

Omega EC-20A

Residential

Extended Coverage

Quick Response Extended Coverage

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



Product Description

The Omega Model EC-20A 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 as a quick response sprinkler than a standard sprinkler and features a spray pattern that has been shown to be more effective in the control of fires.

The Model EC-20A incorporates two significant cost-saving features: a unique deflector that provides a much greater area of coverage than most other sprinklers and 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 EC-20A carries a triple Listing by Underwriters Laboratories for use as a Residential Sprinkler, an Extended Coverage Sprinkler and a Quick Response Extended Coverage Sprinkler. It qualifies for installation in residential and light hazard occupancies in accordance with current NFPA 13, NFPA 13D, or NFPA 13R Standards.

The Model EC-20A has a maximum working pressure of 175 psi.

The Model EC-20A is available in three standard finishes, chrome plated, brass plated or white painted. Its mating escutcheon plate is available in three standard finishes, chrome plated, brass plated or white painted. The Model EC-20A is shipped with a protective plastic cap.

This cap should be left on during installation to help protect the EC-20A. The plastic cap must be removed before placing the sprinkler system in service.

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.



Technical Data

Model: EC-20A

Style: Pendent (adjustable)

Orifice Size: $\frac{1}{2}$ " (15 mm)

K Factor: 5.6 (80.8) Nominal

Thread Size: $\frac{1}{2}$ " (15mm) N.P.T.

Temperature Rating:

Residential: 160°F/71°C

Extended Coverage: 145°F/63°C
160°F/71°C

Quick Response Extended Coverage: 145°F/63°C
Approvals: U.L., U.L.C., M.E.A.

(Cal. No. 375-75-SA)

Maximum Working Pressure: 175 psi
(12.1 bar)

$\frac{1}{2}$ " (15 mm)

Orifice
Adjustable
Pendent
Automatic
Sprinkler

Factory Hydro Test: 100% at 500 psi
(34.5 bar)

Standard Finishes:

Sprinkler: brass, chrome plated, white
and off-white painted

Escutcheon Plate: brass, chrome
plated, white and
off-white painted

Adjustable Range Below Ceiling:
 $\frac{3}{8}$ " to $1\frac{1}{4}$ " (9.5 mm to 31.8mm)

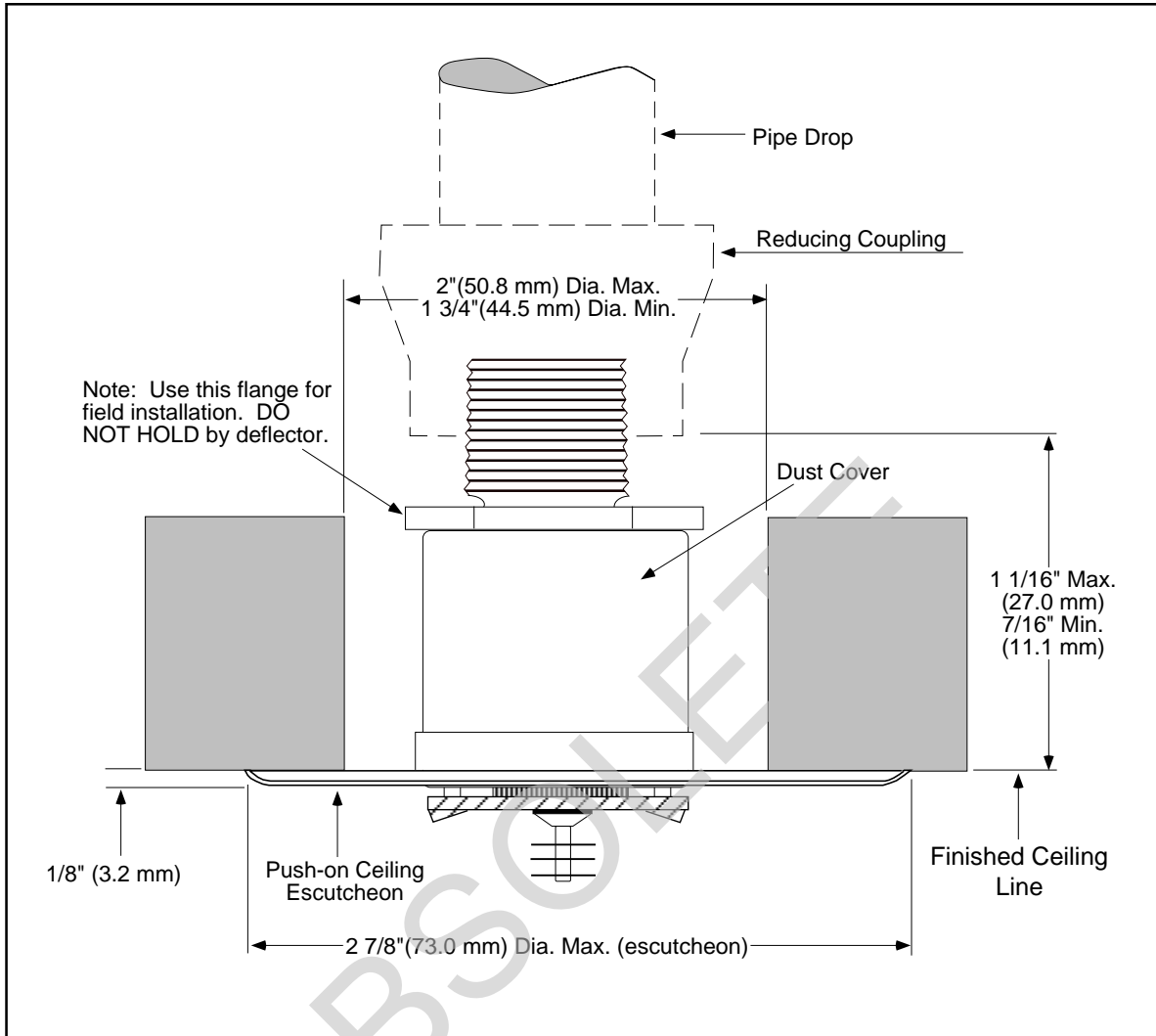
Highest Allowable Ambient Storage
Temperature: 100°F/38°C

Length: $2\frac{7}{16}$ " (61.9 mm)

Width: $1\frac{1}{4}$ " (31.8 mm)

Weight: 4.7 oz. (133.7 grams)

Figure 1
Omega EC-20A



Omega Adjustable Sprinkler Wrench
(Part #15674100)





Technical Data

Design Requirements — Residential Applications (160°F/71°C Rating Only)

Maximum Spacing Between Sprinklers	Maximum Location From Any Wall	Minimum Design Flow (pressure)	
		One Sprinkler	Two or More Sprinklers
12 ft. (3.7 m)	6 ft. (1.8 m)	19 GPM (11.5 psi) (72.0 L/min 0.8 bar)	16 GPM (8.1 psi) (60.6 L/min 0.6 bar)
14 ft. (4.3 m)	7 ft. (2.1 m)	25 GPM (19.9 psi) (94.8 L/min 1.4 bar)	18 GPM (10.3 psi) (68.2 L/min 0.7 bar)
16 ft. (4.9 m)	8 ft. (2.4 m)	30 GPM (28.7 psi) (113.7 L/min 2.0 bar)	21 GPM (14.1 psi) (79.6 L/min 1.0 bar)
18 ft. (5.5 m)	9 ft. (2.7 m)	32 GPM (32.7 psi) (121.3 L/min 2.3 bar)	29 GPM (26.8 psi) (109.9 L/min 1.8 bar)

Design Requirements — Quick Response Extended Coverage Applications (145°F/63°C or 160°F/71°C)

Maximum Spacing Between Sprinklers	Maximum Location From Any Wall	Minimum Design Flow	Minimum Design Pressure
14 ft. (or less) (4.3 m)	7 ft. (or less) (2.1 m)	26 GPM (98.5 L/min)	21.6 psi (1.5 bar)
16 ft. (4.9 m)	8 ft. (2.4 m)	26 GPM (98.5 L/min)	21.6 psi (1.5 bar)
18 ft. (5.5 m)	9 ft. (2.7 m)	32 GPM (121.3 L/min)	32.7 psi (2.3 bar)
20 ft. (6.1 m)	10 ft. (3.0 m)	40 GPM (151.6 L/min)	51.0 (3.5 bar)

Listed for use in Light Hazard applications only.

* 20 foot spacing is not Listed as quick response.



Installation

The Model EC-20A Sprinkler must be installed according to current NFPA 13, NFPA 13D or NFPA 13R standards. 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 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.

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 1/8" (28.6 mm) (plus or minus 7/16" (11.1 mm) behind the finished ceiling line. Adjustments may be made via the push-on escutcheon plate.

Do not use the push-on escutcheon plate to hold the unit in position. The sprinkler will only function properly 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. Leaving the protector cap in place, use a Central Sprinkler Omega Model A sprinkler wrench to tighten the unit in the fitting. A leak tight joint requires only 7 to 14 ft. lbs.

*Teflon is a trademark of the DuPont Corp.

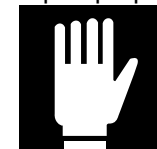
(9.5 to 19.0 Nm) of torque; a tangential force of 14 to 28 lbs. (62.3 to 124.5 N) delivered through a 6" (152.4 mm) handle will deliver adequate torque. Torque levels over 21 ft. lbs. (28.6 Nm) may distort the orifice seal, resulting in leakage.

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 piping system. Sprinklers must be installed after the CPVC manufacturer's recommended setting time for the primer and cement to ensure that no primer or cement accumulates within the sprinkler.

Special care must be taken when installing with a copper system. The sprinkler must be installed only after the inside of the sprinkler drops and associated fittings have been wire brushed to remove any flux. Residual flux can cause corrosion and 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 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 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 style, orifice and temperature rating as replacements.

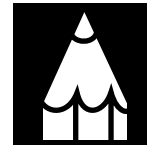
Because the discharge pattern is critical to protection of life and property, nothing should be hung or attached to the sprinkler unit that would disrupt the pattern. Such obstructions must be removed. In the event that construction has altered the original configuration, additional sprinklers may need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

To remove the system from service mode, first refer to the system operating guide and valve instruction. 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 products 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, style, orifice size, temperature rating, type of finish, escutcheon plate finish, and sprinkler wrench.

For special painted escutcheon finishes, paint must be provided in a quick-dry lacquer-base to insure proper color duplication. Without such a guide, Central Sprinkler Company can not be responsible for acceptable color matching.

Availability & 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: The Omega Model EC-20A Automatic Sprinkler is 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	= 1,356 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.



Central Sprinkler Company

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