Series TY-L – 5.6 and 8.0 K-factor Stainless Steel Pendent and Recessed Pendent Sprinklers Standard Response, Standard Coverage

General Description

The TYCO Series TY-L 5.6 and 8.0 K-factor Stainless Steel Pendent and Recessed Pendent Sprinklers described herein are standard response, standard coverage, solder type sprinklers. They are designed for use in light, ordinary, and extra-hazard commercial occupancies such as restaurants, food service production facilities, factories, refineries, and chemical plants.

The Series TY-L Recessed Pendent Sprinkler, where applicable, is intended for use in areas with a finished ceiling. It uses a two-piece Style 20 (1/2 in. NPT) Recessed Escutcheon. The Recessed Escutcheon provides 1/4 in. (6,4 mm) of recessed adjustment or up to 1/2 in. (12,7 mm) of total adjustment from the flush pendent position. The adjustment provided by the Recessed Escutcheon reduces the accuracy to which the fixed pipe drops to the sprinklers must be cut.

The TY-L Sprinkler is Stainless Steel and is utilized to extend the life of a sprinkler beyond that which might be expected of copper alloy sprinklers exposed to corrosive atmospheres. Although corrosion resistant sprinklers have passed the standard corrosion tests of the applicable approval agencies, the testing is not representative of all possible corrosive atmospheres. Consequently, it is recommended that the end user be consulted with respect to the suitability of Stainless Steel for any given corrosive environment. The effects of ambient temperature, concentration of chemicals, and gas/chemical velocity, should be considered, as a minimum, along with the corrosive nature of the chemical to which the sprinklers will be exposed.

An intermediate level version of the Series TY-L Pendent Sprinkler can be obtained by utilizing the Series TY-L Pendent Sprinkler in combination with the Model S Shield.

NOTICE

The Series TY-L 5.6 and 8.0 K-factor Upright, Pendent, and Recessed Pendent 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 (NFPA), in addition to the standards of any other 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.

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.

Sprinkler Identification Number (SIN)

TY3280 . . . . . 5.6K, 1/2 in. NPT
TY4280 . . . . . 8.0K, 3/4 in. NPT

* Temperature rating indicated on Deflector
** Pipe thread connections per ISO 7-1 can be provided on special request
1 - Frame
2 - Sealing Button
3 - Ejection Spring
4 - Fusible Element
5 - Strut
6 - Hook
7 - Deflector*

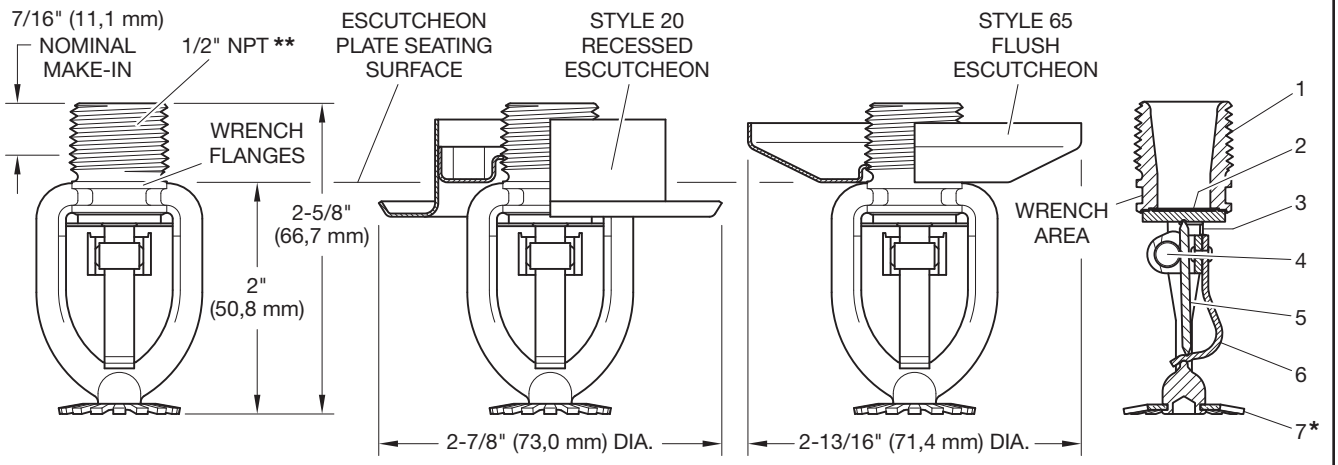

FIGURE 1
SERIES TY-L PENDENT AND RECESSED PENDENT (TY3280) SPRINKLERS, 5.6 K-FACTOR, 1/2 IN. NPT

* Temperature rating indicated on Deflector
** Pipe thread connections per ISO 7-1 can be provided on special request
1 - Frame
2 - Sealing Button
3 - Ejection Spring
4 - Fusible Element
5 - Strut
6 - Hook
7 - Deflector*

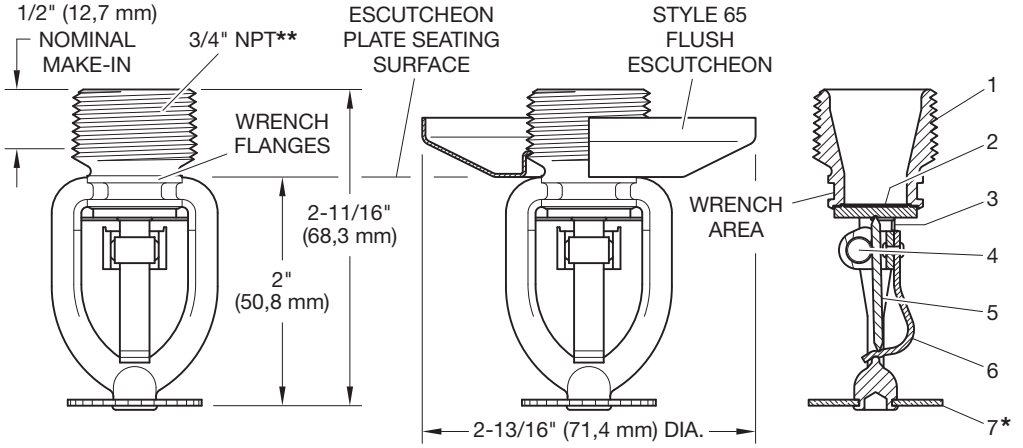

FIGURE 2
SERIES TY-L PENDENT (TY4280) SPRINKLERS, 8.0 K-FACTOR, 3/4 IN. NPT

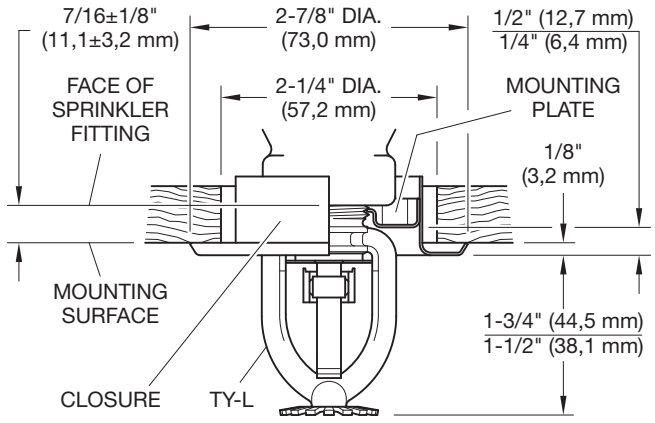

FIGURE 3
SERIES TY-L (TY3280) RECESSED PENDENT SPRINKLER ASSEMBLY
WITH TWO-PIECE 1/2 IN. TOTAL ADJUSTMENT
STYLE 20 RECESSED ESCUTCHEON 5.6 K-FACTOR, 1/2 IN. NPT

SIN	K-factor	Type	Temperature Rating	Frame Color Code	Approvals
TY3280	5.6	Pendent (Style 65 Escutcheon optional)	165°F (74°C)	Unpainted	1, 2
			212°F (100°C)	White	
			280°F (138°C)	Blue	
		Recessed Pendent (Style 20 Escutcheon)	165°F (74°C)	Unpainted	1
			212°F (100°C)	White	
TY4280	8.0	Pendent (Style 65 Escutcheon optional)	165°F (74°C)	Unpainted	1, 2
			212°F (100°C)	White	
			280°F (138°C)	Blue	

Notes:
1. FM Approved.
2. CE Certified.

TABLE A
LISTINGS AND APPROVALS

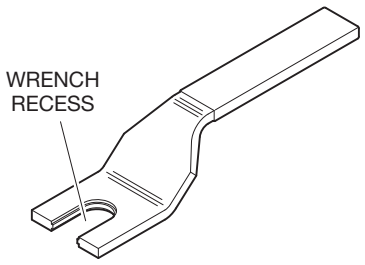

FIGURE 4
W-TYPE 9 SPRINKLER WRENCH

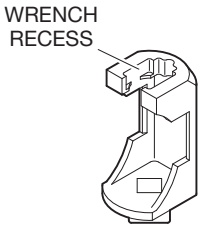

FIGURE 5
W-TYPE 10 RECESSED SPRINKLER WRENCH

Technical Data

Approvals
FM Approved
CE Certified

See Table A

Maximum Working Pressure
175 psi (12,1 bar)

Discharge Coefficient
K=5.6 gpm/psi½ (80,6 Lpm/bar½)
K=8.0 gpm/psi½ (115,2 Lpm/bar½)

Temperature Ratings
165°F (74°C)
212°F (100°C)
280°F (138°C)*

**The Series TY-L 5.6 K-factor Sprinklers with a temperature rating of 280°F (138°C) are not suitable for Recessed Installation.*

Finishes
Sprinkler: Stainless Steel

Escutcheon: White Coated, Chrome Plated, Brass Plated, Stainless Steel, Black Coated, or White Coated Stainless Steel

Physical Characteristics
Frame . . . . . Stainless Steel
Sealing Button . . . . Stainless Steel w/ TEFLON
Ejection Spring (5.6K). . . . . Stainless Steel
Ejection Spring (8.0K). . . . . INCONEL
Strut . . . . . MONEL
Hook . . . . . MONEL
Deflector . . . . . Stainless Steel
Fusible Element . . . . . Solder, MONEL, Stainless Steel

Operation

A MONEL tube sealed by two stainless steel balls holds a fusible alloy. When the rated temperature is reached, the alloy melts and the balls are forced toward each other. This releases the tension mechanism and allows the sprinkler to operate.

Design Criteria

The TYCO Series TY-L 5.6 and 8.0 K-factor Stainless Steel Pendent and Recessed Pendent Sprinklers are intended for fire protection systems designed in accordance with the standard installation rules recognized by the applicable Listing or Approval agency, such as FM Approval based on the requirements of FM Loss Prevention Data Sheets. Use only the Style 20, as applicable, for recessed pendent installations.

Installation

The TYCO Series TY-L 5.6 and 8.0 K-factor Stainless Steel Pendent and Recessed Pendent Sprinklers must be installed in accordance with this section.

Note: *TYCO series TY-L 8.0 K-factor Stainless Steel Pendent Sprinkler cannot be installed in a recess pendent arrangement.*

General Instructions
A leak tight 1/2 in. NPT sprinkler joint should be obtained with a torque of 7 to 14 lb-ft (9,5 to 19,0 N·m). A leak-tight 3/4 in. NPT sprinkler joint should be obtained with a torque of 10 to 20 lb-ft (13,6 to 27,1 N·m). Higher levels of torque may distort the sprinkler inlet and cause leakage or impairment of the sprinkler.

Do not attempt to compensate for insufficient adjustment in the escutcheon plate by under- or over-tightening the sprinkler. Re-adjust the position of the sprinkler fitting to suit.

CAUTION

The protective cap must remain over the deflector to ensure the deflector is not damaged during installation. Failure to do so may result in equipment damage and/or failure.

Series TY-L Pendent Sprinklers Installation
The Series TY-L Pendent Sprinklers must be installed in accordance with the following instructions:

Step 1. Install pendent sprinklers in the pendent position.

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

Step 3. Tighten the sprinkler into the sprinkler fitting using only the W-Type 9 Sprinkler Wrench, See Figure 4. With

reference to Figures 1 or 2, apply the W-Type 9 Sprinkler Wrench to the wrench area.

Step 4. Once the pendent sprinkler is secure, remove protective cap from the deflector.

Series TY-L 5.6 K-factor Pendent and Recessed Pendent Sprinklers Installation
The Series TY-L 5.6 K-factor Pendent and Recessed Pendent Sprinkler must be installed in accordance with the following instructions:

Step 1. After installing the Style 20 Mounting Plate, as applicable, over the sprinkler threads and with pipe thread sealant applied to the pipe threads, hand-tighten the sprinkler into the sprinkler fitting.

Step 2. Tighten the sprinkler into the sprinkler fitting using only the W-Type 10 Recessed Sprinkler Wrench, See Figure 5. Apply the W-Type 10 Recessed Sprinkler Wrench to the sprinkler wrenching flanges, as shown in Figure 1.

CAUTION

Do not remove the protective cap over the deflector until after the ceiling and the Closure have been installed. Failure to do so may result in equipment damage and/or failure.

Step 3. After the ceiling has been installed or the finish coat has been applied, slide on the Style 20 Closure over the Series TY-L Recessed Pendent Sprinkler and push the Closure over the Mounting Plate until its flange comes in contact with the ceiling.

Step 4. Once the ceiling and Closure are secured, remove the protective cap from the deflector.

Care and Maintenance

The TYCO Series TY-L 5.6 and 8.0 K-factor Stainless Steel Pendent and Recessed Pendent Sprinklers must be maintained and serviced in accordance with this section.

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.

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

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

Automatic sprinklers must never be painted, plated, coated or otherwise altered after leaving the factory. Modified or over-heated sprinklers 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.

Frequent visual inspections are recommended to be initially performed for corrosion resistant coated sprinklers, after the installation has been completed, to verify the integrity of the corrosion-resistant coating. Thereafter, annual inspections per NFPA 25 should suffice; however, instead of inspecting from the floor level, a random sampling of close-up visual inspections should be made so as to better determine the exact sprinkler condition and the long-term integrity of the corrosion resistant coating, as it may be affected by the corrosive conditions present.

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 other 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 with NPT Thread Connections*
Specify: Series TY-L (specify SIN), (specify K-factor), Stainless Steel Pendent Sprinkler, Standard Response, Standard Coverage, (specify) temperature rating, P/N (specify):

5.6K, 1/2 in. NPT
165°F (74°C) 531120165
212°F (100°C) 531120212
280°F (138°C) 531120280

8.0K, 3/4 in. NPT
165°F (74°C) 531020165
212°F (100°C) 531020212
280°F (138°C) 531020280

** Use suffix "I" for ISO 7-1 connection, for example, 53-112-0-165-I*

Recessed Escutcheon
Specify: Style 20 Recessed Escutcheon, (specify material) with (specify*) finish, P/N (specify*)

*Refer to Technical Data Sheet TFP770

Flush Escutcheon
Specify: Style 65 Flush Escutcheon, (specify material) with (specify*) finish, P/N (specify*)

*Refer to Technical Data Sheet TFP777

Sprinkler Wrench
Specify: W-Type 9 Sprinkler Wrench, P/N 56-000-1-849

Specify: W-Type 10 Recessed Sprinkler Wrench, P/N 56-000-1-948

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