

Model TY720 16.8 K-factor Pendent Sprinkler Electronic Control

General Description

The TYCO Model TY720 Pendent Sprinkler is an electronically controlled sprinkler having a nominal K-factor of 16.8 (Ref. Figure 1).

The TY720 sprinkler is designed as an integral component of the Electronic Sprinkler System for Storage Applications, a performance-based system addressing high-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. A Simplex Sprinkler Control Heat Sensor paired with the TY720 sprinkler is connected directly to the actuator and is in continuous communication with a Simplex 4100ES Suppression Release Panel.

The panel software algorithm analyzes information from heat sensors in multiple locations and selects the optimal response in a fire event. A voltage is then sent from an algorithm-selected heat sensor to its companion TY720 sprinkler, operating the actuator and breaking the tensile link, allowing waterflow from the sprinkler.

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.

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, 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 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 panel and heat sensor paired with the TY720 sprinkler.



For more information, refer to the Electronic Sprinkler System for Storage Applications data sheet (document number TFP360).

Installation

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

General Instructions

Avoid damage to the actuator and tensile link during installation. Grasp the sprinkler only by the protector and frame wrench flats when hand-tightening.

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 (Ref. Figure 2).

Sprinkler Installation

Install the Model TY720 Pendent Sprinkler only in the pendent position in accordance with the following:

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

Step 2. Hand-tighten sprinkler into sprinkler fitting. Do not apply force to the actuator and tensile link, handle only by the protector and frame wrench flats.

Step 3. Apply W-Type 21 Sprinkler Wrench to sprinkler by fully seating wrench recess on sprinkler wrench flats (Ref. Figure 1).

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

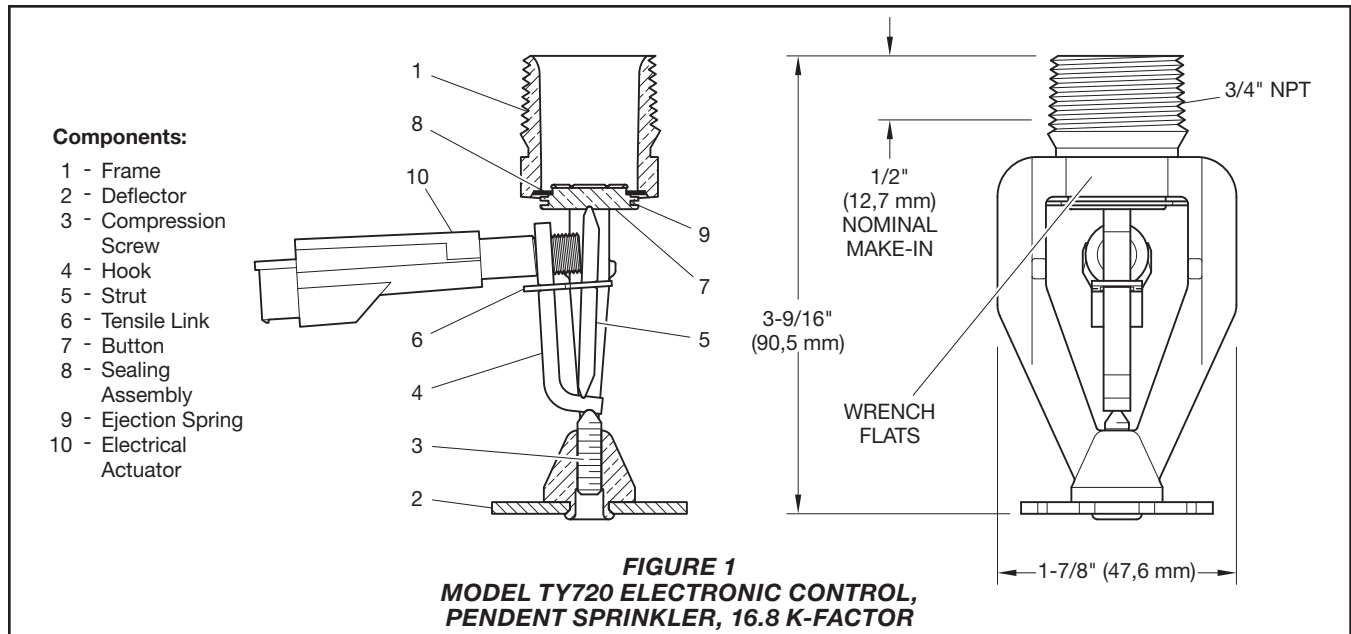


FIGURE 1
MODEL TY720 ELECTRONIC CONTROL,
PENDENT SPRINKLER, 16.8 K-FACTOR

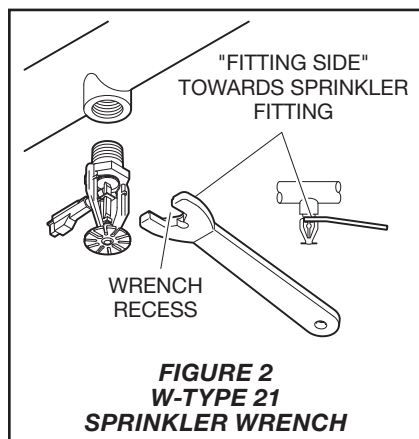


FIGURE 2
W-TYPE 21
SPRINKLER WRENCH

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 10th 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. (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 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.

Suppression Release Panel

For information about the inspection, test and maintenance (ITM) of the Simplex 4100ES Suppression Release Panel, see the System Test Proce-

dures section of the Simplex 4100ES Fire Alarm System Operator's Manual (Simplex document number 579-197).

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