

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

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/TFP683

General Description

The TYCO Series TY-L 5.6 and 8.0 K-factor Stainless Steel Pendent and Recessed Pendent Sprinklers are standard response, standard coverage, solder type sprinklers. The sprinklers are designed for use in light, ordinary, and extra-hazard commercial occupancies with a finished ceiling such as restaurants, food service production facilities, factories, refineries, and chemical plants. The sprinkler, where applicable, is intended for use in areas with a finished ceiling.

Recessed applications use the following sprinkler assemblies:

- 5.6K sprinkler, and a two-piece Style 20 (1/2 in. NPT) Recessed Escutcheon where applicable, as shown in Figure 5.
- 8.0K sprinkler, and a two-piece Style 40 (3/4 in. NPT) Recessed Escutcheon where applicable, as shown in Figure 6.

The Style 20 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 Style 40 recessed escutcheon provides 1/2 in. (12,7 mm) of recessed adjustment, or up to 3/4 in. (19,1 mm) of total adjustment from the flush pendent position.

The adjustment reduces the accuracy to which the fixed pipe drops to the sprinklers must be cut.

Flush applications use either of the following sprinkler assemblies:

- 5.6K or 8.0K sprinkler and a Style 65 One-Piece Flush Escutcheon where applicable.
- 8.0K sprinkler and a Style 60 Two-Piece Flush Escutcheon where applicable, as shown in Figure 7.

The Style 60 flush escutcheon provides 1/2 in. (12,7 mm) of recessed adjustment, or up to 3/4 in. (19,1 mm) of total adjustment from the flush pendent position. The adjustment reduces the accuracy to which the fixed pipe drops to the sprinklers must be cut.

The 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 consid-



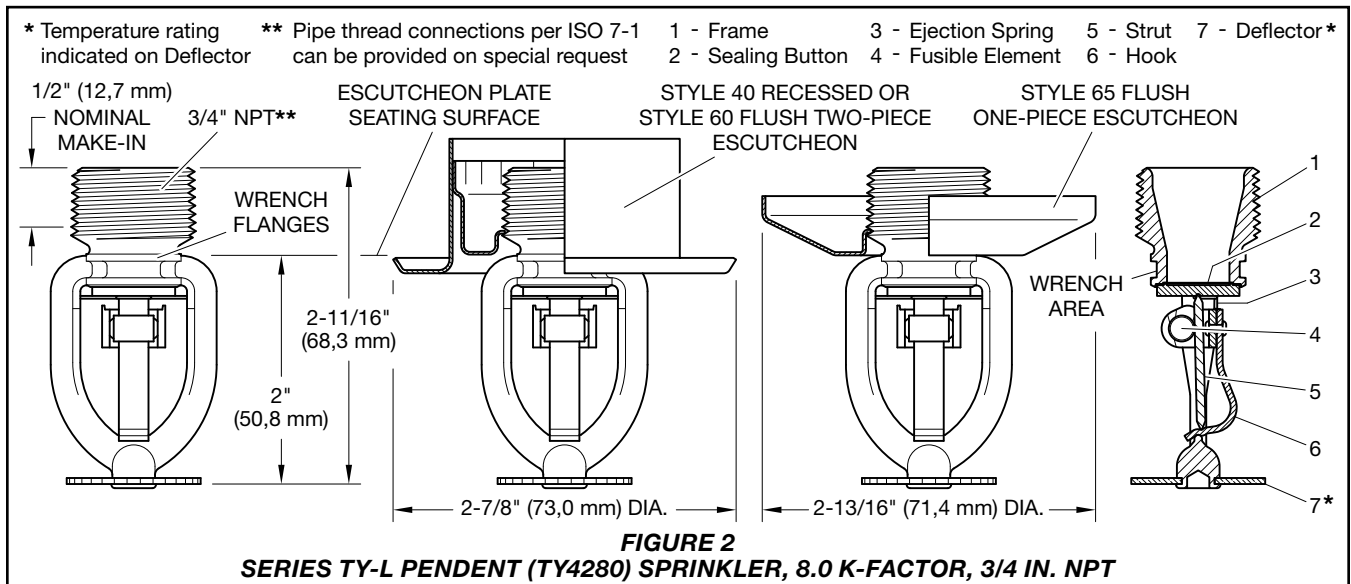
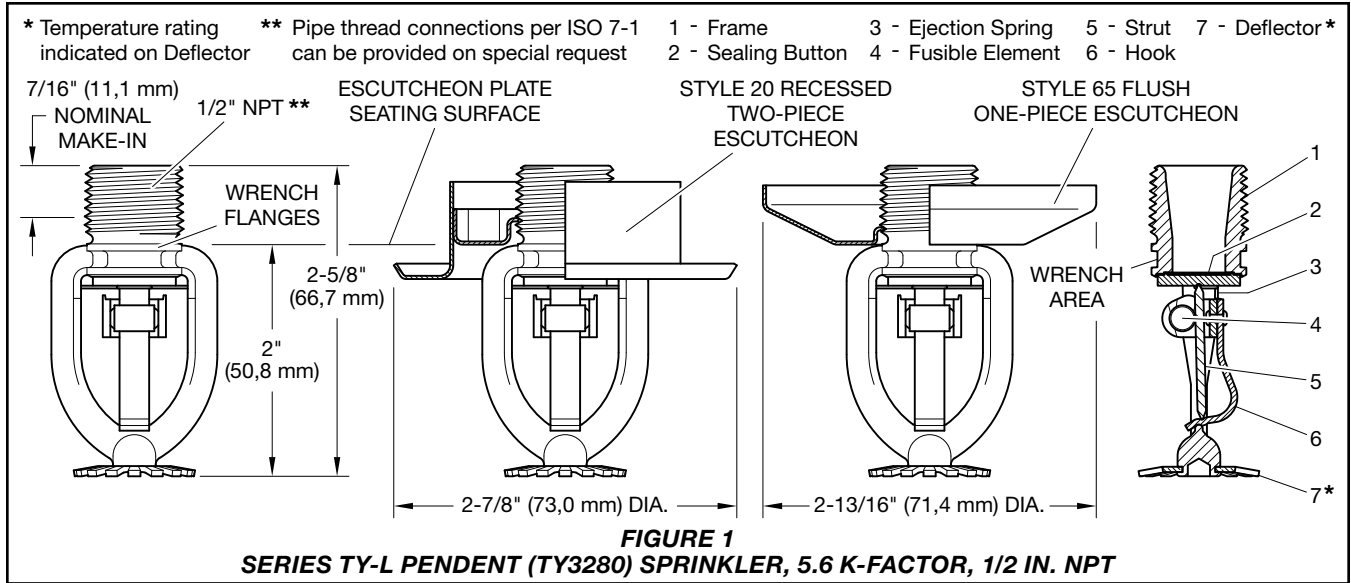
ered, as a minimum, along with the corrosive nature of the chemical to which the sprinklers will be exposed.

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 S5 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 authorities having jurisdiction, such as FM Global. 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 con-



dition. Contact the installing contractor or product manufacturer with any questions.

In all cases, the appropriate NFPA or FM Global installation standard, or other applicable standard, must be referenced to ensure applicability and to obtain complete installation guidelines. The general guidelines in this data sheet are not intended to provide complete installation criteria.

Sprinkler Identification Number (SIN)

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

Technical Data

Approvals

FM Approved
 CE Certified
 EAC Approved
 Certified to all requirements of NSF/ANSI 61

For more information, see Table A

Maximum Working Pressure

175 psi (12,1 bar)

Discharge Coefficient

K=5.6 gpm/psi^{1/2} (80,6 Lpm/bar^{1/2})
 K=8.0 gpm/psi^{1/2} (115,2 Lpm/bar^{1/2})

Temperature Ratings

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

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

Finishes

Sprinkler: Stainless Steel

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

Physical Characteristics

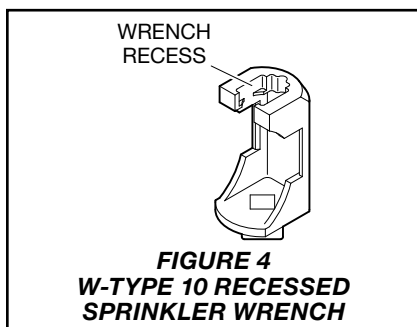
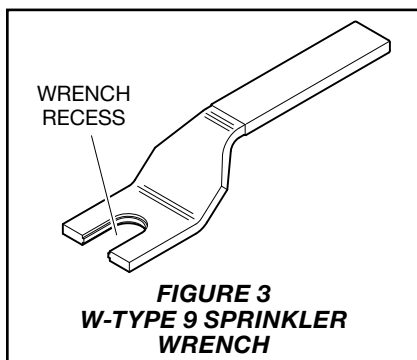
Frame Stainless Steel
 Sealing Button Stainless Steel w/ TEFLON
 Ejection Spring (5.6K) Stainless Steel
 Ejection Spring (8.0K) INCONEL
 Strut MONEL
 Hook MONEL
 Deflector Stainless Steel
 Fusible Element Solder, MONEL, Stainless Steel

SIN	K-factor	Type	Temperature Rating	Frame Color Code	Approvals
TY3280	5.6	Pendent (Style 65 Flush Escutcheon optional)	165°F (74°C)	Unpainted	1, 2, 3, 4
			212°F (100°C)	White	
			280°F (138°C)	Blue	
TY4280	8.0	Pendent (Style 60 or 65 Flush Escutcheon optional)	165°F (74°C)	Unpainted	1, 2, 3
			212°F (100°C)	White	
			280°F (138°C)	Blue	
		Recessed Pendent (Style 20 Recessed Escutcheon)	165°F (74°C)	Unpainted	1, 2, 3, 4
			212°F (100°C)	White	
		Recessed Pendent (Style 40 Escutcheon)	165°F (74°C)	Unpainted	2, 3
			212°F (100°C)	White	

Notes:

1. FM Approved
2. CE Certified
3. Certified to all requirements of NSF/ANSI 61
4. EAC Approved.

TABLE A
LISTINGS AND APPROVALS



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.

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.

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

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 shown in Figure 3. Apply the W-Type 9 Sprinkler Wrench to the wrench flanges shown in Figures 1 and 2.

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

Series TY-L Flush Pendent and Recessed Pendent Sprinklers Installation, Two-Piece Escutcheons

Step 1. After installing the Style 20, 40, or 60 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 shown in Figure 4. Apply the 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 is installed or the finish coat is applied, slide on the Style 20, 40, or 60 closure over the TYCO Series TY-L Recessed Pendent Sprinkler and push the closure over the mounting plate until its flange comes in contact with the ceiling.

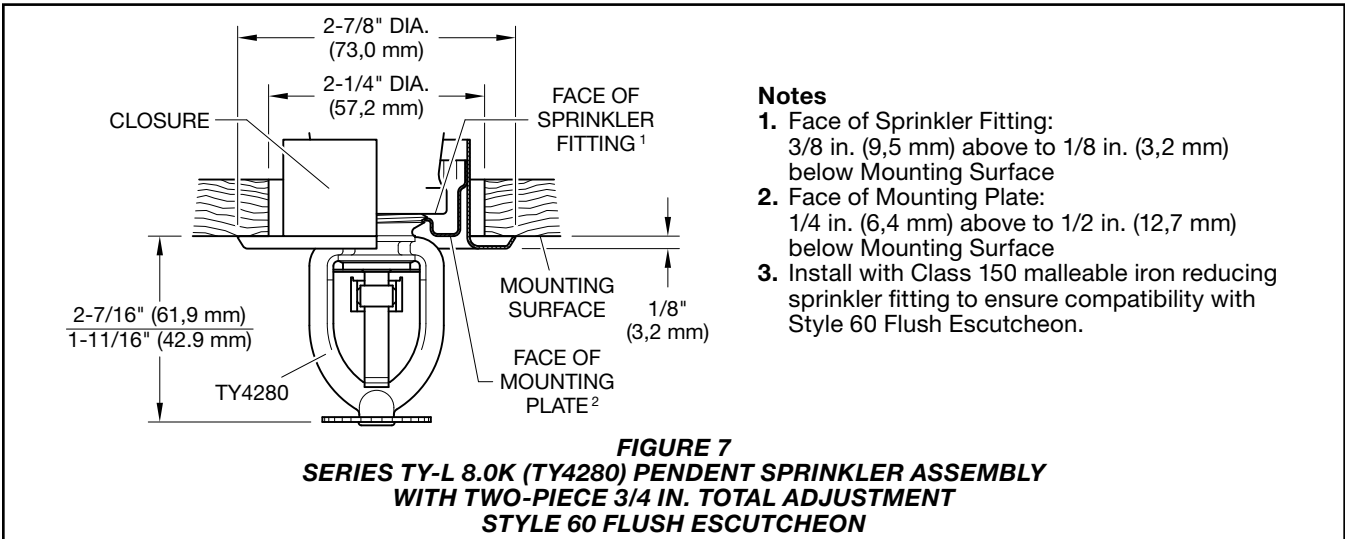
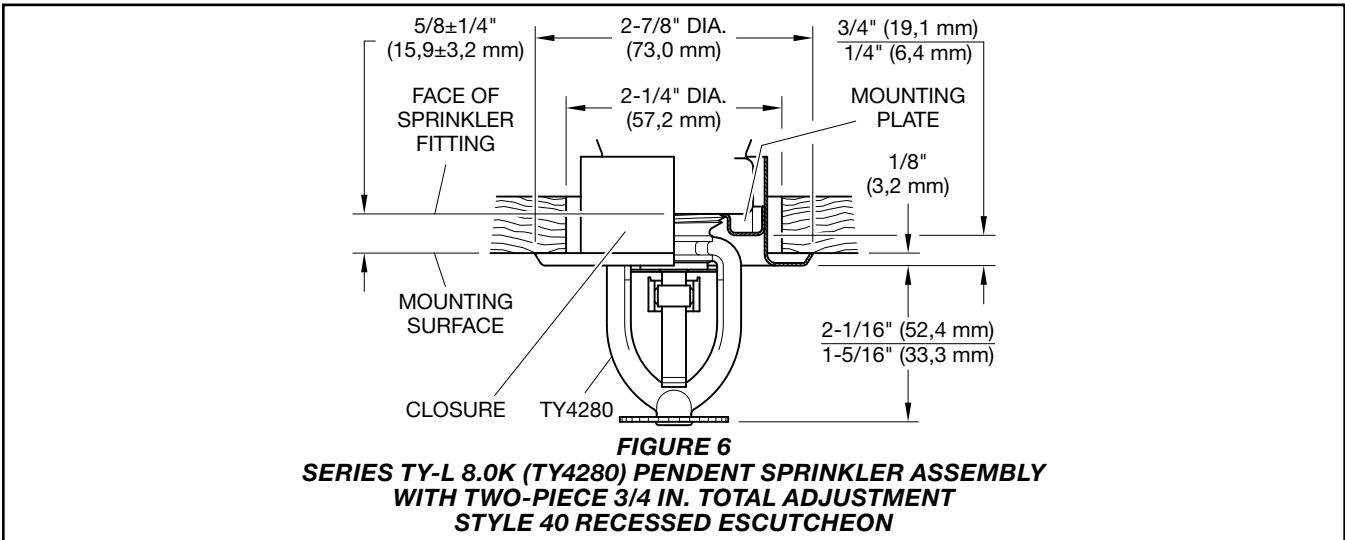
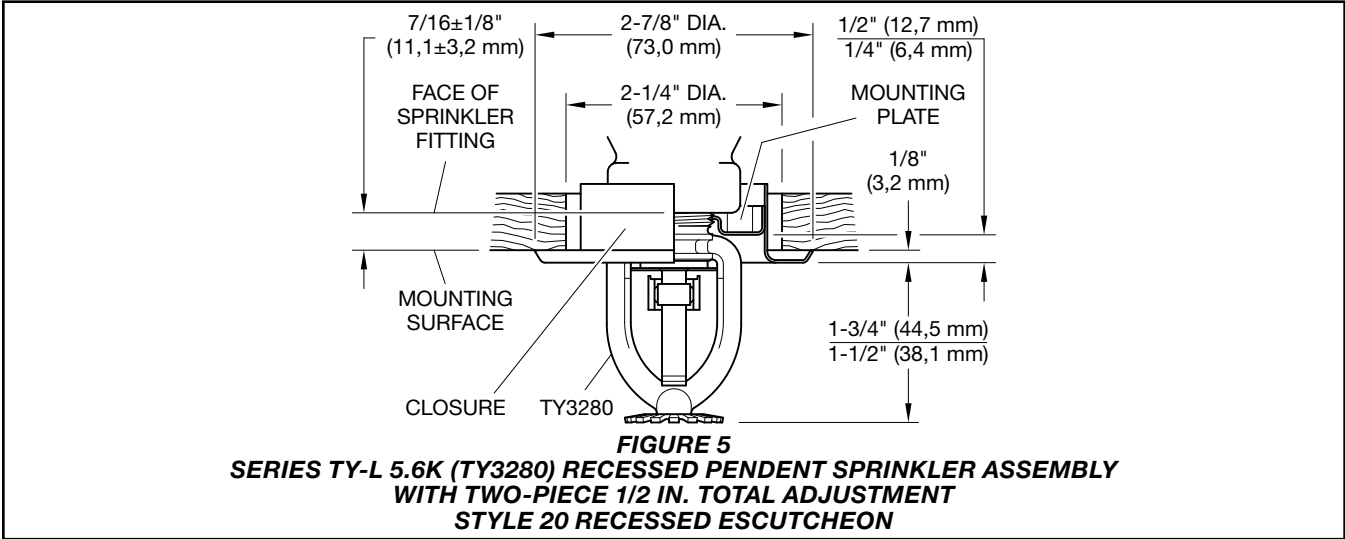
Step 4. Once the ceiling and closure are secured, remove the protective cap from the deflector.

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



- Notes**
1. Face of Sprinkler Fitting:
 3/8 in. (9,5 mm) above to 1/8 in. (3,2 mm) below Mounting Surface
 2. Face of Mounting Plate:
 1/4 in. (6,4 mm) above to 1/2 in. (12,7 mm) below Mounting Surface
 3. Install with Class 150 malleable iron reducing sprinkler fitting to ensure compatibility with Style 60 Flush Escutcheon.

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 is completed, to verify the integrity of the corrosion-resistant coating. Thereafter, annual inspections per the NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) standard, 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 NFPA, 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 for use in installations of Series TY-L TY4280 5.6 K-factor sprinkler only, (specify material) with (specify*) finish, P/N (specify*)

Specify: Style 40 Recessed Escutcheon for use in installations of Series TY-L TY4280 8.0 K-factor sprinkler only, (specify material) with (specify*) finish, P/N (specify*)

*Refer to Technical Data Sheet TFP770

Flush One-Piece Escutcheon

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

*Refer to Technical Data Sheet TFP777

Flush Two-Piece Escutcheon

Style 60 Two-Piece Flush Escutcheon for use in flush installations of Series TY-L TY4280 8.0 K-factor sprinkler only.

Specify: Style 60 Flush Escutcheon, (specify Stainless Steel or White Over Stainless Steel) finish**, P/N (specify**)

**Refer to Technical Data Sheet TFP778

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



Worldwide
Contacts

www.tyco-fire.com

TFP683 Change History Appendix

ISSUE DATE	NOTES
08-22	Page 1, updated QR code and URL; Page 6, 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.
04-22	Page 1, added QR code and URL to allow convenient access to electronic version from printed document; Page 2, Approvals sub-section, added EAC Approved; Page 3, Table A, added EAC Approved for TY3280 in all temperature ratings.
08-20	Added Listings and Approvals table; Clarified non-recessed applications are CE Certified; Clarified only non-recessed applications for 8.0K; Clarified non-recessed applications for 280°F (138°C) Temperature Rating 5.6K and 8.0K sprinklers; Added Style 65 Flush Escutcheon for 5.6K and 8.0K sprinklers.
05-20	Added CE Certified.
02-20	New Technical Data Sheet TFP683 describes Series TY-L 5.6K and 8.0K Stainless Steel Pendant and Recessed Pendant Sprinklers.
04-14	Added two-piece escutcheon options for TY4280 8.0K 3/4 in. NPT applications: Style 40 Recessed for 165°F (74°C) and 212°F (100°C) Temperature Ratings; Style 60 Flush for 165°F (74°C), 212°F (100°C) and 280°F (138°C) Temperature Ratings.