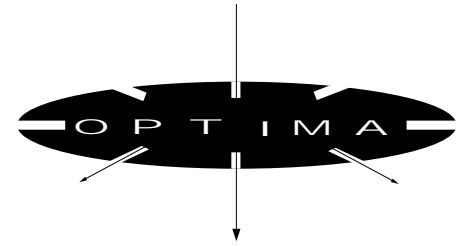


ESLO-20 GB

Extended Coverage Ordinary Hazard
Very Extra Large Orifice
Upright Glass Bulb Automatic Sprinkler



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



Product Description

The Central Model ESLO-20 GB Very Extra Large Orifice Upright Automatic Glass Bulb Sprinkler is specifically designed for Extended Coverage/Ordinary Hazard for all Groups as defined by NFPA 13. The ESLO-20 GB is acceptable for installations in **unobstructed and non-combustible obstructed construction consisting of solid steel or concrete beams***. The ESLO-20 GB is Listed for an 18" (457.2 mm) commodity clearance from the deflector, as standard sprinklers are per NFPA 13.

They are intended for use, as all extended coverage sprinklers are, with hydraulically designed systems and using the flows and pressures as shown in this brochure. All spacing is rounded up to the next higher category. For example, 17'-6" x 15'-0" (5.3 x 4.6 m) spacing would be calculated at the Listed 18' x 18' (5.5 x 5.5 m) flow and pressure.

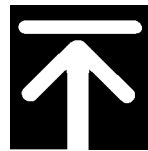
The advantage of the ESLO-20 is its ability to cover large areas, up to 400 square feet (37.2 m²), with pressures that compare to 1/2" (15 mm) standard sprinklers spaced at their maximum of 130 square feet (12.1 m²). For example, the ESLO-20 can cover 18' x 18' (5.5 x 5.5 m) spacing or 324 square feet (30.1 m²) with less pressure than is required with 1/2" (15 mm) sprinklers at 130 square feet (12.1 m²). (20.0 vs. 21.3 (1.4 bar vs. 1.5 bar))

The Model ESLO-20 GB Sprinkler incorporates a specially designed deflector that provides a much greater area of coverage than most commercial sprinklers.

The Model ESLO-20 GB incorporates the latest in heat-responsive glass bulb technology. The operating mechanism consists of a 3 mm liquid-filled frangible capsule that is only 2.0 cm (20 mm) in length.

Operation: The glass bulb capsule operating mechanism contains a heat-sensitive liquid that expands upon application of heat. At the rated temperature, the

frangible capsule ruptures, thereby releasing the orifice seal. The sprinkler then discharges water in a pre-designed spray pattern to control or extinguish the fire.



Technical Data

Model: ESLO-20 GB
Style: Upright
Wrench: ELO/ESLO/ESFR Combination
Part #1073

Orifice Size: 0.70" (17.8 mm) (VELO)
K-Factor: 14.5 (207.35 metric)
Thread Size: 3/4" N.P.T. (20 mm)
Temperature Rating: 155°F/68°C
200°F/93°C
250°F/121°C

Installation Limitations:

- Unobstructed or non-combustible obstructed construction consisting of solid steel or concrete beams*.
- Minimum hydraulic design area of 5 heads or 1500 sq. ft. (139.5 m²), whichever is greater.
- Minimum spacing between upright sprinklers is 14' (4.3 m).

Approvals: U.L., F.M. M.E.A.

Maximum Working Pressure: 175 psi
(12.1 bar)

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

Standard Finishes:

Sprinkler: brass or chrome plated

Decorative Finishes:

White or Black Painted

Corrosion Resistant Coatings:

White or Black Painted
(U.L. only)

Coatings: wax, lead, wax-over-lead
(FM only)

Escutcheon: brass, chrome plated, white
or black painted

Length: 3 1/8" (7.94 cm)

Width: 1 3/4" (4.44 cm)

Weight: 4.8 oz. (136 grams)

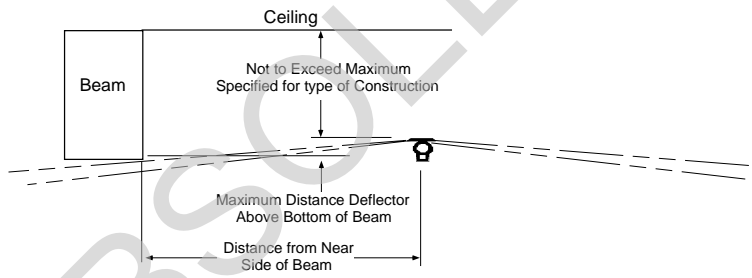
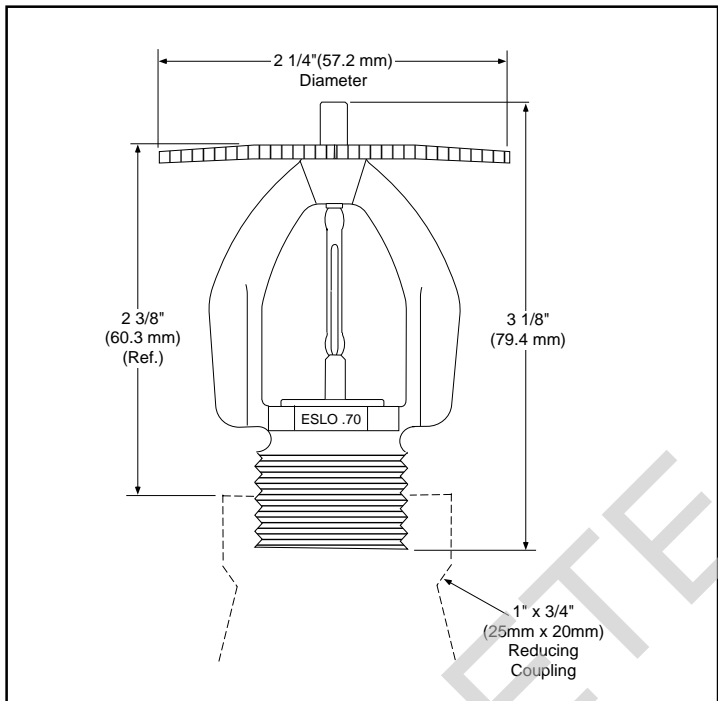


Extended
Coverage
Ordinary
Hazard
Upright
Sprinkler

* WEB members of open WEB trusses must not exceed 1" (25.4 mm) diameter. Maximum ceiling slope of 2" per foot (158 mm/m).

Figure 1
ESLO-20 GB Extended Coverage Ordinary Hazard

Upright



Position of Deflector When Located Above Bottom of Beam

Distance From Sprinkler to Near Side of Beam	Maximum Allowable Distance Deflector Above Bottom of Beam
Less than 1' (< 25.4 mm)	0"
1' to less than 1'-6" (25.4 < 152.4 mm)	0"
1'-6" to less than 2' (25.4-152.4 < 0.6 m)	1" (25.4mm)
2' to less than 2'-6" (0.6m < 0.8m)	1" (25.4mm)
2'-6" to less than 3' (0.8m < 0.9m)	1" (25.4mm)
3' to less than 3'-6" (0.9m < 1.1m)	3" (76.2mm)
3'-6" to less than 4' (1.1m < 1.2m)	3" (76.2mm)
4' to less than 4'-6" (1.2m < 1.4m)	5" (127mm)
4'-6" to less than 5' (1.4m < 1.5m)	7" (177.8mm)
5' to less than 5'-6" (1.5m < 1.7m)	7" (177.8mm)
5'-6" to less than 6' (1.7m < 1.8m)	7" (177.8mm)
6' to less than 6'-6" (1.8m < 2.0m)	9" (228.6mm)
6'-6" to less than 7' (2.0m < 2.1m)	11" (279.4mm)
7' and greater (> 2.1m)	14" (355.6mm)

For SI Units: 1" = 25.4mm; 1' = 0.3048m



Design Data



Installation

Design Requirements — Commercial Extended Coverage Applications

Ordinary Hazard, Density 0.15 GPM/ft² - NFPA 13 1991 and later

Temperature Rating 155°F/68°C, 200°F/93°C and 250°F/121°C

Spacing Between Sprinklers	Maximum Location From Any Wall	Minimum Design Flow per Sprinkler GPM(Lpm)	Minimum Design Pressure per Sprinkler psi(bar)
18 x 18 feet (324 sq. ft.) 5.5 x 5.5 m(30.1m ²)	9 feet (2.7m)	48.6 (184.2)	11.2 (0.8)
20 x 20 feet (400 sq. ft.) 6.1 x 6.1 m(37.2m ²)	10 feet (3.0m)	60.0 (227.4)	17.1 (1.2)

Design Requirements — Commercial Extended Coverage Applications

Ordinary Hazard, Density 0.16 GPM/ft² - NFPA 13 1989 or earlier

Temperature Rating 155°F/68°C, 200°F/93°C and 250°F/121°C

Spacing Between Sprinklers	Maximum Location From Any Wall	Minimum Design Flow per Sprinkler GPM(Lpm)	Minimum Design Pressure per Sprinkler psi(bar)
18 x 18 feet (324 sq. ft.) 5.5 x 5.5 m(30.1m ²)	9 feet (2.7m)	51.8 (196.3)	12.8 (0.9)
20 x 20 feet (400 sq. ft.) 6.1 x 6.1 m(37.2m ²)	10 feet (3.0m)	64.0 (242.6)	19.5 (1.3)

Design Requirements — Commercial Extended Coverage Applications

Ordinary Hazard, Density 0.19 GPM/ft² - NFPA 13 1989 or earlier

Temperature Rating 155°F/68°C, 200°F/93°C and 250°F/121°C

Spacing Between Sprinklers	Maximum Location From Any Wall	Minimum Design Flow per Sprinkler GPM(Lpm)	Minimum Design Pressure per Sprinkler psi(bar)
18 x 18 feet (324 sq. ft.) 5.5 x 5.5 m(30.1m ²)	9 feet (2.7m)	61.6 (233.5)	18.0 (0.8)
20 x 20 feet (400 sq. ft.) 6.1 x 6.1 m(37.2m ²)	10 feet (3.0m)	76.0 (288.0)	27.5 (1.9)

Design Requirements — Commercial Extended Coverage Applications

Ordinary Hazard, Density 0.20 GPM/ft² - NFPA 13 1991 and later

Temperature Rating 155°F/68°C, 200°F/93°C and 250°F/121°C

Spacing Between Sprinklers	Maximum Location From Any Wall	Minimum Design Flow per Sprinkler GPM(Lpm)	Minimum Design Pressure per Sprinkler psi(bar)
18 x 18 feet (324 sq. ft.) 5.5 x 5.5 m(30.1m ²)	9 feet (2.7m)	64.8 (245.6)	20.0 (1.4)
20 x 20 feet (400 sq. ft.) 6.1 x 6.1 m(37.2m ²)	10 feet (3.0m)	80.0 (303.2)	30.4 (2.1)

Design Requirements — Commercial Extended Coverage Applications

Ordinary Hazard, Density 0.21 GPM/ft² - NFPA 13 1989 or earlier

Temperature Rating 155°F/68°C, 200°F/93°C and 250°F/121°C

Spacing Between Sprinklers	Maximum Location From Any Wall	Minimum Design Flow per Sprinkler GPM(Lpm)	Minimum Design Pressure per Sprinkler psi(bar)
18 x 18 feet (324 sq. ft.) 5.5 x 5.5 m(30.1m ²)	9 feet (2.7m)	68.0 (257.7)	22.0 (1.5)
20 x 20 feet (400 sq. ft.) 6.1 x 6.1 m(37.2m ²)	10 feet (3.0m)	84.0 (318.4)	33.6 (2.3)

Caution: Minimum spacing between upright sprinklers is 14' (4.3m).

All Central Model ESLO-20 GB Upright Automatic Glass Bulb 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.

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 sprinkler must be installed in the upright position.

Step 2. Use only a non-hardening pipe joint compound or Teflon* tape. Apply only to the male threads.

Step 3. Hand tighten the sprinkler into the fitting. Use a Central 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. (62.3 to 124.5 N) 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.

The sprinkler shall be oriented so the frame arms are parallel with the branch line pipe for upright sprinklers.

*Teflon is a trademark of the DuPont Corp.



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 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, the system must be investigated and the protection level maintained.

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 wise 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 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.

Patents: The ESLO-20 GB Optima™ sprinklers are protected under U.S. Patent No. 5,366,022.

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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