

Model K14

Early Suppression Fast Response Sprinklers



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General Description

The Central Model K14 ESFR Sprinklers (Ref. Figure 1) are “Early Suppression Fast Response Sprinklers” having a nominal K-factor of 14.0. They are suppression mode sprinklers, and their use is especially advantageous as a means of eliminating the use of in-rack sprinklers, when protecting high-piled storage.

The Model K14 ESFR is primarily designed for use with storage heights of most encapsulated or non-encapsulated common materials including cartoned unexpanded plastics of up to 35 ft. (10,7 m). In addition, the protection of some storage arrangements of roll paper and rubber tires can be considered as well.

Applications for the Model K14 ESFR Sprinklers are expanding beyond the current recognized installation standards. For information regarding research fire tests which may be acceptable to an Authority Having Jurisdiction (e.g., flammable liquids, aerosols, etc.), please contact the Technical Services Department.

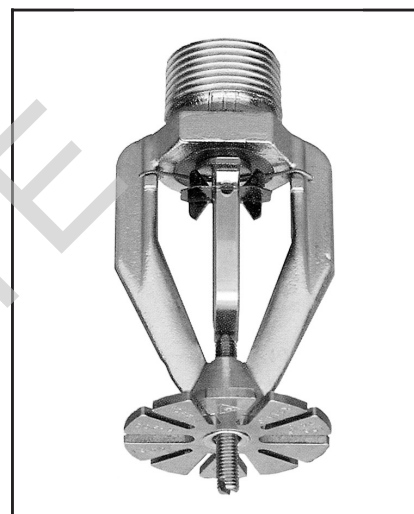
Operation. The fusible link assembly is comprised of two link halves which are joined together by a thin layer of solder. When the rated temperature is reached, the solder melts and the two link halves separate, which then allows the sprinkler to activate and flow water.

WARNINGS

The Model K14 ESFR Sprinklers described herein must be installed and 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 (e.g., Factory Mutual Research Corporation). Fail-

ure 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 C6226

Approvals
UL and ULC Listed.
FM and LPC Approved.
(UL and ULC Listings, as well as FM Approvals, only apply to the service conditions indicated in the Design Criteria section.)
VdS Approved; however, the use of the K14 ESFR is required to be agreed upon by the VdS for each application.

Maximum Working Pressure
175 psi (12,1 bar)

Pipe Thread Connection
3/4 inch NPT or ISO 7-R3/4

Discharge Coefficient
 $K = 14.0 \text{ GPM/psi}^{1/2}$
(201,6 LPM/bar^{1/2})

Temperature Ratings
165°F/74°C or 214°F/101°C

Finish
Natural Brass

Early Suppression Fast Response Pendent Sprinklers

Physical Characteristics

The Model K14 ESFR utilizes a dezincification resistant bronze alloy frame. The strut and hook are monel; and, the button, deflector, and compression screw are bronze. The frame orifice is sealed with a gas-ketted spring plate (Belleville Spring) consisting of a beryllium nickel disc spring that is sealed on both its inside and outside edges with a Teflon[®] gasket, and the two halves of the fusible link assembly are nickel.

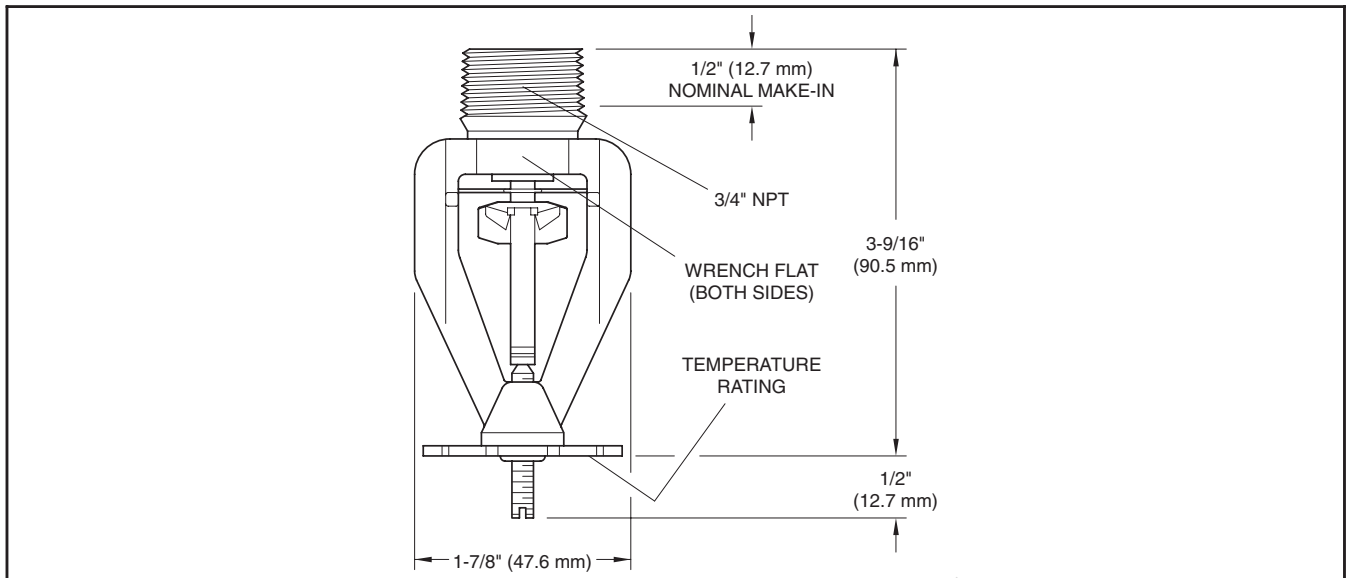


Figure 1
Model K14 ESFR Pendent Sprinkler

Design Criteria

UL and ULC Listing Criteria

The Model K14 ESFR Sprinklers are UL and ULC Listed as “Early Suppression Fast Response Sprinklers” for installation per NFPA 13 or other applicable NFPA standards up to a maximum ceiling height of 40 ft. (12,2 m).

FM Approval Criteria

The Model K14 ESFR Sprinklers are FM Approved as “Early Suppression Fast Response Sprinklers” for installation per the applicable FM Loss Prevention Data Sheets up to a maximum ceiling height of 45 ft. (13,7 m).

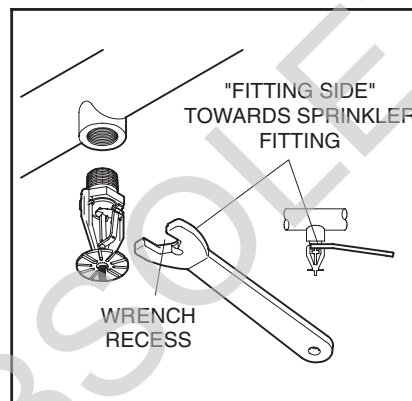


Figure 2
W-Type 2 Sprinkler Wrench

Installation

The Model K14 ESFR Pendent Sprinklers must only be installed in the pendent position. With pipe thread sealant applied to the pipe threads, use only the W-Type 2 Sprinkler Wrench (Figure 2) for installation of the Model K14 ESFR Sprinkler by applying the wrench to the sprinkler wrench flats only.

NOTE

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 sprinklers. Higher levels of torque may distort the sprinkler inlet with consequent leakage or impairment of the sprinkler.



Care & Maintenance

The Model K14 ESFR must be maintained and serviced in accordance with the following instructions:

NOTE

Before closing a fire protection system main control valve for maintenance work on the fire protection system which it controls, permission to shut down the affected fire protection systems must be obtained from the proper authorities and 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 temperature will exceed 100°F/38°C and they must never be painted, plated, coated, or otherwise altered after leaving the factory. Modified or overheated sprinklers must be replaced.

Care must be exercised to avoid damage - before, during, and after installation. Sprinklers damaged by dropping, striking, wrench twist/slip-page, or the like, must be replaced.

The owner is responsible for the inspection, testing, and maintainance 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.

IN NO EVENT SHALL TYCO FIRE PRODUCTS BE LIABLE, IN CONTRACT, TORT, STRICT LIABILITY OR UNDER ANY OTHER LEGAL THEORY, FOR INCIDENTAL, INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LABOR CHARGES, REGARDLESS OF WHETHER TYCO FIRE PRODUCTS WAS INFORMED ABOUT THE POSSIBILITY OF SUCH DAMAGES, AND IN NO EVENT SHALL TYCO FIRE PRODUCTS' LIABILITY EXCEED AN AMOUNT EQUAL TO THE SALES PRICE.

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, and size, as applicable. Refer to Price List for complete listing of Part Numbers.

Patents:

U.S.A. Patent Numbers 4,580,729 and 4,893,679 are applicable to the Model K14 ESFR.

OBSOLETE