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## Series TY-FRB – 2.8, 4.2, 5.6, and 8.0 K-Factor Upright, Pendent, and Recessed Pendent Sprinklers Quick 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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## General Description

The TYCO Series TY-FRB 2.8, 4.2, 5.6, and 8.0 K-factor Upright, Pendent, and Recessed Pendent Sprinklers described in herein are quick response, standard coverage, decorative 3 mm glass bulb-type spray sprinklers. They are designed for use in light or ordinary hazard, commercial occupancies such as banks, hotels, and shopping malls.

The sprinkler, where applicable, is intended for use in areas with a finished

ceiling. This recessed pendent sprinkler uses one of the following recessed escutcheons:

- Two-piece Style 10 (1/2 in. NPT) or Style 40 (3/4 in. NPT) Recessed Escutcheon with 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.
- Two-piece Style 20 (1/2 in. NPT) or Style 30 (3/4 in. NPT) Recessed Escutcheon with 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.

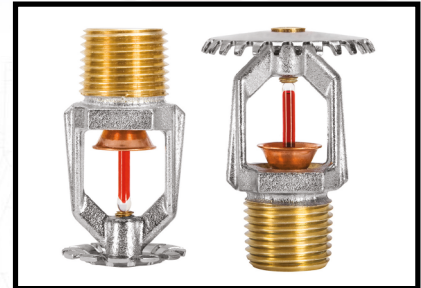
The adjustment provided by the recessed escutcheon reduces the accuracy to which the fixed pipe drops to the sprinklers must be cut.

Corrosion-resistant coatings, where applicable, are utilized to extend the life of copper alloy sprinklers beyond what would be obtained when exposed to corrosive atmospheres. Although corrosion-resistant coated 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 these coatings 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-FRB Pendent Sprinklers is detailed in technical data sheet TFP356. Sprinkler guards are detailed in technical data sheet TFP780.

### NOTICE

The Series TY-FRB 2.8, 4.2, 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 and with the applicable standards of the National Fire Protection Association (NFPA), in addition to



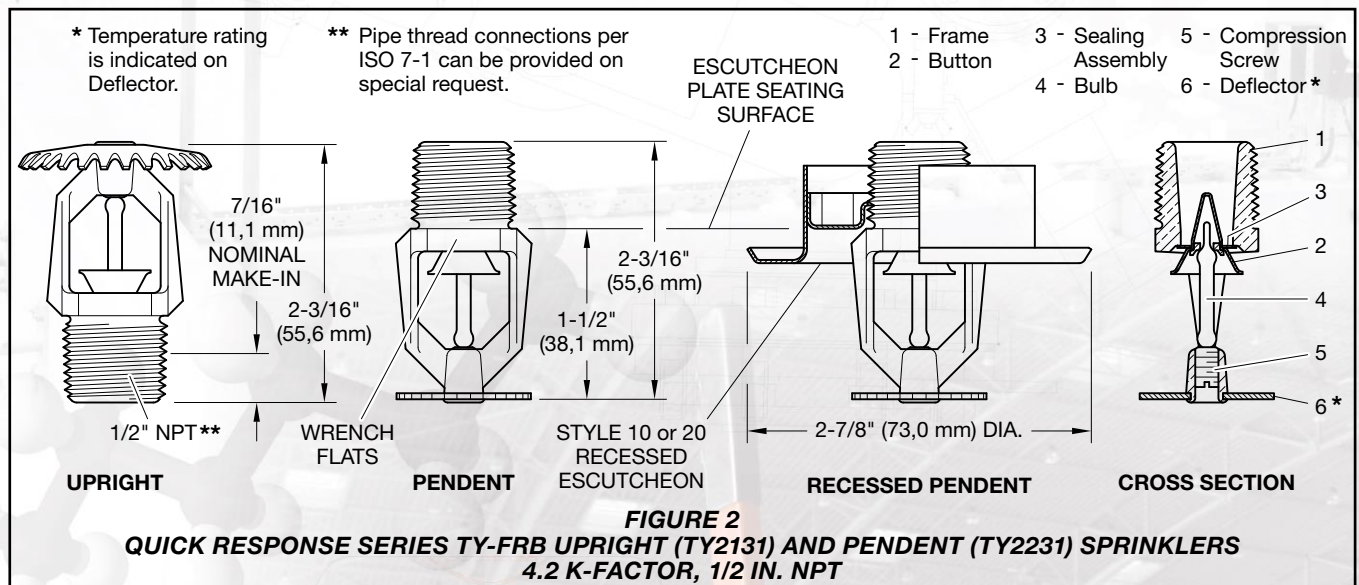
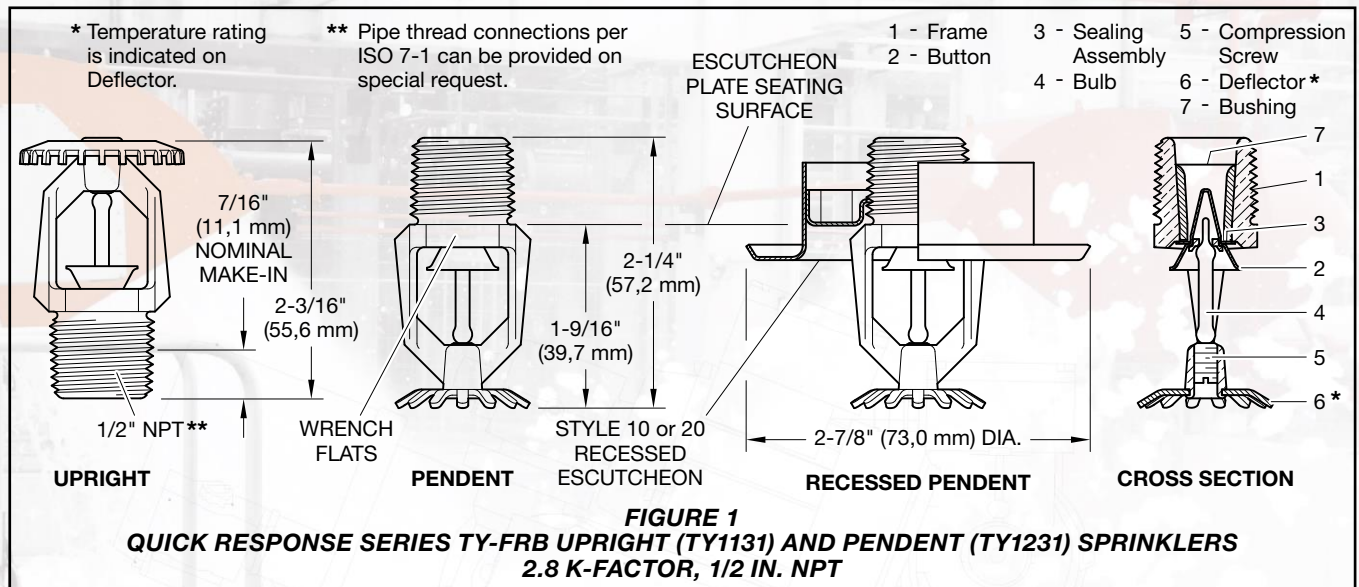
the standards of any authorities having jurisdiction. Failure to do so may impair the performance of these devices.

The owner is responsible for maintaining their fire protection system and devices in proper operating condition. The installing contractor or sprinkler manufacturer should be contacted with any questions.

NFPA 13 prohibits installation of 1/2 in. NPT sprinklers with K-factors greater than 5.6 in new construction. They are intended for retrofit in existing sprinkler systems only.

## Sprinkler Identification Number (SIN)

TY1131 . . . Upright 2.8K, 1/2 in. NPT  
 TY1231 . . . Pendent 2.8K, 1/2 in. NPT  
 TY2131 . . . Upright 4.2K, 1/2 in. NPT  
 TY2231 . . . Pendent 4.2K, 1/2 in. NPT  
 TY3131 . . . Upright 5.6K, 1/2 in. NPT  
 TY3231 . . . Pendent 5.6K, 1/2 in. NPT  
 TY4131 . . . Upright 8.0K, 3/4 in. NPT  
 TY4231 . . . Pendent 8.0K, 3/4 in. NPT  
 TY4831 . . . Upright 8.0K, 1/2 in. NPT  
 TY4931 . . . Pendent 8.0K, 1/2 in. NPT



## Technical Data

### Approvals

UL and C-UL Listed  
 FM, LPCB, and NYC Approved  
 EAC Approved

**Note:** For complete approval information, including corrosion-resistant status, see Tables A, B, C and D.

### Maximum Working Pressure

See Table E

### Discharge Coefficient

K=2.8 gpm/psi<sup>1/2</sup> (40,3 Lpm/bar<sup>1/2</sup>)  
 K=4.2 gpm/psi<sup>1/2</sup> (60,5 Lpm/bar<sup>1/2</sup>)  
 K=5.6 gpm/psi<sup>1/2</sup> (80,6 Lpm/bar<sup>1/2</sup>)  
 K=8.0 gpm/psi<sup>1/2</sup> (115,2 Lpm/bar<sup>1/2</sup>)

### Temperature Rating

See Tables A and B

### Finishes

Sprinkler: See Table D

Recessed Escutcheon: Signal or Pure White, Grey Aluminum, Jet Black, Chrome Plated, or Natural Brass

### Physical Characteristics

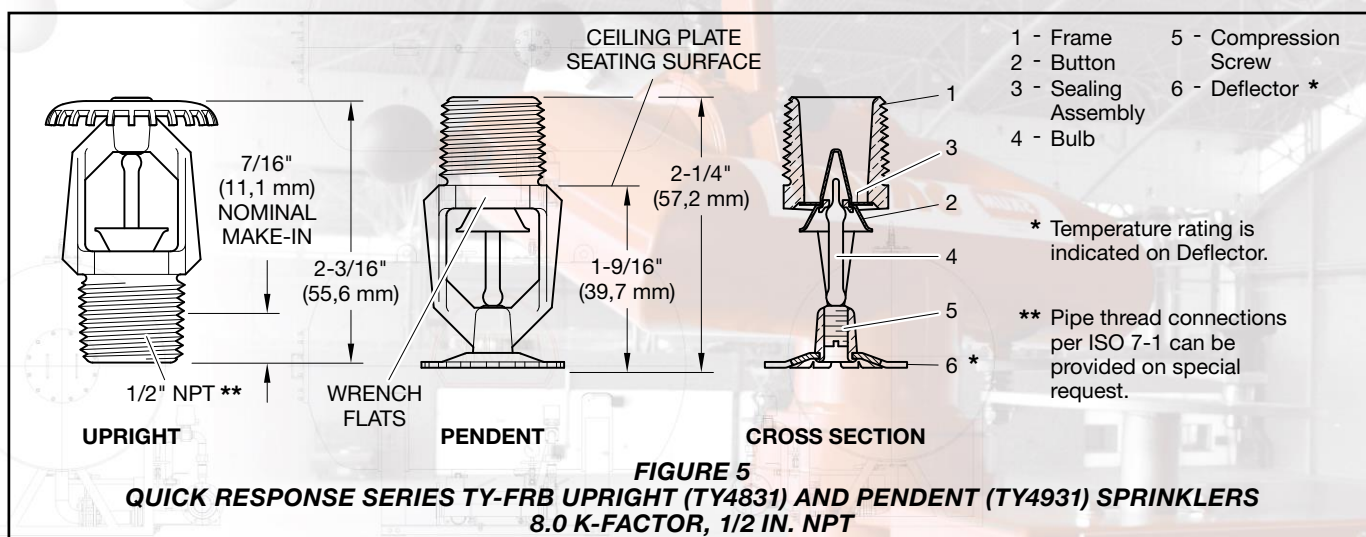
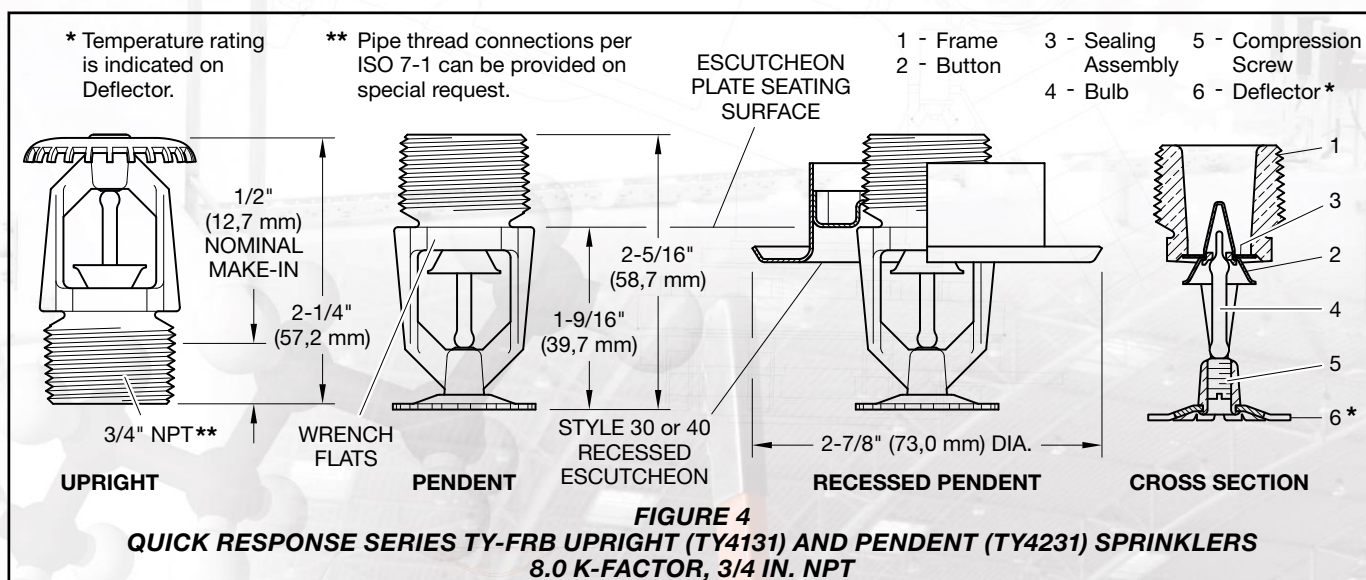
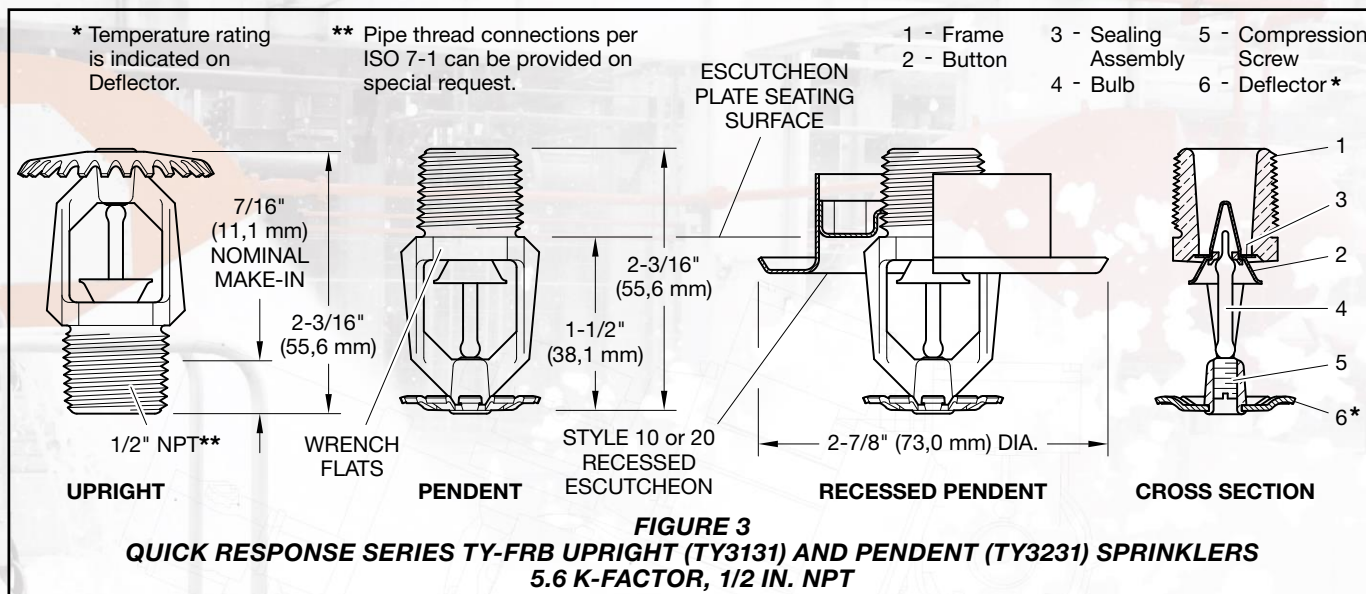
Frame ..... Bronze  
 Button ..... Brass/Copper  
 Sealing Assembly .. Beryllium Nickel w/TEFLON  
 Bulb ..... Glass  
 Compression Screw ..... Bronze  
 Deflector ..... Copper/Bronze  
 Bushing (K=2.8) ..... Bronze

## Operation

The glass bulb contains a fluid that expands when exposed to heat. When the rated temperature is reached, the fluid expands sufficiently to shatter the glass bulb, allowing the sprinkler to activate and water to flow.

## Design Criteria

The TYCO Series TY-FRB 2.8, 4.2, 5.6, and 8.0 K-factor Upright, Pendant, and Recessed Pendant 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 UL Listing based on the requirements of NFPA 13 and FM Approval based on the requirements of the FM Global Loss Prevention Data Sheets. Use only the style 10, 20, 30, or 40 recessed escutcheon, as applicable, for recessed pendant installations.



## Installation

The TYCO Series TY-FRB 2.8, 4.2, 5.6, and 8.0 K-factor Upright, Pendent, and Recessed Pendent Sprinklers must be installed in accordance with this section.

### General Instructions

Do not install any bulb type sprinkler if the bulb is cracked or there is a loss of liquid from the bulb. With the sprinkler held horizontally, a small air bubble should be present. The diameter of the air bubble is approximately 1/16 in. (1,6 mm) for the 135°F (57°C) and 3/32 in. (2,4 mm) for the 286°F (141°C) temperature ratings. A leak-tight 1/2 in. NPT sprinkler joint should be obtained by applying a minimum-to-maximum torque of 7 ft-lb to 14 ft-lb (9,5 N-m to 19,0 N-m). A leak tight 3/4 in. NPT sprinkler joint should be obtained with a torque of 10 ft-lb to 20 ft-lb (13,4 N-m to 26,8 N-m). Higher levels of torque can 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.

### Series TY-FRB Upright and Pendent Sprinklers

The Series TY-FRB Upright and Pendent Sprinklers must be installed in accordance with the following instructions:

**Step 1.** Install pendent sprinklers in the pendent position. Install upright sprinklers in the upright 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 6 Sprinkler Wrench as shown in Figure 14. Apply the sprinkler wrench to the sprinkler wrench flats as shown in Figure 1 to Figure 5.

### Series TY-FRB Recessed Pendent Sprinklers

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

**Step 1.** After installing the Style 10, 20, 30, or 40 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 7 Recessed Sprinkler Wrench as shown in Figure 15. Apply the sprinkler wrench to the sprinkler wrench flats as shown in Figure 1 to 4.

**Step 3.** After the ceiling is installed or the finish coat is applied, slide on the Style 10, 20, 30, or 40 closure over the Series TY-FRB Recessed Pendent Sprinkler and push the closure over the mounting plate until its flange comes in contact with the ceiling.

## Care and Maintenance

The TYCO Series TY-FRB 2.8, 4.2, 5.6, and 8.0 K-factor Upright, 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, obtain permission to shut down the affected fire protection systems from the proper authorities and notify all personnel who may be affected by this action.

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

Sprinklers which 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 sprinklers must be replaced. Sprinklers that have been exposed to

corrosive products of combustion, but have not operated, should be replaced if they cannot be completely cleaned by wiping the sprinkler with a cloth or by brushing it with a soft bristle brush.

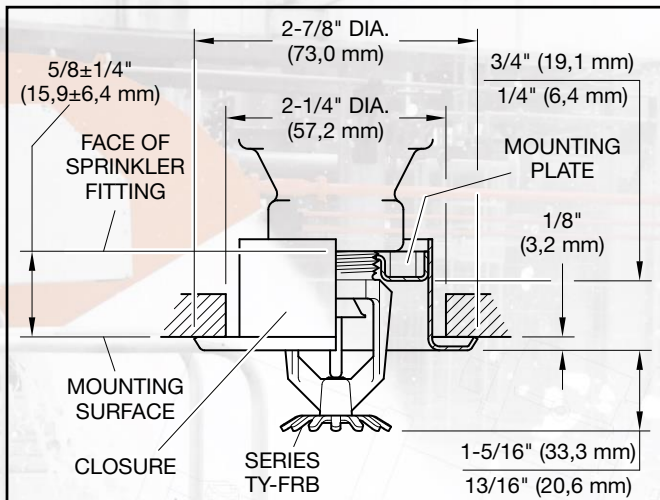
Care must be taken to avoid damage to the sprinklers before, during, and after installation. Sprinklers damaged by dropping, striking, wrench twist/slippage, or the like, must be replaced. Also, replace any sprinkler that has a cracked bulb or that has lost liquid from its bulb. For more information, 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 other authorities having jurisdiction. Contact the installing contractor or sprinkler manufacturer regarding any questions.

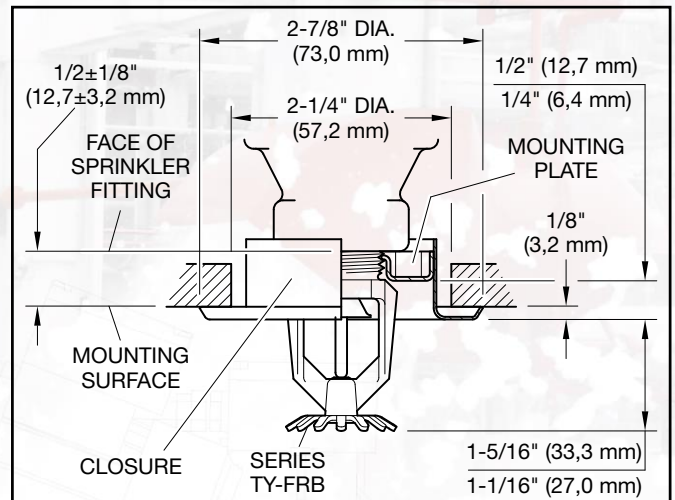
Automatic sprinkler systems are recommended to be inspected, tested, and maintained by a qualified Inspection Service in accordance with local requirements and/or national codes.

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 cracked bulb or that has lost liquid from its bulb. For more information, see Installation section.

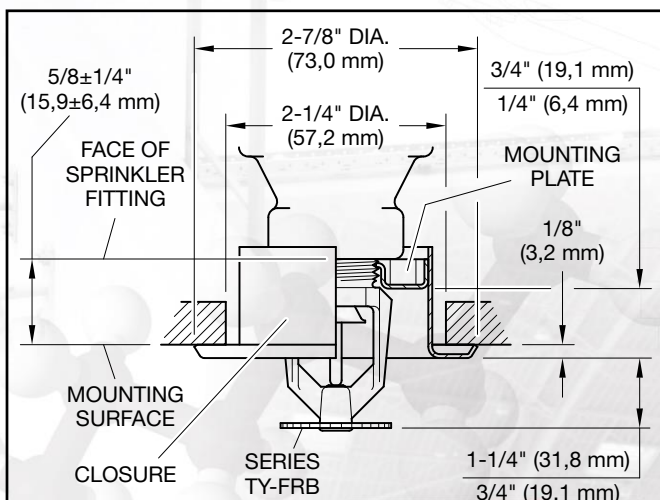
Initial and frequent visual inspections of random samples are recommended for corrosion-resistant sprinklers to verify the integrity of the corrosion-resistant material of construction. Thereafter, annual inspections according to NFPA 25 should suffice. Inspections of corrosion-resistant sprinklers are recommended at close range, instead of from the floor level per NFPA. Inspection at close range can better determine the exact sprinkler condition and the long-term integrity of the corrosion-resistant material, which can be affected by the corrosive conditions present.



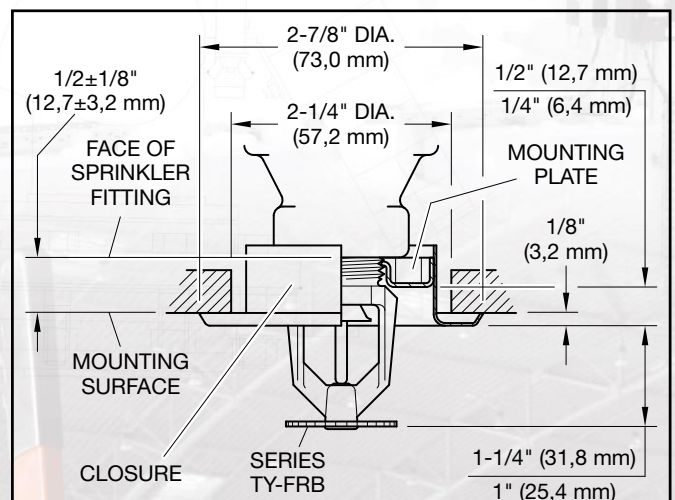
**FIGURE 6**  
**SERIES TY-FRB RECESSED PENDENT**  
**WITH TWO-PIECE 3/4 INCH TOTAL ADJUSTMENT**  
**STYLE 10 RECESSED ESCUTCHEON**  
**2.8 K-FACTOR, 1/2 IN. NPT**



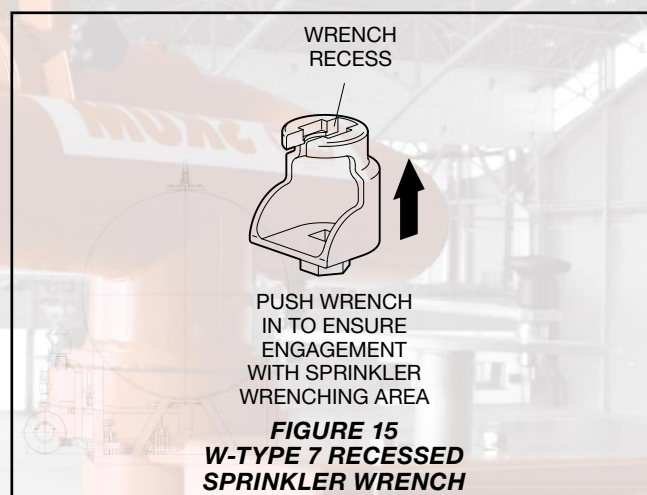
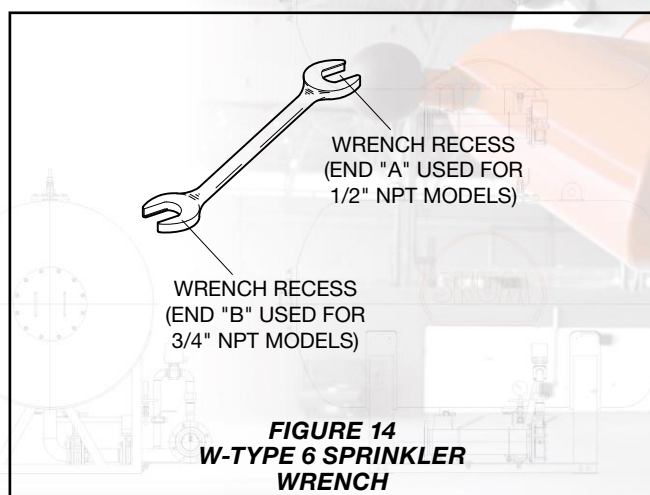
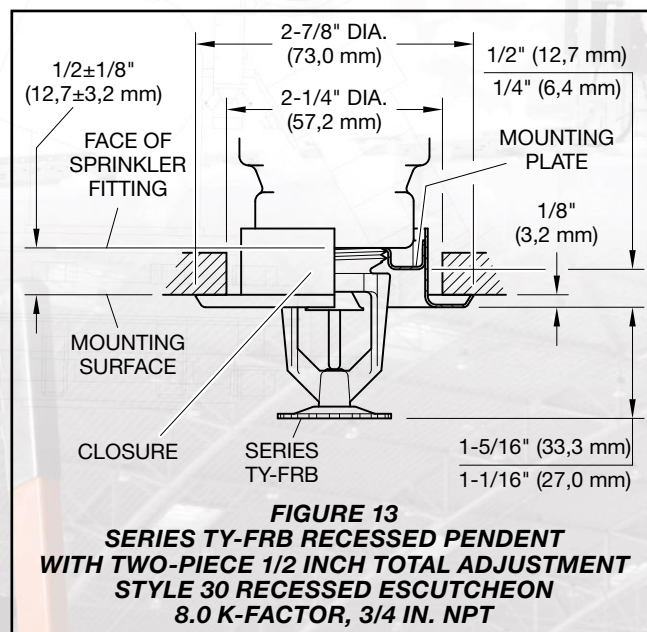
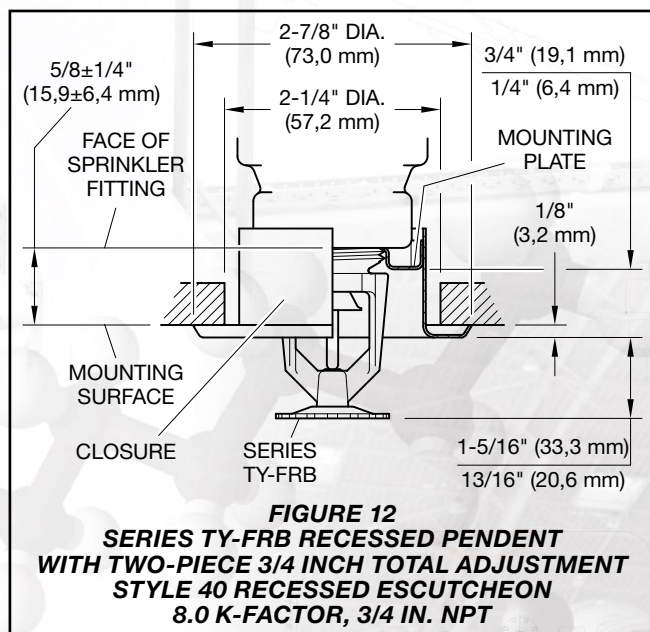
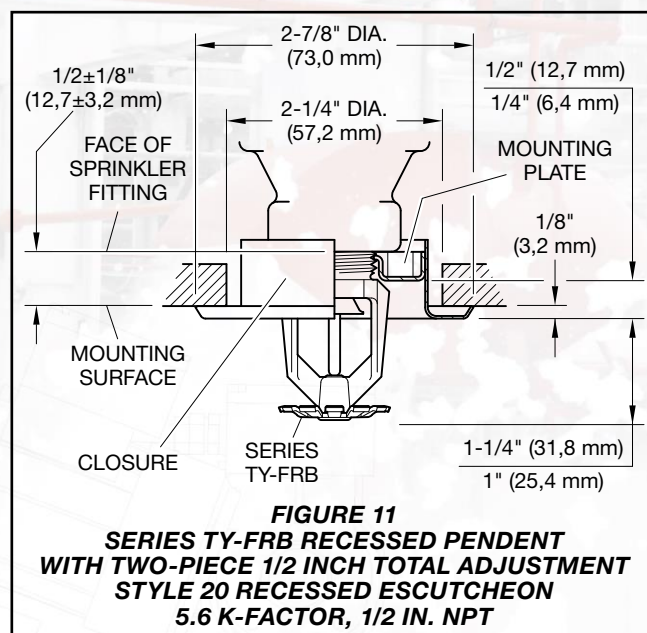
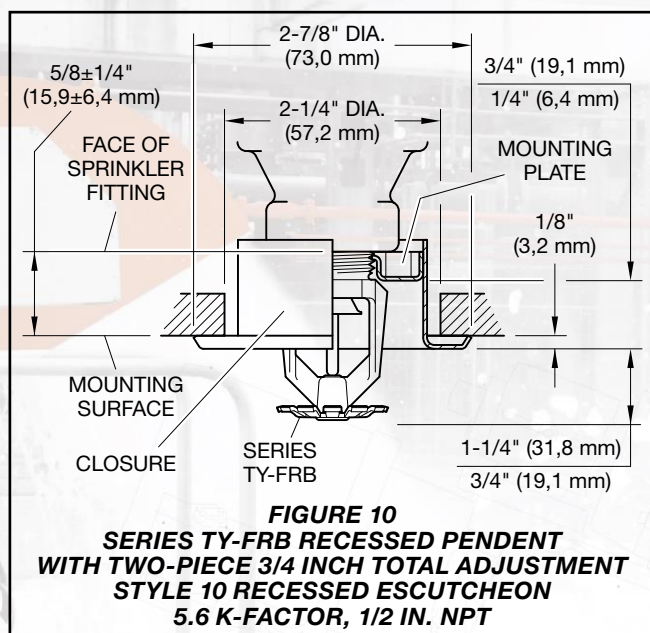
**FIGURE 7**  
**SERIES TY-FRB RECESSED PENDENT**  
**WITH TWO-PIECE 1/2 INCH TOTAL ADJUSTMENT**  
**STYLE 20 RECESSED ESCUTCHEON**  
**2.8 K-FACTOR, 1/2 IN. NPT**



**FIGURE 8**  
**SERIES TY-FRB RECESSED PENDENT**  
**WITH TWO-PIECE 3/4 INCH TOTAL ADJUSTMENT**  
**STYLE 10 RECESSED ESCUTCHEON**  
**4.2 K-FACTOR, 1/2 IN. NPT**



**FIGURE 9**  
**SERIES TY-FRB RECESSED PENDENT**  
**WITH TWO-PIECE 1/2 INCH TOTAL ADJUSTMENT**  
**STYLE 20 RECESSED ESCUTCHEON**  
**4.2 K-FACTOR, 1/2 IN. NPT**



K-Factor	Type	Temperature	Bulb Liquid Color	Sprinkler Finish <sup>5</sup>					
				Natural Brass	Chrome Plated	Polyester <sup>c</sup>			
2.8 1/2 in. NPT	Pendent (TY1231)	135°F (57°C)	Orange	1, 2, 3, 4					
		155°F (68°C)	Red						
		175°F (79°C)	Yellow						
		200°F (93°C)	Green						
		286°F (141°C)	Blue						
	Upright (TY1131)	135°F (57°C)	Orange						
		155°F (68°C)	Red						
		175°F (79°C)	Yellow						
		200°F (93°C)	Green						
		286°F (141°C)	Blue						
	Recessed Pendent (TY1231) <sup>a</sup> Figure 6	135°F (57°C)	Orange				1, 2, 4		
		155°F (68°C)	Red						
		175°F (79°C)	Yellow						
		200°F (93°C)	Green						
	Recessed Pendent (TY1231) <sup>b</sup> Figure 7	135°F (57°C)	Orange						
		155°F (68°C)	Red						
175°F (79°C)		Yellow							
200°F (93°C)		Green							

**NOTES**

- a. Installed with Style 10 (1/2 in. NPT) or Style 40 (3/4 in. NPT) 3/4 in. Total Adjustment Recessed Escutcheon, as applicable.
- b. Installed with Style 20 (1/2 in. NPT) or Style 30 (3/4 in. NPT) 1/2 in. Total Adjustment Recessed Escutcheon, as applicable.
- c. Frame and Deflector only.
1. Listed by Underwriters Laboratories, Inc., (UL) as Quick Response Sprinklers.
2. Listed by Underwriters Laboratories, Inc., for use in Canada (C-UL) as Quick Response Sprinklers.
3. Approved by Factory Mutual Research Corporation (FM) as Quick Response Sprinklers.
4. Approved by the City of New York under MEA 354-01-E.
5. Where Polyester Coated Sprinklers are noted to be UL and C-UL Listed, the sprinklers are UL and C-UL Listed, the sprinklers are UL and C-UL Listed as corrosion-resistant sprinklers.

**TABLE A**  
**LABORATORY LISTINGS AND APPROVALS FOR**  
**2.8 K-FACTOR SPRINKLERS**

K-Factor	Type	Temperature	Bulb Liquid Color	Sprinkler Finish <sup>3</sup>		
				Natural Brass	Chrome Plated	Polyester <sup>c</sup>
4.2 1/2 in. NPT	Pendent (TY2231)	135°F (57°C)	Orange	1, 2		
		155°F (68°C)	Red			
		175°F (79°C)	Yellow			
		200°F (93°C)	Green			
		286°F (141°C)	Blue			
	Upright (TY2131)	135°F (57°C)	Orange			
		155°F (68°C)	Red			
		175°F (79°C)	Yellow			
		200°F (93°C)	Green			
		286°F (141°C)	Blue			
	Recessed Pendent (TY2231) <sup>a</sup> Figure 8	135°F (57°C)	Orange			
		155°F (68°C)	Red			
		175°F (79°C)	Yellow			
		200°F (93°C)	Green			
	Recessed Pendent (TY2231) <sup>b</sup> Figure 9	135°F (57°C)	Orange			
		155°F (68°C)	Red			
175°F (79°C)		Yellow				
200°F (93°C)		Green				

**NOTES**

- Installed with Style 10 (1/2 in. NPT) or Style 40 (3/4 in. NPT) 3/4 in. Total Adjustment Recessed Escutcheon, as applicable.
  - Installed with Style 20 (1/2 in. NPT) or Style 30 (3/4 in. NPT) 1/2 in. Total Adjustment Recessed Escutcheon, as applicable.
  - Frame and Deflector only.
- Listed by Underwriters Laboratories, Inc., (UL) as Quick Response Sprinklers.
  - Listed by Underwriters Laboratories, Inc., for use in Canada (C-UL) as Quick Response Sprinklers.
  - Where Polyester Coated Sprinklers are noted to be UL and C-UL Listed, the sprinklers are UL and C-UL Listed, the sprinklers are UL and C-UL Listed as corrosion-resistant sprinklers.

**TABLE B**  
**LABORATORY LISTINGS AND APPROVALS FOR**  
**4.2 K-FACTOR SPRINKLERS**



K-Factor	Type	Temperature	Bulb Liquid Color	Sprinkler Finish <sup>8</sup>			
				Natural Brass	Chrome Plated	Polyester <sup>c</sup>	Lead Coated
5.6 1/2 in. NPT	Pendent (TY3231)	135°F (57°C)	Orange	1, 2, 3, 4, 5, 6, 7			1, 2, 3, 5, 7
		155°F (68°C)	Red				
		175°F (79°C)	Yellow				
		200°F (93°C)	Green				
		286°F (141°C)	Blue				
	Upright (TY3131)	135°F (57°C)	Orange	1, 2, 3, 5, 6, 7			1, 2, 3, 5, 7
		155°F (68°C)	Red				
		175°F (79°C)	Yellow				
		200°F (93°C)	Green				
		286°F (141°C)	Blue				
	Recessed Pendent (TY3231) <sup>a</sup> Figure 10	135°F (57°C)	Orange	1, 2, 4, 5, 7			N/A <sup>d</sup>
		155°F (68°C)	Red				
		175°F (79°C)	Yellow				
		200°F (93°C)	Green				
	Recessed Pendent (TY3231) <sup>b</sup> Figure 11	135°F (57°C)	Orange	1, 2, 3, 4, 5, 7			N/A
		155°F (68°C)	Red				
175°F (79°C)		Yellow					
200°F (93°C)		Green					
		286°F (141°C)	Blue				

**NOTES**

- a. Installed with Style 10 (1/2 in. NPT) or Style 40 (3/4 in. NPT) 3/4 in. Total Adjustment Recessed Escutcheon, as applicable.
- b. Installed with Style 20 (1/2 in. NPT) or Style 30 (3/4 in. NPT) 1/2 in. Total Adjustment Recessed Escutcheon, as applicable.
- c. Frame and Deflector only.
- d. Not available (N/A).
1. Listed by Underwriters Laboratories, Inc., (UL) as Quick Response Sprinklers.
2. Listed by Underwriters Laboratories, Inc., for use in Canada (C-UL) as Quick Response Sprinklers.
3. Approved by Factory Mutual Research Corporation (FM) as Quick Response Sprinklers.
4. Approved by the Loss Prevention Certification Board (LPCB Ref. No. 007k/04) as Quick Response Sprinklers. Note the following exceptions:
  - LPCB does not rate the thermal sensitivity of recessed sprinklers.
  - The recessed pendent (TY3231) sprinklers with a 286°F (141°C) temperature rating are not LPCB Approved.
5. Approved by the City of New York under MEA 354-01-E.
6. VdS Approved (For details, contact Johnson Controls, Enschede, Netherlands, Tel. 31-53-428-4444/Fax 31-53-428-3377.)
7. EAC Approved.
8. Where Polyester Coated and Lead-Coated Sprinklers are noted to be UL and C-UL Listed, the sprinklers are UL and C-UL Listed as Corrosion-Resistant Sprinklers. Where Lead-Coated Sprinklers are noted to be FM Approved, the sprinklers are FM Approved as a Corrosion-Resistant Sprinklers.

**TABLE C**  
**LABORATORY LISTINGS AND APPROVALS FOR**  
**5.6 K-FACTOR SPRINKLERS**

K-Factor	Type	Temperature	Bulb Liquid Color	Sprinkler Finish <sup>9</sup>					
				Natural Brass	Chrome Plated	Polyester <sup>c</sup>	Lead Coated		
8.0 3/4 in. NPT	Pendent (TY4231)	135°F (57°C)	Orange	1, 2, 3, 4, 5, 6, 7, 8	1, 2, 3, 4, 5, 6, 7, 8	Polyester <sup>c</sup>	1, 2, 5, 8		
		155°F (68°C)	Red						
		175°F (79°C)	Yellow						
		200°F (93°C)	Green						
		286°F (141°C)	Blue						
	Upright (TY4131)	135°F (57°C)	Orange						
		155°F (68°C)	Red						
		175°F (79°C)	Yellow						
		200°F (93°C)	Green						
	Recessed Pendent (TY4231) <sup>a</sup> Figure 12	135°F (57°C)	Orange					1, 2, 5, 8	N/A <sup>d</sup>
		155°F (68°C)	Red						
		175°F (79°C)	Yellow						
		200°F (93°C)	Green						
	Recessed Pendent (TY4231) <sup>b</sup> Figure 13	135°F (57°C)	Orange					1, 2, 3, 5, 8	N/A
		155°F (68°C)	Red						
		175°F (79°C)	Yellow						
200°F (93°C)		Green							
8.0 1/2 in. NPT	Pendent (TY4931)	135°F (57°C)	Orange	1, 2, 4, 5, 6, 8	1, 2, 5, 8				
		155°F (68°C)	Red						
		175°F (79°C)	Yellow						
		200°F (93°C)	Green						
		286°F (141°C)	Blue						
	Upright (TY4831)	135°F (57°C)	Orange						
		155°F (68°C)	Red						
		175°F (79°C)	Yellow						
		200°F (93°C)	Green						
		286°F (141°C)	Blue						

**NOTES**

- a. Installed with Style 10 (1/2 in. NPT) or Style 40 (3/4 in. NPT) 3/4 in. Total Adjustment Recessed Escutcheon, as applicable.
- b. Installed with Style 20 (1/2 in. NPT) or Style 30 (3/4 in. NPT) 1/2 in. Total Adjustment Recessed Escutcheon, as applicable.
- c. Frame and Deflector only.
- d. Not available (N/A).
1. Listed by Underwriters Laboratories, Inc., (UL) as Quick Response Sprinklers.
2. Listed by Underwriters Laboratories, Inc., for use in Canada (C-UL) as Quick Response Sprinklers.
3. Approved by Factory Mutual Research Corporation (FM) as Quick Response Sprinklers.
4. Approved by the Loss Prevention Certification Board (LPCB Ref. No. 007k/04) as Quick Response Sprinklers. However, LPCB does not rate the thermal sensitivity of recessed sprinklers.
5. Approved by the City of New York under MEA 354-01-E.
6. VdS Approved (For details, contact Johnson Controls, Enschede, Netherlands, Tel. 31-53-428-4444/Fax 31-53-428-3377).
7. Approved by the Loss Prevention Certification Board (LPCB Ref. No. 094a/06) as Quick Response Sprinklers.
8. EAC Approved.
9. Where Polyester Coated and Lead-Coated Sprinklers are noted to be UL and C-UL Listed, the sprinklers are UL and C-UL Listed as Corrosion-Resistant Sprinklers. Where Lead-Coated Sprinklers are noted to be FM Approved, the sprinklers are FM Approved as a Corrosion-Resistant Sprinklers.

**TABLE D**  
**LABORATORY LISTINGS AND APPROVALS FOR**  
**8.0 K-FACTOR SPRINKLERS**

K-Factor	Type	Sprinkler Finish			
		Natural Brass	Chrome Plated	Polyester	Lead Coated
2.8 1/2 in. NPT	Pendent (TY1231) and Upright (TY1131)	175 psi (12,1 bar)			N/A <sup>2</sup>
	Recessed Pendent (TY1231)				
4.2 1/2 in. NPT	Pendent (TY2231) and Upright (TY2131)	175 psi (12,1 bar)			N/A
	Recessed Pendent (TY2231)				
5.6 1/2 in. NPT	Pendent (TY3231) and Upright (TY3131)	250 psi (17,2 bar) or 175 psi (12,1 bar) <sup>1</sup>			
	Recessed Pendent (TY3231)				
8.0 3/4 in. NPT	Pendent (TY4231) and Upright (TY4131)	175 psi (12,1 bar)			175 psi (12,1 bar)
	Recessed Pendent(TY4231)				N/A
8.0 1/2 in. NPT	Pendent (TY4931) and Upright (TY4831)	175 psi (12,1 bar)			175 psi (12,1 bar)

**NOTES**  
1. The maximum working pressure of 250 psi (17,2 bar) only applies to the Listing by Underwriters Laboratories Inc. (UL); the Listing by Underwriters Laboratories, Inc. for use in Canada (C-UL); and, the Approval by the City of New York.  
2. Not available (N/A).

**TABLE E**  
**MAXIMUM WORKING PRESSURE**

P/N 57 – XXX – X – XXX

		SIN	SPRINKLER FINISH		TEMPERATURE RATINGS	
330	2.8K UPRIGHT (1/2 in. NPT)	TY1131	1	NATURAL BRASS	135	135°F (57°C)
331	2.8K PENDENT (1/2 in. NPT)	TY1231	3	PURE WHITE POLYESTER (RAL9010) <sup>1</sup>	155	155°F (68°C)
340	4.2K UPRIGHT (1/2 in. NPT)	TY2131	4	SIGNAL WHITE POLYESTER (RAL9003)	175	175°F (79°C)
341	4.2K PENDENT (1/2 in. NPT)	TY2231	5	JET BLACK POLYESTER (RAL9005) <sup>2</sup>	200	200°F (93°C)
370	5.6K UPRIGHT (1/2 in. NPT)	TY3131	7	LEAD COATED	286	286°F (141°C)
371	5.6K PENDENT (1/2 in. NPT)	TY3231	9	CHROME PLATED		
390	8.0K UPRIGHT (3/4 in. NPT)	TY4131				
391	8.0K PENDENT (3/4 in. NPT)	TY4231				
360	8.0K UPRIGHT (1/2 in. NPT)	TY4831				
361	8.0K PENDENT (1/2 in. NPT)	TY4931				

**NOTES**

1. Eastern Hemisphere sales only.
2. Available in only 2.8K, 4.2K, and 8.0K, 155°F (68°C) and 200°F (93°C); requires longer lead time to manufacture.

**TABLE F**  
**SERIES TY-FRB PENDENT AND UPRIGHT SPRINKLERS**  
**PART NUMBER SELECTION**

## Limited Warranty

For warranty terms and conditions, visit [www.tyco-fire.com](http://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-FRB (Specify SIN), (specify K-factor), (specify Pendent or Upright) Sprinkler (specify) temperature rating, (specify) finish or coating, P/N (specify from Table F)

### Recessed Escutcheon

Specify: Style (10, 20, 30, or 40) Recessed Escutcheon with (specify\*) finish, P/N (specify\*)

\* Refer to technical data sheet TFP770

### Sprinkler Wrench

Specify: W-Type 6 Sprinkler Wrench, P/N 56-000-6-387

Specify: W-Type 7 Sprinkler Wrench, P/N 56-850-4-001

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## TFP171 Change History Appendix

ISSUE DATE	NOTES
12-22	Page 9, Table C, added note to footnote 4, removing LPCB Approved from Pendent and Recessed Pendent TY3231 286°F (141°C) temperature rating; Page 9, Table C, removed note Approved by the Loss Prevention Certification Board (LPCB Ref. No. 094a/06) as Quick Response Sprinklers, formerly footnote 7.
09-22	Page 1, added QR code and URL to allow convenient access to electronic version from printed document; Page 2, Approvals sub-section, Page 9, Table C, Page 10, Table D, TY3231, TY4131, TY4231, TY3131 sprinkler only, added EAC Approved; Page 12, 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.
12-20	Changed temperature rating of TY4131 8.0K Upright Sprinkler with Blue bulb liquid color to 286°F (141°C), formerly shown incorrectly as 200°F (93°C).
03-20	Removed LPCB Approval from TY3131 5.6K Upright Sprinkler.
07-18	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; Added Poly-Stainless Grey Aluminum finish, formerly described in Technical Data Sheet TFP682.
09-17	Added statement prohibiting sprinklers featuring K-factors greater than 5.6 and 1/2 in. NPT thread size from installation in new construction, explicitly for retrofit applications only.
11-15	Clarified finishes and polyester coating.
10-13	Removed Eastern Hemisphere Sales Only limitation from TY4831 and TY4931 upright and pendent 8.0K x 1/2 in. NPT sprinklers; Added torque requirements for 3/4 in. NPT sprinklers.
03-13	Updated and standardized RAL color finishes.
07-10	Added higher temperature rating for TY3231 and TY4241; Clarified LPCB certification; Corrected SIN numbers in Table C for 2.8K and 4.2K sprinklers; Simplified footnotes in Tables A and B; Clarified Installation and Care and Maintenance sections.
08-07	Added FM Approval for 5.6K White Coated Sprinkler with Style 20 Recessed Escutcheon application.
03-07	Added 8.0K 1/2 in. NPT Pendent and Upright Sprinklers.
04-06	Added statement indicating TY3131 and TY3231 are UL and C-UL Listed for 250 psi (17,2 bar) maximum working pressure.
07-04	Added reference to Installer Warning data sheet TFP700; Added LPCB Reference Numbers; Added option for White RAL9010 for Eastern Hemisphere sales.
04-03	Added 4.2K sprinkler; Added recessed option for 2.8K pendent sprinkler.
01-03	Added new Tyco Fire & Building Products masthead.
09-02	New Technical Data Sheet TFP171 describes Series TY-FRB Upright, Pendent, and Recessed Pendent Sprinklers.

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