

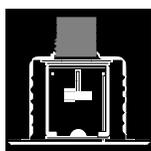
ELO Optima™

Concealed

Quick Response Extended Coverage

Automatic Sprinkler

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



Product Description

Central's Model ELOC Sprinkler, the ELO Optima™ Adjustable Concealed, is an extra large orifice, quick response, extended coverage, adjustable concealed sprinkler. It provides significant advantages in light hazard occupancies including very low start pressures (only 5.2 psi required at 16' x 16' spacing), almost 1" of adjustment in a thread on cover plate and a quick response listing up to 18' x 18' spacing.

The Model ELOC covers 400 sq. ft. using less pressure than a standard 1/2" sprinkler would use at 225 sq. ft. The Model ELOC is the sprinkler of choice for any light hazard ceiling application, especially applications requiring the additional aesthetics of a concealed sprinkler. This combination of features allows the ELO Optima™ Concealed Sprinkler to provide the most cost effective method of installing concealed sprinklers in a light hazard occupancy.

By adding the option of the clean room seal, the ELOC can be used in areas where dust or air flow cannot be allowed between the room and the area above the ceiling. This option is used extensively in "clean room" applications where the integrity of the ceiling is critical. The clean room seal is U.L. Listed for 16'x16' and 18'x18' spacings for standard response only. **It is NOT Listed for 20'x20'.** See *clean room seal data sheet for details.*

Inherent in the design, is the capability to compensate for ceiling heights which vary with respect to the sprinkler system piping. This significant feature allows the ELO Optima™ Concealed to seat flush with ceilings that can fluctuate over 3/4" in height. It's 3/4" diameter cover plate presents an unobstructed and aestheti-

cally pleasing appearance. The thin cover plate projects a mere 3/16" below the ceiling.

Also, the ELO Optima™ Concealed comes with a protective cap that protects it from damage and paint with a special cone shaped point that allows the ceiling to be marked for exact hole location.

The ELO Optima™ Concealed Sprinkler employs Central's exclusive link activating mechanism. The sprinkler is brass with its cover plate available in brass, chrome plated or white painted with special finishes available.

Operation: The sprinkler absorbs heat through its ceiling cover plate which is soldered to the adjustable retainer ring with a fusible alloy. At the rated temperature, the alloy fuses, resulting in the plate dropping away from the sprinkler. At this point, the deflector drops down below the ceiling surface, bringing about the link's exposure to the fire's heat. The heat fuses the link's thermal element resulting in a rapid expulsion of both the activating mechanism, as well as the sealing cap. Water can now flow in a pattern engineered to meet the extended coverage requirements.



Technical Data

Model: ELOC
Style: Concealed (*adjustable*)
Options: *Clean Room Seal
(Part #10908100)

* Clean Room Seal is U.L. Listed for ELOC as standard response only. Please reference Clean Room Seal data sheet for more information.

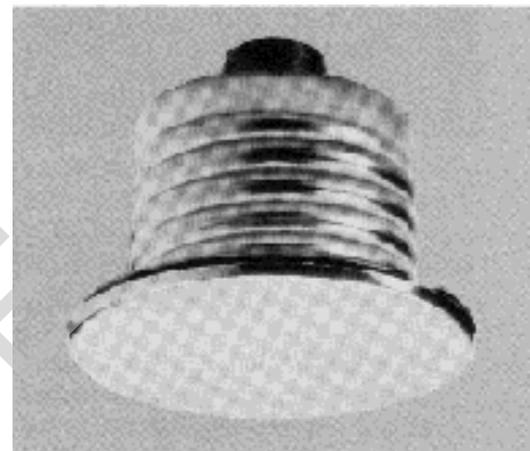
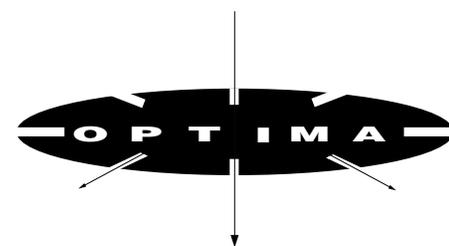
Wrench: Optima™ Concealed (Part #1265)

Orifice Size: .64" (16.3 mm) (ELO)

K-Factor: 11.4 (163.02)

Thread Size: 3/4" N.P.T. (19.1 mm)

Approvals: U.L., cUL, M.E.A. 7-95-E



.64 Orifice Adjustable Concealed Light Hazard Sprinkler

Temperature Ratings: See chart on page 3

Maximum Working Pressure: 175 psi

Factory Hydro Test: 100% at 500 psi

Standard Finishes:

Sprinkler: brass

Cover Plate: brass, chrome plated or white painted with special painted finishes available.

Length: 2 3/8" to 3 1/4"

(6 cm to 8.3 cm)

Cover Plate: 3/4" diameter

(8.3 cm)

Ceiling Opening: 2 1/2" diameter (6.4 cm)

Weight: 8.8 oz. (249 grams) complete assembly with cover plate

Patented with additional patents pending.

Figure 1
ELO Optima™ Concealed Pendant (Non-Activated)

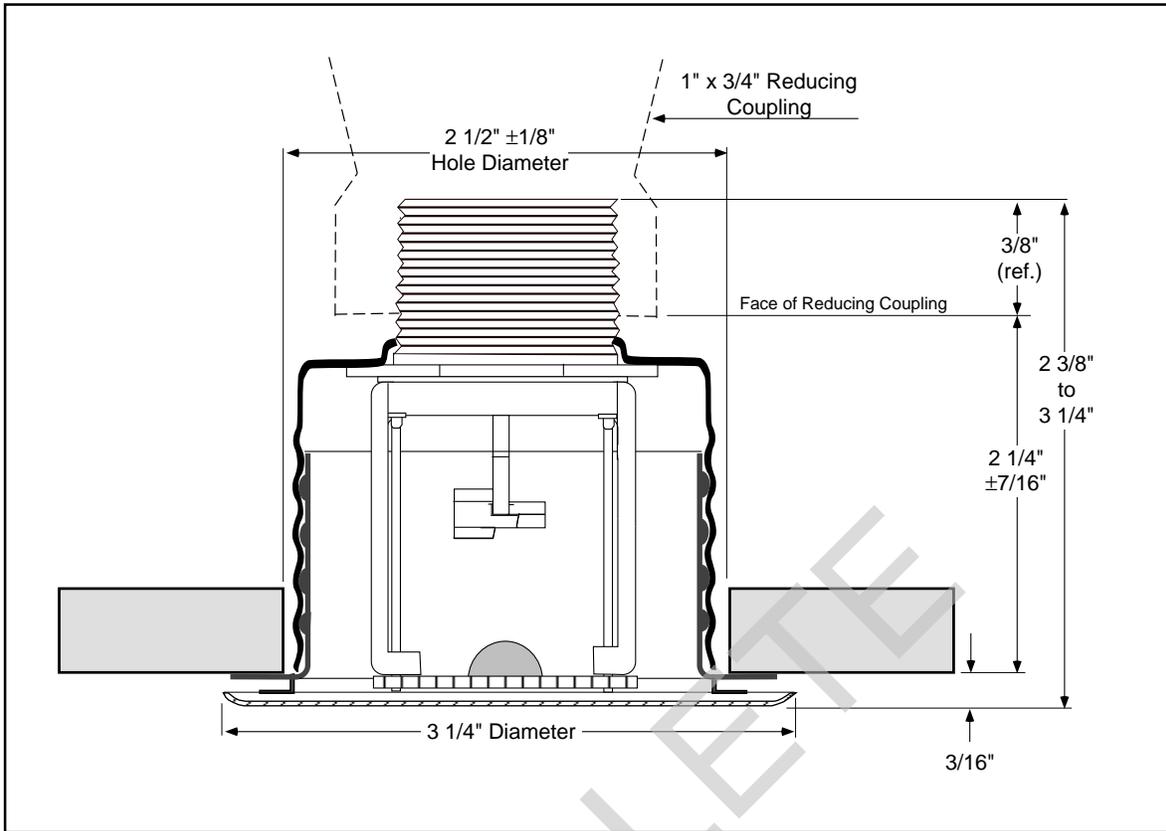
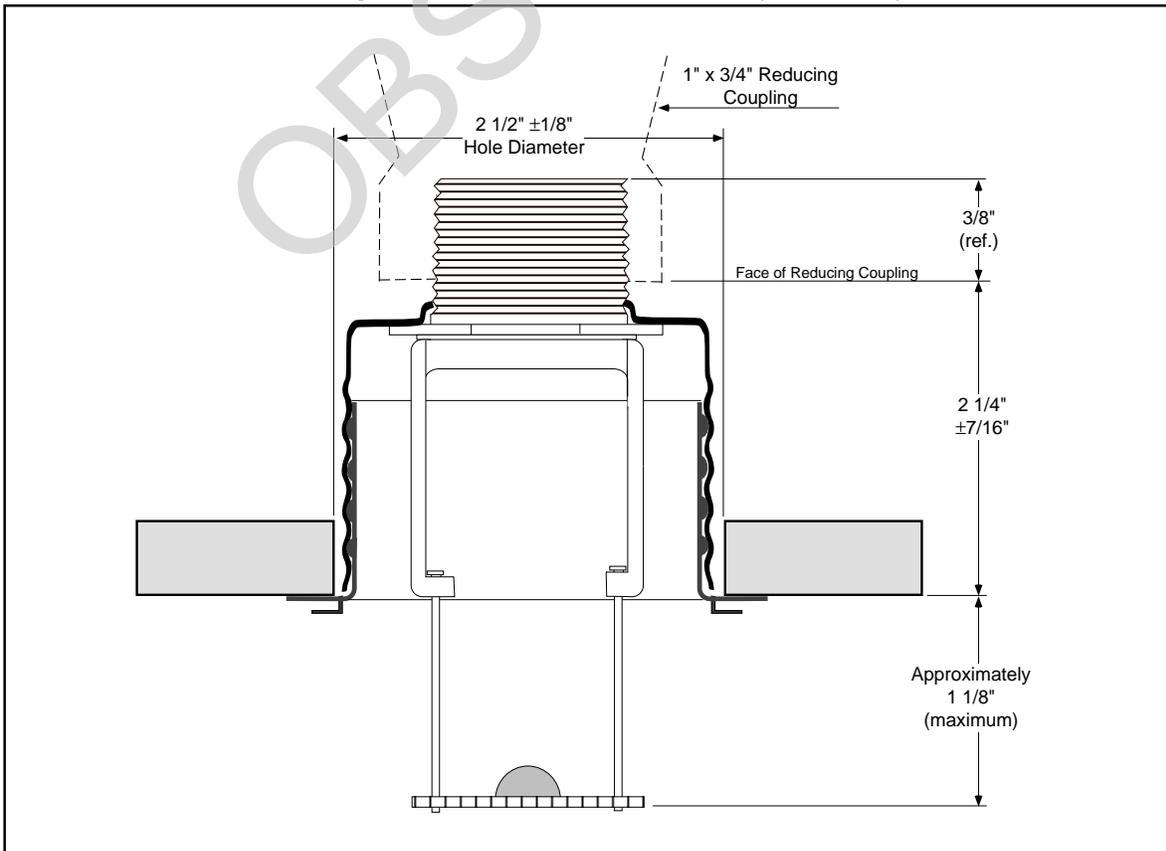


Figure 2
ELO Optima Concealed Pendant (Activated)





Design Data

Design Requirements - ELO Optima™ Concealed Pendent Extended Coverage Light Hazard Applications

Coverage Area (ft. x ft.)	Minimum Flow (gpm)	Minimum Pressure (psi)	Temperature	
			Cover	Sprinkler
16 x 16 (256 sq. ft.) <i>(Quick Response)</i>	26	5.2	135°F/57°C 165°F/74°C	160°F/71°C 212°F/100°C
18 x 18 (324 sq. ft.) <i>(Quick Response)</i>	33	8.4	135°F/57°C 165°F/74°C	160°F/71°C 212°F/100°C
20 x 20 (400 sq. ft.) <i>(Standard Response)</i>	40	12.3	135°F/57°C 165°F/74°C	160°F/71°C 212°F/100°C

Caution: Minimum spacing between sprinklers is 8'. The Quick Response Listing is only applicable up to 18' x 18' spacing. The 20' x 20' spacing is standard response only.

Ceiling cover plates are available in a variety of metallic or painted finishes. For custom painted finishes, the customer must furnish a quick-drying paint, preferably lacquer-based, to ensure proper color duplication. One quart of paint is required for each 200 plates.



Installation

The Central ELO Optima™ Concealed Sprinkler must be installed in conformance with current NFPA 13 and NFPA 13R Standards. Deviations from these requirements and standards, or any alteration to the sprinkler assembly 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.

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 2¼" ($\pm 7/16$ ") behind the finished ceiling line. Adjustments, to compensate for variations in fitting face to ceiling height, may be made by threading the cover plate retainer in and out of the unit's support cup.

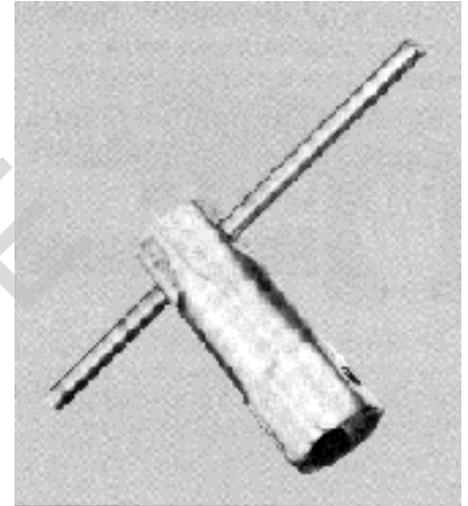
Step 3. Use only a non-hardening pipe joint compound, or Teflon* tape. Apply only to the male threads.

Step 4. Hand tighten the sprinkler into the fitting. Avoid making contact with the deflector when using the

*Teflon is a trademark of the DuPont Corp.

Central Sprinkler Optima Concealed Wrench to tighten the unit into the fitting. The wrench is designed to mate with the body's wrench bosses, inside the threaded support cup. A leak tight joint requires a only 7 to 14 ft. lbs. of torque. Torque levels greater than 21 ft. lbs. may distort the orifice seal, resulting in leakage.

Optima™ Concealed Wrench (Part #1265)



Step 5. After initial installation and before the cover plate is installed, cover the sprinkler with the special plastic protective cap. The cap is specially designed to not only protect the sprinkler, but allow the ceiling installers to locate the sprinkler by pressing the ceiling board up against it. The end of the cap has a special tip, therefore leaving an impression in the ceiling board for the location of the sprinkler. Care should be taken to only press the ceiling lightly against the cap as excessive pressure will damage the sprinkler.

Step 6. To install the ceiling cover plate, manually thread the cover retainer into the support cup. Continue threading until the cover retainer's flange rests against the surface of the ceiling.

Caution: Special care must be taken when installing with a CPVC system. Sprinklers must be installed after the 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 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 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 orifice, style, 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 instruction. Drain water and relieve pressure in the pipes. Remove the existing unit and install the replacement, using only the recommended 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 repaired and 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.

Leak stopping products, such as water glass, must **NEVER** be introduced into a sprinkler system.



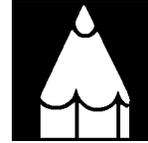
Central Sprinkler Company

451 N. Cannon Avenue, Lansdale, PA 19446

Phone (215) 362-0700

FAX (215) 362-5385

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, sprinkler finish, cover plate finish, and sprinkler wrench.

For special painted cover plate finishes, the customer must supply a quick-drying paint, preferably in a lacquer-base finish to insure proper color duplication. Without such a guide, Central Sprinkler Company cannot be responsible for acceptable color matching. All custom painting of the cover plate must be completed at the factory.

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: The ELO Optima™ Concealed sprinklers are protected under U.S. Patent #4,976,320. Additional patents are pending.

OPTIMA™ is a registered trademark of Central Sprinkler Company.

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.