

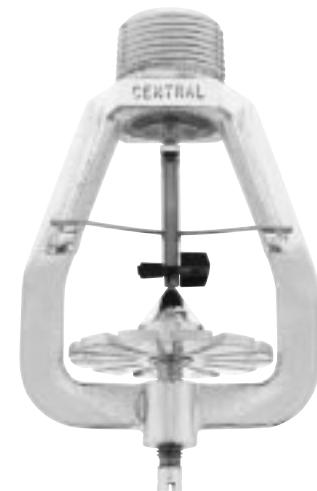
ESFR

Early Suppression

Fast Response

Pendent Automatic Sprinkler

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



Product Description

The Central Model ESFR-1 Early Suppression Fast Response Automatic Sprinkler has been designed to meet high challenge fire hazards.

The Model ESFR-1 utilizes a 160°F/71°C or a 212°F/100°C Fast Response solder link, giving the sprinkler the required fast response characteristics.

The fast response, combined with water droplet size and velocity provide early suppression to high challenge fires.

The ESFR-1 is approved for use with storage up to 35 feet in 40 foot (10.7m in 12.2m) buildings and 25 feet in 30 foot (7.6m in 9.1m) buildings, as referenced in the NFPA Standards, Underwriter's Laboratories and Factory Mutual's installation standards.

A head guard is available for use with the ESFR-1. It must be assembled at the factory, so be sure to specify it when ordering.

Technical Data

Model: ESFR-1

Style: Pendent

Wrench: ELO/ESLO/ESFR-1
Combination Part# 1073

Orifice Size: 0.69" (17.5 mm)

K-Factor: 14.0 (201.9 metric)

Thread Size: ¾" (20 mm) N.P.T.

Temperature Rating: 160°F/71°C.
212°F/100°C

Approvals: U.L., U.L.C., F.M.,
MEA* (424-93-E)

**MEA Approval for 160°F Only*

Maximum Working Pressure:
175 psi (12.1 bar)

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

Standard Finish: Brass

Length: 4¾" (120.65 mm)

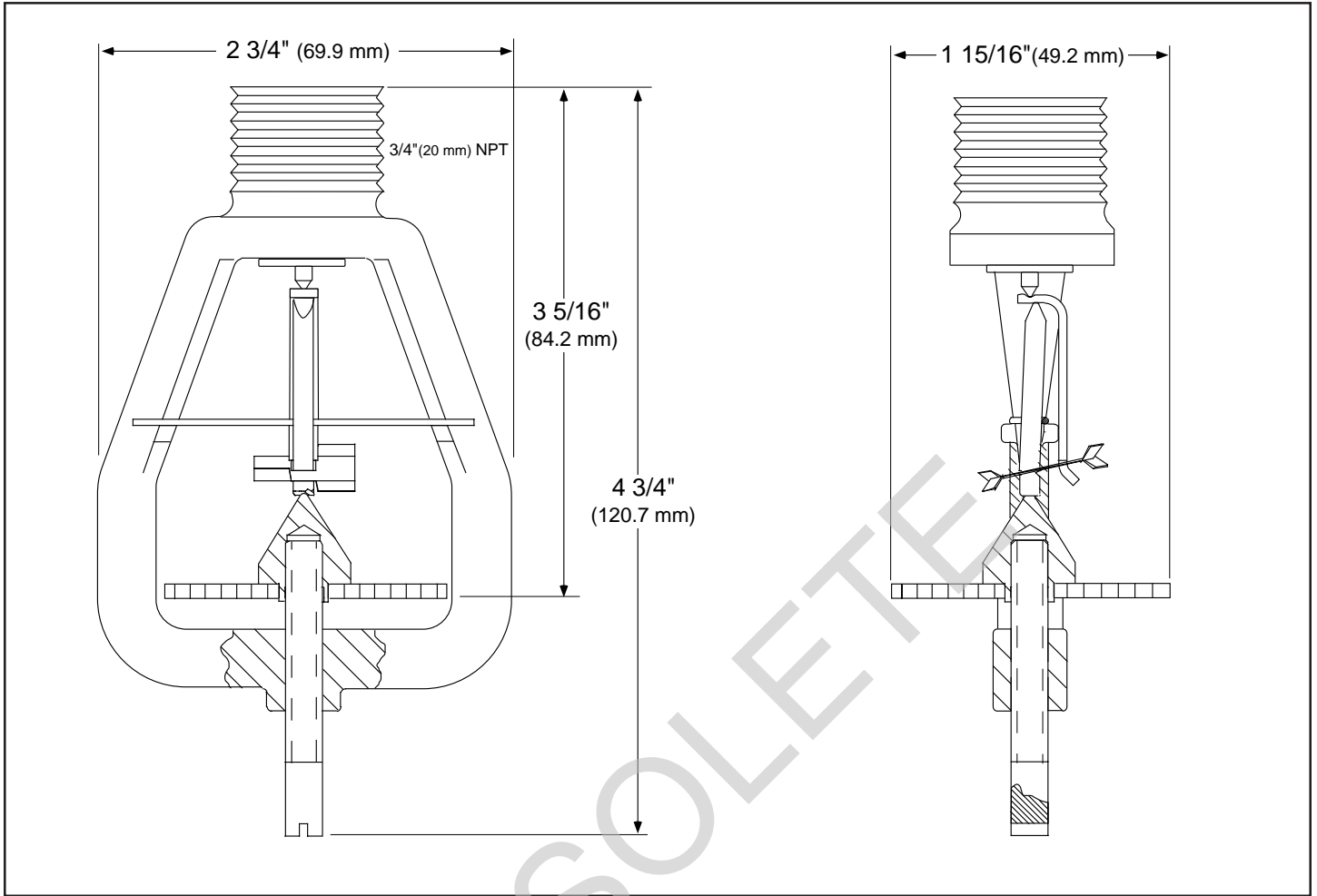
Width: 2¾" (69.9 mm) (frame arms)

Weight: 8.2 oz. (233.2 g)

Patents: Patents are pending.

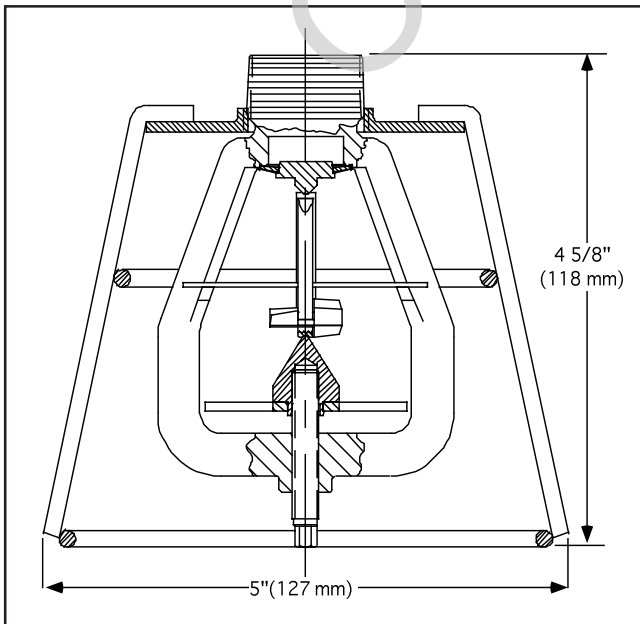
Early Suppression Fast Response Automatic Sprinkler

**Figure 1 ESFR-1
Early Suppression Fast Response Pendent Sprinkler**



Note: All ESFR-1 Sprinklers are factory shipped with cardboard protectors. **DO NOT REMOVE IT PRIOR TO SPRINKLER INSTALLATION. AFTER SPRINKLER INSTALLATION, BE SURE TO REMOVE IT.**

Figure 2 ESFR-1 With Guard



**Figure 3 ELO/ESLO/ESFR-1
Combination Wrench Part# 1073**



Design Requirements — Applications

The design and installation of ESFR-1 sprinkler systems must comply with the applicable standards of NFPA, Underwriter's Laboratories, the Authority Having Jurisdiction, and, when applicable, Factory Mutual's Loss Prevention Data Sheets.

 **Installation**

All Central Model ESFR-1 Automatic 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 by hydraulic calculation to ensure the minimum required flow rate at the sprinkler. Install sprinklers after the piping is in place to avoid mechanical damage; replace any damaged units.

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

Step 2. Hand tighten the sprinkler into the fitting. Use ELO/ESLO/ESFR-1 Combination 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. (6.23 to 124.5 N) delivered through a 6" (150mm) handle will deliver adequate torque. Torque levels over 21 ft.-lbs. (28.6 Nm) may distort the orifice seal, resulting in leakage.

*Teflon is a trademark of the DuPont Corp.

Step 3. Following installation, the protective cardboard guard must be removed.

 **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 should 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 System", 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 re-assemble 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.

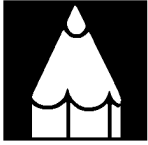
Because the discharge pattern is critical to protection of life and property, nothing should be hung or attached to the sprinkler unit that would disrupt the pattern. Such obstructions must be removed. In the event that construction has altered the original configuration, additional sprinklers should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

To remove the system from service mode, first refer to the system operating guide and valve instruction. Drain the 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 the 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.

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: 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.

OBSOLETE



Central Sprinkler Company

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