

Model TY720 16.8 K-factor Pendent Sprinkler Electronic Control

IMPORTANT

Refer to Technical Data Sheet TFP2300 for warnings pertaining to regulatory and health information.

Always refer to Technical Data Sheet TFP700 for the "INSTALLER WARNING" that provides cautions with respect to handling and installation of sprinkler systems and components. Improper handling and installation can permanently damage a sprinkler system or its components and cause the sprinkler to fail to operate in a fire situation or cause it to operate prematurely.

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docs.jci.com/tycofire/TFP325

General Description

The TYCO Model TY720 Pendent Sprinkler is an electronically controlled sprinkler having a nominal K-factor of 16.8. The sprinkler assembly is shown in Figure 1.

The TY720 sprinkler is designed as an integral component of the EAS-1 Electronically Activated Sprinkler System for Storage Applications, a performance-based system addressing highly challenging high pile storage fire hazards. For more information about the sprinkler system and the system components, refer to technical data sheet TFP360.

In place of a traditional heat-sensitive glass bulb or solder element, the TY720 sprinkler features an electronic linear actuator and tensile link with hook and strut arrangement holding a button and seal against the waterway. An AUTOPULSE Sprinkler Control Heat Sensor paired with the TY720 sprinkler is connected directly to the actuator and is in continuous communication with an AUTOPULSE EAS-1 Control Unit.

The control unit software algorithm analyzes information from heat sensors in multiple locations and selects the optimal response in a fire event. An electrical pulse is then delivered from an algorithm-selected heat sensor to its companion TY720 sprinkler, operating the actuator and breaking the tensile link, allowing waterflow from the sprinkler.

NOTICE

The TY720 Sprinkler 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 (NFPA), in addition to the standards of any authorities having jurisdiction. Failure to do so may impair the performance of these devices.

The owner is responsible for maintaining their fire protection system and devices in proper operating condition. Contact the installing contractor or product manufacturer with any questions.

Sprinkler Identification Number (SIN)

TY720

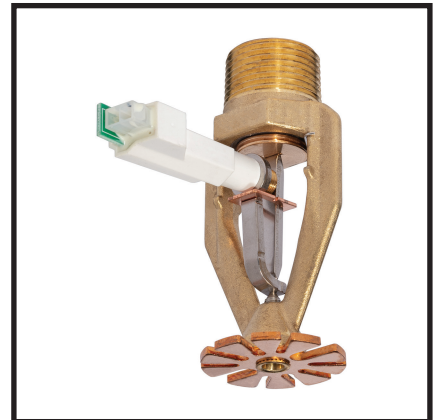
Technical Data

Approvals

UL and C-UL Listed

Maximum Working Pressure

175 psi (12,1 bar)



Pipe Thread Connections

3/4 in. NPT

Discharge Coefficient

K=16.8 gpm/psi^{1/2} (241,9 Lpm/bar^{1/2})

Finish

Natural Brass

Physical Characteristics

Frame	Brass
Deflector	Bronze
Compression Screw	Stainless Steel
Hook	MONEL
Strut	MONEL
Tensile Link	Copper
Button	Brass
Sealing Assembly	Beryllium Nickel w/TEFLON
Ejection Spring	INCONEL
Electrical Actuator	Brass
Electrical Actuator Housing	ABS/PC Resin

Temperature Rating

Temperature rating is determined by the control unit and heat sensor paired with the TY720 sprinkler.

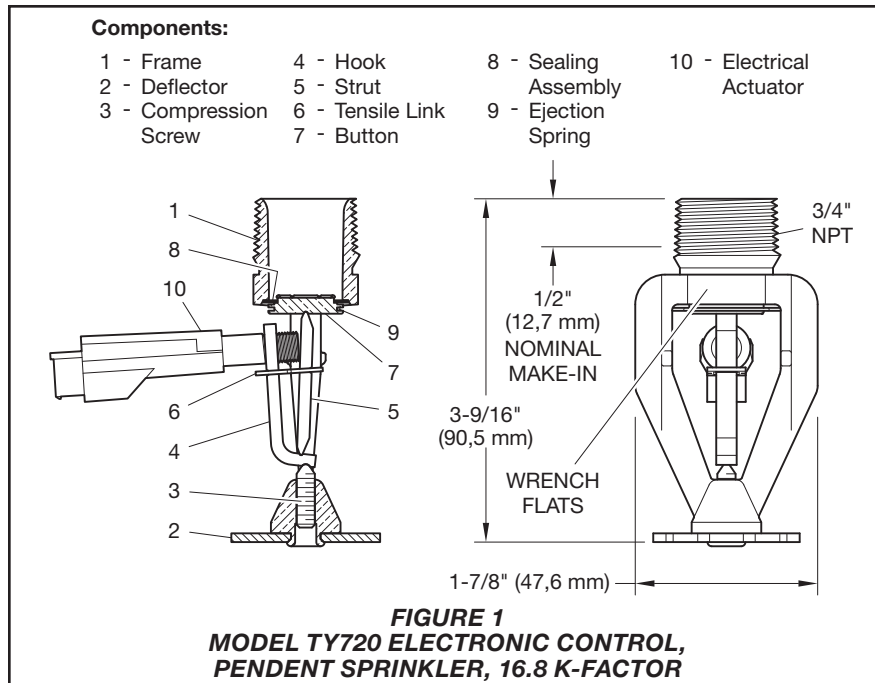
For more information, refer to *EAS-1 Electronically Activated Sprinkler System for Storage Applications*, technical data sheet TFP360.

Installation

Install the Model TY720 Pendent Sprinkler in accordance with this section.

General Instructions

Take care handling the sprinkler during installation to avoid damage to the actuator and tensile link. Hold the sprinkler by the frame and wrench flats, and do not grasp the actuator, when hand-tightening into position.



A leak-tight 3/4 in. NPT sprinkler joint should be obtained by applying pipe-thread sealant to the sprinkler threads and wrench-tightening using only the W-Type 21 Sprinkler Wrench shown in Figure 2.

Sprinkler Installation

Install the Model TY720 Pendent Sprinkler only in the pendent position as follows:

Step 1. Apply pipe-thread sealant to sprinkler threads.

Step 2. Hold the sprinkler by the frame and wrench flats, and do not grasp or apply force to the actuator and tensile link. Insert and hand-tighten the sprinkler into the sprinkler fitting.

Step 3. Apply a W-Type 21 Sprinkler Wrench to the sprinkler by fully seating the wrench recess on the sprinkler wrench flats shown in Figure 1.

Step 4. Wrench-tighten the sprinkler to obtain a leak-tight joint either 1 to 1-1/2 turns beyond hand-tightened, or by applying a minimum-to-maximum torque of 10 ft-lb to 20 ft-lb (13,4 N-m to 26,8 N-m).

NOTICE

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

Care and Maintenance

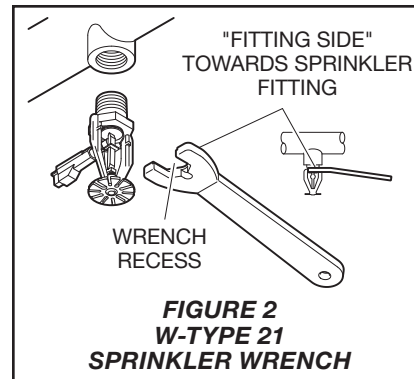
TY720 Sprinklers must be maintained and serviced in accordance with this section.

Submit 10 samples or 1% of the total number of installed sprinklers, whichever is greater, to UL for testing 5 years after manufacturing, then again at 10 years and followed by annual testing after the tenth year. Sampling can be from mock-installations not connected to the fire protection sprinkler system but are located in the same orientation and environment as the system sprinklers.

Before closing a fire protection system main control valve for maintenance work on the fire protection system that it controls, permission to shut down the affected fire protection system 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.

Care must be exercised to avoid damage to the sprinklers 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 damaged actuator, tensile link or other operative parts. For information about replacing a sprinkler, see 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 such as NFPA 25, in addition to the standards of any authorities having jurisdiction. Contact the installing contractor or product manufacturer with any questions.

It is recommended that automatic sprinkler systems be inspected, tested, and maintained by a qualified Inspection Service in accordance with local requirements and/or national codes.

Limited Warranty

For warranty terms and conditions, visit www.tyco-fire.com.

Ordering Procedure

Contact your local distributor for availability. When placing an order, indicate the full product name and Part Number (P/N).

Sprinkler Assemblies

Specify: Model TY720, K=16.8, Electronic Control, Pendent Sprinkler, natural brass, P/N 58-461-1-000

Sprinkler Wrench

Specify: W-Type 21 Sprinkler Wrench, P/N 56-001-0-686



Worldwide
Contacts | www.tyco-fire.com

TFP325 Change History Appendix

ISSUE DATE	NOTES
08-22	Page 1, added QR code and URL to allow convenient access to electronic version from printed document; Page 2, changed corporate address and telephone number to 1467 Elmwood Avenue, Cranston, RI 02910 Telephone +1-401-781-8220, formerly 1400 Pennbrook Parkway, Lansdale, PA 19446 Telephone +1-215-362-0700.
03-19	Added C-UL Listed; Updated nomenclature to be consistent with other EAS-1 system technical literature.
08-18	Updated Tyco® branding and document format; Added Johnson Controls copyright; Added disclaimer stating specifications and information subject to change without notice; Added reference to Regulatory and Health Warning Technical Data Sheet TFP2300.
04-17	New Technical Data Sheet TFP325 describes Model TY720 16.8 K-factor Pendent Sprinkler Electronic Control.