

## Installation

The Series TY-FRB, 5.6 K-factor, Horizontal and Vertical Sidewall 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) to 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 with a torque of 7 to 14 lb-ft (9,5 to 19,0 N·m). Higher levels of torque may distort the sprinkler and cause leakage or impairment of the sprinkler.

Do not attempt to make-up for insufficient adjustment in the escutcheon plate by under-or over-tightening the sprinkler. Readjust the position of the sprinkler fitting to suit.

### Series TY-FRB Horizontal and Vertical Sidewall Sprinkler Installation

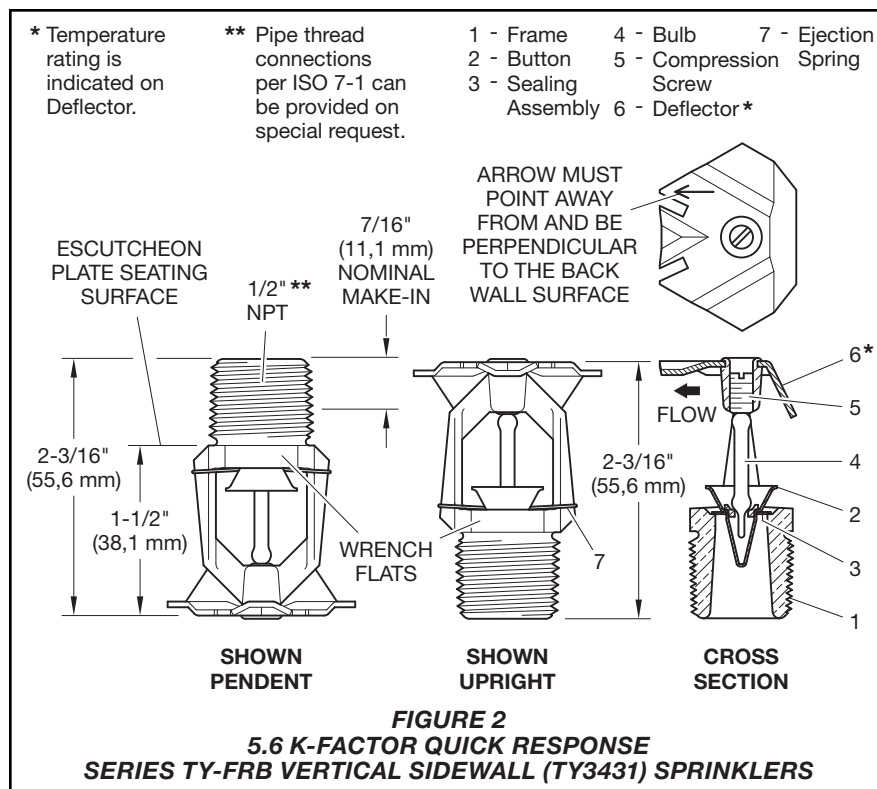
The Series TY-FRB Horizontal and Vertical Sidewall Sprinklers must be installed in accordance with the following instructions.

**Step 1.** Horizontal sidewall sprinklers are to be installed in the horizontal position with their centerline of waterway perpendicular to the back wall and parallel to the ceiling. The word "TOP" on the Deflector is to face towards the ceiling.

Vertical sidewall sprinklers are to be installed in the pendent or upright position with the arrow on the Deflector pointing away from the wall.

**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 (Ref. Figure 5), With reference to Figure 1 or 2, the W-Type 6 Sprinkler Wrench is to be applied to the wrench flats.



### Series TY-FRB Recessed Horizontal Sidewall Sprinkler Installation

The Series TY-FRB Recessed Horizontal Sidewall Sprinklers must be installed in accordance with this section.

**Step A.** Recessed horizontal sidewall sprinklers are to be installed in the horizontal position with their centerline of waterway perpendicular to the back wall and parallel to the ceiling. The word "TOP" on the Deflector is to face towards the ceiling.

**Step B.** After installing the Style 10 or 20 Mounting Plate over the sprinkler threads, hand tighten the sprinkler into the sprinkler fitting.

**Step C.** Tighten the sprinkler into the sprinkler fitting using only the W-Type 7 Recessed Sprinkler Wrench (Ref. Figure 6). With reference to Figure 1, the W-Type 7 Recessed Sprinkler Wrench is to be applied to the sprinkler wrench flats.

**Step D.** After the ceiling has been installed or the finish coat has been applied, slide on the Style 10 or 20 Closure over the Series TY-FRB Sprinkler and push the Closure over the Mounting Plate until its flange comes in contact with the ceiling.

## Care and Maintenance

The Series TY-FRB, 5.6 K-factor, Horizontal and Vertical Sidewall Sprinklers must be maintained and serviced in accordance with this section.

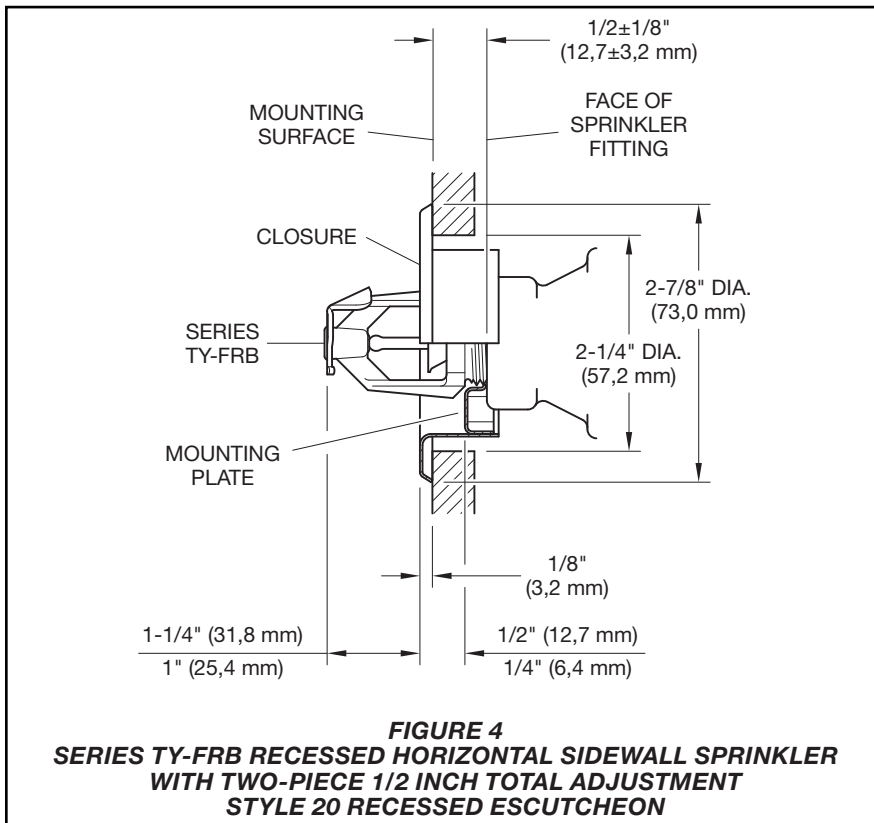
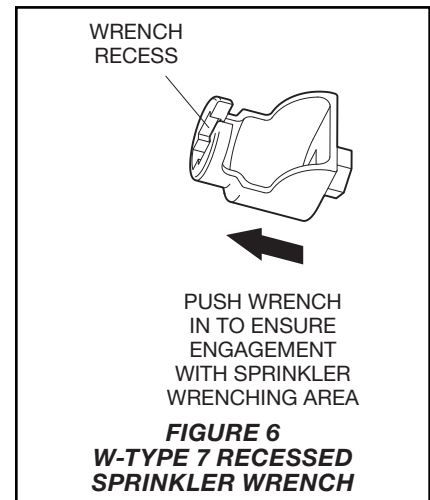
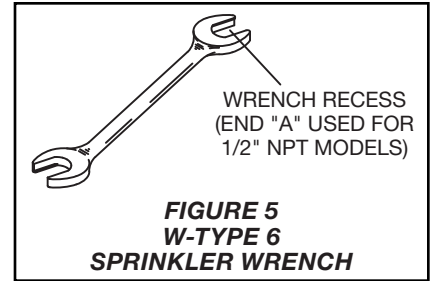
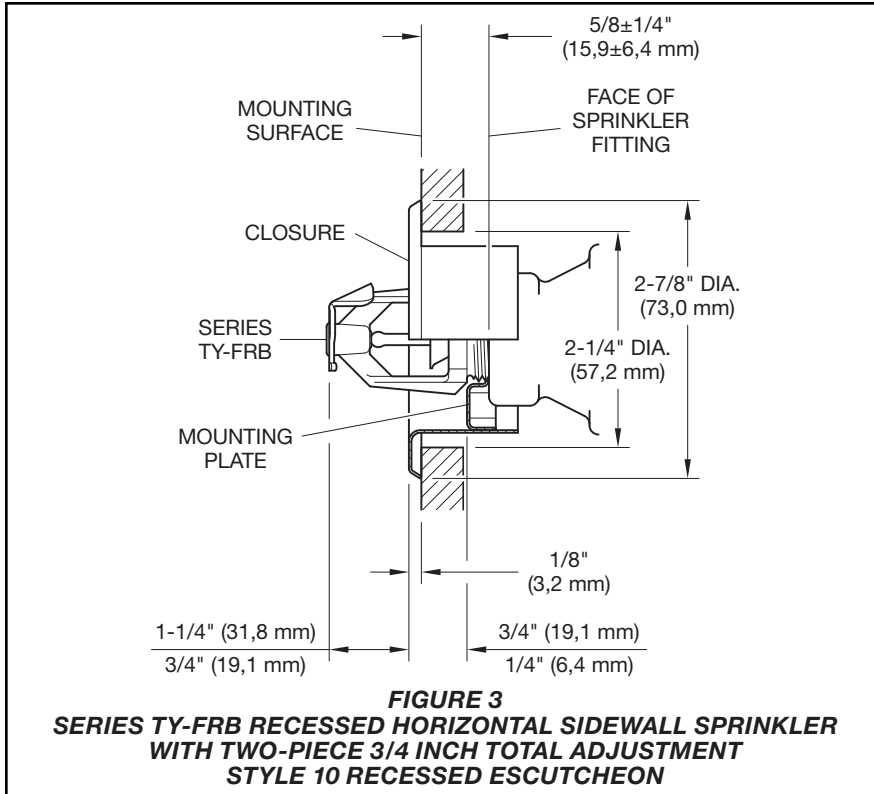
Before closing a fire protection system main control valve for maintenance work on the fire protection system that it controls, permission to shut down the affected fire protection system must be obtained from the proper authorities and all personnel who may be affected by this action must be notified.

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 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 exercised to avoid damage to the sprinklers before, during, and after installation. Sprinklers



K	TYPE	TEMP.	BULB LIQUID	SPRINKLER FINISH (See Note 11)				
				NATURAL BRASS	CHROME PLATED	POLYESTER <sup>c</sup>	POLY-STAINLESS <sup>c</sup>	LEAD COATED
5.6 1/2 in. NPT	HORIZ. SIDEWALL (TY3331)	135°F (57°C)	Orange	1, 2, 3, 4, 9, 10		1, 2, 3, 9	1, 2	1, 2, 3, 9
		155°F (68°C)	Red					
		175°F (79°C)	Yellow					
		200°F (93°C)	Green					
		286°F (141°C)	Blue					
	RECESSED HORIZ. SIDEWALL (TY3331) <sup>a</sup> Figure 3	135°F (57°C)	Orange	1, 2, 4, 9, 10		1, 2, 9	1, 2	N/A
		155°F (68°C)	Red					
		175°F (79°C)	Yellow					
		200°F (93°C)	Green					
	RECESSED HORIZ. SIDEWALL (TY3331) <sup>b</sup> Figure 4	135°F (57°C)	Orange	1, 2, 3, 4, 9			N/A	N/A
		155°F (68°C)	Red					
		175°F (79°C)	Yellow					
200°F (93°C)		Green						
5.6 1/2 in. NPT	VERTICAL SIDEWALL (TY3431) Installed Pendent or Upright	135°F (57°C)	Orange	5, 6, 7, 8, 9			N/A	5, 6, 7, 9
		155°F (68°C)	Red					
		175°F (79°C)	Yellow					
		200°F (93°C)	Green					
		286°F (141°C)	Blue					

**NOTES:**

- Listed by Underwriters Laboratories, Inc. (UL) as Quick Response Sprinklers for use in Light and Ordinary Hazard Occupancies at a 4 to 12 in. (100 to 300 mm) top of deflector to ceiling distance.
- Listed by Underwriters Laboratories Inc. for use in Canada (C-UL) as Quick Response Sprinklers for use in Light and Ordinary Hazard Occupancies at a 4 to 12 in. (100 to 300 mm) top of deflector to ceiling distance.
- Approved by Factory Mutual Research Corporation (FM) as Quick Response Sprinklers for use in Light Hazard Occupancies at a 4 to 12 in. (100 to 300 mm) top of deflector to ceiling distance.
- Approved by the Loss Prevention Certification Board (LPCB Ref. No. 007a/04) at a 4 to 6 in. (100 to 150 mm) top of deflector to ceiling distance. The LPC does not rate the thermal sensitivity of horizontal sidewall sprinklers.
- Listed by Underwriters Laboratories, Inc. as Quick Response Sprinklers for use in Light and Ordinary Hazard Occupancies.
- Listed by Underwriters Laboratories for use in Canada (C-UL) as Quick Response Sprinklers for use in Light and Ordinary Hazard Occupancies.
- Approved by Factory Mutual Research Corporation (FM) as Quick Response Sprinklers for use in Light Hazard Occupancies.
- Approved by the Loss Prevention Certification Board (LPCB Ref. No. 094a/06 & 007a/04) as Quick Response Sprinklers.
- Approved by the City of New York under MEA 354-01-E.
- Approved by the Loss Prevention Certification Board (LPCB Ref. No. 094a/06) at a 4 to 6 in. (100 to 150 mm) top of deflector to ceiling distance. The LPC does not rate the thermal sensitivity of horizontal sidewall sprinklers.
- 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 Corrosion Resistant Sprinklers.
- Installed with Style 10 (1/2 in. NPT) 3/4 in. Total Adjustment Recessed Escutcheon.
- Installed with Style 20 (1/2 in. NPT) 1/2 in. Total Adjustment Recessed Escutcheon.
- Frame and deflector only.

**TABLE A  
LABORATORY LISTINGS AND APPROVALS**

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. (Ref. Installation Section).

The owner must assure that the sprinklers are not used for hanging any objects and that the sprinklers are only cleaned by means of gently dusting with a feather duster; otherwise, non-operation in the event of a fire or inadvertent operation may result.

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 (e.g., NFPA 25), in addition to the standards of any other authorities having jurisdiction. Contact the install-

ing 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.

		SPRINKLER FINISH			
K	TYPE	NATURAL BRASS	CHROME PLATED	POLYESTER	LEAD COATED
5.6 1/2 in. NPT	HORIZONTAL SIDEWALL (TY3331)	250 PSI (17,2 BAR) or 175PSI (12,1 BAR) (SEE NOTE 1)			
	RECESSED HORIZ. SIDEWALL (TY3331)				
	VERTICAL SIDEWALL (TY3431)	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.

**TABLE B**  
**MAXIMUM WORKING PRESSURE**

P/N 57 - XXX - X - XXX

		SIN	SPRINKLER FINISH		TEMPERATURE RATINGS	
378	HORIZONTAL SIDEWALL	TY3331	1	NATURAL BRASS	135	135°F (57°C)
375	VERTICAL SIDEWALL	TY3431	2	POLY-STAINLESS GREY ALUMINUM (RAL9007) <sup>1</sup> POLYESTER	155	155°F (68°C)
			3	PURE WHITE (RAL9010) <sup>2</sup> POLYESTER	175	175°F (79°C)
			4	SIGNAL WHITE (RAL9003) POLYESTER	200	200°F (93°C)
			5	JET BLACK (RAL9005) <sup>3</sup> POLYESTER	286	286°F (141°C)
			7	LEAD COATED		
			9	CHROME PLATED		

**NOTES:**  
 1. Available for TY3331 only.  
 2. Eastern Hemisphere sales only.  
 3. Available in 155°F (68°C) or 200°F (93°C) temperature rating only.

**TABLE C**  
**PART NUMBER SELECTION**  
**SERIES TY-FRB HORIZONTAL AND VERTICAL SIDEWALL SPRINKLERS**

## 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) Horizontal Sidewall or Vertical Sidewall Sprinkler, Standard Response, Standard Coverage, (specify) temperature rating, (specify) finish or coating, P/N (specify from Table C)

### Recessed Escutcheon

Specify: Style (10 or 20) 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