the outer edge of the escutcheon (or closure plate) meets the mounting surface. Do not over or under tighten the sprinkler to compensate for inaccurate escutcheon plate adjustment.

Step 8. Install the tamper resistant retaining screws through the escutcheon and into the retaining

*Teflon is a trademark of the DuPont Corp.

collar, thereby drawing the escutcheon (and closure plate) tight against the mounting surface. The tamper resistant retaining screws can only be installed or removed with the special tamper-proof socket.

Caution: Special care must be taken when installing with a CPVC system to ensure that no primer or cement accumulates 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 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 a manner must be replaced.

The owner is responsible for the proper working 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 reassemble 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 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 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 product found to be defective in material or workmanship within a period of one year from 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 number, style, orifice size, temperature rating, sprinkler finish, escutcheon finish, closure plate(s) and finish, and sprinkler wrench.

For special painted escutcheon finishes, it is advisable to provide quick-dry paint preferably in a lacquer base finish 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 Company distribution centers. You may write directly to Central Sprinkler Company or call (215) 362-0700 for the distributor nearest you.

Patents: The Omega Prohibitor™ QR Automatic Sprinklers are protected under U.S. Patent No. 4,491,182. Additional 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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