

Model ELO SW-20

11.2 K-factor

Standard Response

Extended Coverage Ordinary Hazard

Horizontal Sidewall Glass Bulb Automatic Sprinklers

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General Description

The Central Model ELO SW-20, 11.2 K-factor, Standard Response, Extended Coverage Ordinary Hazard (ECOH) Horizontal Sidewall Sprinklers are decorative glass bulb sprinklers designed for use in ordinary hazard occupancies per NFPA 13.

They are designed for installation along a wall beneath smooth & level ceilings as defined in the applicable installation standard. Horizontal sidewall sprinklers are generally used in lieu of pendent sprinklers because of aesthetic, building construction, or installation economy considerations.

Operation: The glass bulb contains a fluid which expands when exposed to heat. When the rated temperature is reached, the fluid expands sufficiently to shatter the glass bulb, which then allows the sprinkler to activate & flow water.

WARNING

The Model ELO SW-20 ECOH Horizontal Sidewall Sprinklers described herein must be installed & maintained in compliance with this document, as well as with the applicable standards of the National Fire Protection Association, in addition to the standards of any other authorities having jurisdiction. Failure to do so may impair the integrity of these devices.

The owner is responsible for maintaining their fire protection system and devices in proper operating condition. The installing contractor or sprinkler manufacturer should be contacted relative to any questions.

Technical Data

Sprinkler Identification Number
 SIN C5332

Approvals
 UL and C-UL Listed. NYC Approved. (Refer to Table 1. The approvals apply only to the service conditions indicated in the Design Criteria Section)

Maximum Working Pressure
 175 psi (12,1 bar)

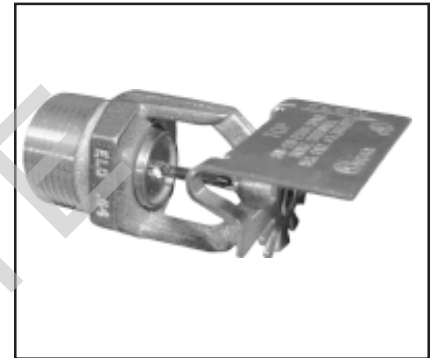
Pipe Thread Connection
 3/4 inch NPT

Discharge Coefficient
 $K = 11.2 \text{ GPM/psi}^{1/2} (161,3 \text{ LPM/bar}^{1/2})$

Temperature Ratings
 155°F/68°C & 200°F/93°C

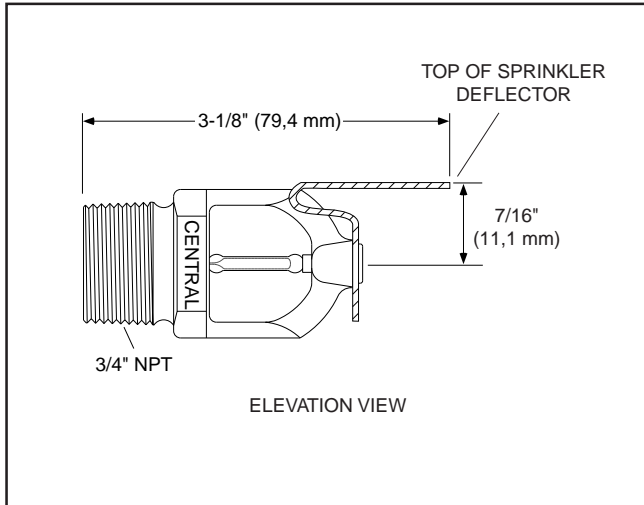
Finishes
 Sprinkler: White Polyester, Chrome Plated, or Natural Brass

Physical Characteristics
 The Model ELO SW-20 ECOH Horizontal Sidewall Sprinklers utilize a dezincification resistant (DZR) bronze frame and a 3 mm bulb. The two-piece button assembly is brass and copper. The sprinkler frame orifice is sealed with a gasketed spring plate (Belleville Seal) consisting of a beryllium nickel disc spring that is sealed on both its inside and outside edges with a Teflon™ gasket. The compression screw is bronze, & the deflector is brass.

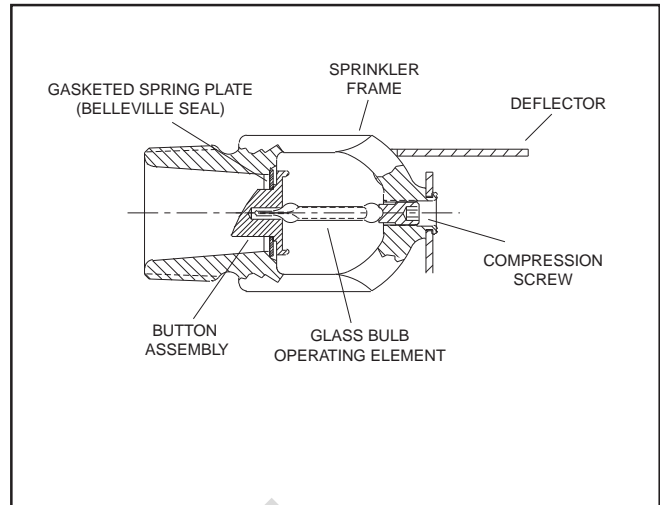


Extended Coverage Ordinary Hazard Horizontal Sidewall Sprinklers

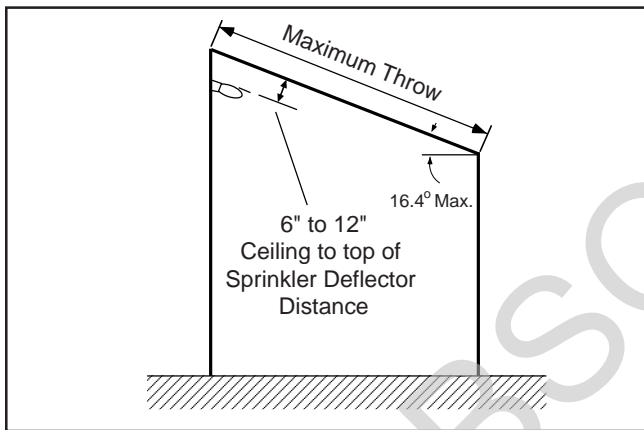
**Figure 1 - Model ELO SW-20,
Horizontal Sidewall Sprinkler**



**Figure 2 - Cross Section Model ELO SW-20,
Horizontal Sidewall Sprinkler**



**Figure 3 - Sprinkler Placement on Sloped Ceilings
in loading docks**



**Figure 4 - W-Type 3, Sprinkler Wrench
(Part #1073)**



Design Criteria

The Model ELO SW-20 ECOH Horizontal Sidewall Sprinklers are UL and C-UL listed and NYC Approved (MEA 466-92-E Vol. 7), for use in ordinary hazard occupancies with non-combustible unobstructed construction, using the design criteria in Table 1 as well as any additional requirements specified in current NFPA 13 Standards for Extended Coverage Sidewall Sprinklers.

These sprinklers are listed with a ceiling to top of sprinkler deflector distance of 6 - 12 inches (152,4 - 304,8 mm).

A 36 inch (914,4 mm) clearance must be maintained between the top of the sprinkler deflector and any miscellaneous storage.

The Horizontal Sidewall Sprinklers must be installed in such a manner, that no other sprinkler is located within the maximum protection area of any other sprinkler.

These sprinklers may be installed on sloped ceilings in loading docks, with a maximum roof slope of 4 inches per foot as indicated in Figure 3 of this data sheet.

The Model ELO SW-20 ECOH Horizontal Sidewall Sprinklers may be used with any metallic flush or extended escutcheon, provided the maximum ceiling and/or wall to top of sprinkler deflector dimension specified in this document and NFPA 13 is maintained. These sprinklers are not listed for recessed applications.

Table 1 - UL and C-UL Listing Criteria for the Installation of Model ELO SW-20 Extended Coverage Ordinary Hazard Horizontal Sidewall Sprinklers

Spacing (W x L)	Minimum Flow/Pressure OH Group 1 (0.15 gpm/sq. ft.)	Minimum Flow/Pressure OH Group 2 (0.20 gpm/sq. ft.)
16' x 16' (4,9m x 4,9m)	38.0 gpm / 11.5 psi 143,8 Lpm / 0,79 bar	51.0 gpm / 20.7 psi 193,1 Lpm / 1,43 bar
16' x 18' (4,9m x 5,5m)	43.0 gpm / 14.7 psi 162,8 Lpm / 1,01 bar	58.0 gpm / 26.8 psi 219,6 Lpm / 1,85 bar
16' x 20' (4,9m x 6,1m)	48.0 gpm / 18.4 psi 181,7 Lpm / 1,27 bar	64.0 gpm / 32.7 psi 242,3 Lpm / 2,25 bar



Installation

The Model ELO SW-20 ECOH Horizontal Sidewall Sprinklers must be installed in accordance with the following instructions.

NOTES

Do not install any bulb type sprinkler if the bulb is cracked or there is a loss of liquid from the bulb. With the sprinkler held horizontally, a small air bubble should be present. The diameter of the air bubble is approximately 1/16 inch (1,6 mm) for the 155°F/68°C to 3/32 inch (2,4 mm) for the 200°F/93°C rating.

A leak tight 3/4 inch NPT sprinkler joint should be obtained with a torque of 10 to 20 ft.lbs. (13,4 to 26,8 Nm). A maximum of 30 ft.lbs. (40,7 Nm) of torque is to be used to install 3/4 inch NPT sprinklers. Higher levels of torque may distort the sprinkler inlet with consequent leakage or impairment of the sprinkler

Step 1. The sprinkler must be installed only in the sidewall position with the centerline of the sprinkler perpendicular to the back wall and the top of the deflector towards the ceiling.

Step 2. With pipe thread sealant applied to the pipe threads, hand tighten the sprinkler into the sprinkler fitting.

Step 3. Wrench tighten the Sprinkler using only the W-Type 3 Sprinkler Wrench (Ref. Figure 4). The W-Type 3 Sprinkler Wrench is to be applied to the Sprinkler Wrench flats only.

NOTE

When installing the Model ELO SW-20 ECOH Horizontal Sidewall Sprinklers on sloped ceilings in loading docks, the sprinkler must be installed at the high point of the slope, with its deflector parallel to the slope (Ref. Figure 3).



Care & Maintenance

The Model ELO SW-20 ECOH Horizontal Sidewall Sprinklers must be maintained and serviced in accordance with the following instructions.

NOTES

Absence of an escutcheon which is used to cover a clearance hole, may delay the time to operation in a fire situation.

Before closing a fire protection system main control valve for maintenance work on the fire protection system it controls, permission to shut down the affected fire protection systems must be obtained from the proper authorities. All personnel who may be affected by this action must be notified.

Sprinklers which are found to be leaking or exhibiting visible signs of corrosion must be replaced.

Automatic sprinklers must never be shipped or stored where their temperatures will exceed 100°F/38°C and they must never be painted, plated, coated or otherwise altered after leaving the factory. Modified sprinklers must be replaced. Sprinklers that have been exposed to corrosive products of combustion, but have not operated, should be replaced if they cannot be completely cleaned by wiping the sprinkler with a cloth or by brushing it with a soft bristle brush.

Care must be exercised to avoid damage - before, during, and after installation. Sprinklers damaged by dropping, striking, wrench twist/slippage, or the like, must be replaced. Also, replace any sprinkler that has a cracked bulb or that has lost liquid from its bulb (ref. Installation Section).

The owner is responsible for the inspection, testing, and maintenance of their fire protection system and devices in compliance with this document, as well as with the applicable standards of the National Fire Protection Association (e.g., NFPA 25), in addition to the standards of any other authorities having jurisdiction. The installing contractor or sprinkler manufacturer should be contacted relative to any questions.

It is recommended that automatic sprinkler systems be inspected, tested, and maintained by a qualified Inspection Service.



Limited Warranty

Products manufactured by Tyco Fire Products are warranted solely to the original Buyer for ten (10) years against defects in material and workmanship when paid for and properly installed and maintained under normal use and service. This warranty will expire ten (10) years from date of shipment by Tyco Fire Products. No warranty is given for products or components manufactured by companies not affiliated by ownership with Tyco Fire Products or for products and components which have been subject to misuse, improper installation, corrosion, or which have not been installed, maintained, modified or repaired in accordance with applicable Standards of the National Fire Protection Association, and/or the standards of any other Authorities Having Jurisdiction. Materials found by Tyco Fire Products to be defective shall be either repaired or replaced, at Tyco Fire Products' sole option. Tyco Fire Products neither assumes, nor authorizes any person to assume for it, any other obligation in connection with the sale of products or parts of products. Tyco Fire Products shall not be responsible for sprinkler system design errors or inaccurate or incomplete information supplied by Buyer or Buyer's representatives.

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THE FOREGOING WARRANTY IS MADE IN LIEU OF ANY AND ALL OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.



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. Refer to price list for complete listing of Part Numbers.

Patents: U.S.A. Patent Number 5,366,022 is applicable to the Model ELO SW-20 Horizontal Sidewall Sprinklers. Other Patents are pending with regard to other design features.

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