

# Series TY-FRB – 5.6 and 8.0 K-factor Extended Coverage Horizontal Sidewall Sprinklers Quick and Standard Response (Light Hazard)

### **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

TYCO Series TY-FRB 5.6 and 8.0 K-factor Extended Coverage Horizontal Sidewall Sprinklers Quick and Standard Response (Light Hazard) are decorative 3 mm glass bulb type spray sprinklers designed for use in hydraulically calculated sprinkler systems in light hazard, commercial occupancies such as churches, restaurant seating areas, hotels, educational facilities, offices, etc. With their coverage up to 16 ft (4,9 m) wide by 24 ft (7,3 m)

long, they are designed for installation along a wall or the side of a beam and just beneath a smooth ceiling. Horizontal sidewall (HSW) sprinklers are commonly used instead of pendent or upright sprinklers due to aesthetics or building construction considerations, where piping across the ceiling is not desirable.

The fast response thermal sensitivity rating of the Series TY-FRB, 3 mm bulb type sprinklers provides for a quick response extended coverage (QREC) rating for many of the coverage areas detailed in Tables B and C.

The recessed version of the Series TY-FRB Extended Coverage Horizontal Sidewall Sprinkler utilizes either a 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 sidewall position, or a 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 sidewall position. The adjustment provided by the Recessed Escutcheon reduces the accuracy to which the fixed pipe lengths to the sprinklers must be cut.

Corrosion resistant coatings, where applicable, are utilized to extend the life of copper alloy sprinklers beyond that which would otherwise 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.





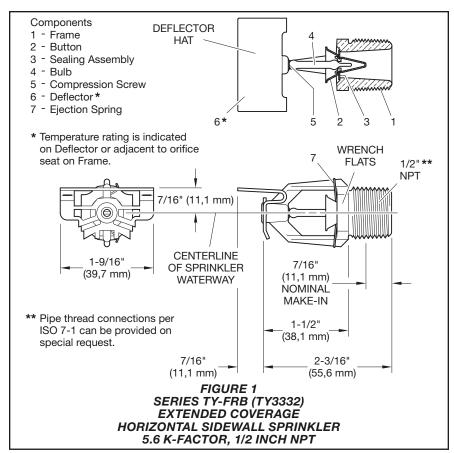
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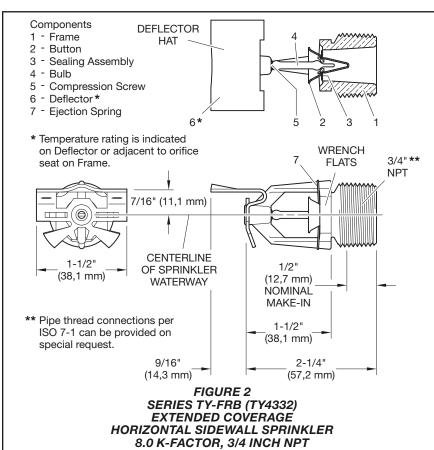
The Series TY-FRB Sprinklers described herein must be installed and maintained in compliance with this document, as well as with the applicable standards of the National Fire Protection Association (NFPA), in addition to the standards of any other authorities having jurisdiction. Failure to do so may 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.

# Sprinkler Identification Numbers (SINs)

TY3332. . .EC HSW, 5.6K, 1/2 in. NPT TY4332. . .EC HSW, 8.0K, 3/4 in. NPT





# **Technical** Data

## Approvals

UL and C-UL Listed FM and NYC Approved **EAC Approved** 

Note: For complete approval information including corrosion resistant status, see Table A and the Design Criteria section pertaining to special design considerations.

## **Maximum Working Pressure**

See Table B

## **Discharge Coefficient**

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 Ratings**

See Table A

## **Finishes**

Sprinkler: See Table E

Recessed Escutcheon: White Coated, Chrome Plated, or Brass Plated

## **Physical Characteristics**

FrameBronze
Button Brass/Copper
Button Brass/Copper
Sealing Assembly Beryllium Nickel w/TEFLON
Bulb
Compression Screw Bronze
Deflector Copper

# **Operation**

The glass bulb contains a fluid which 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

TYCO Series TY-FRB 5.6 and 8.0 K-factor Extended Coverage Horizontal Sidewall Sprinklers Quick and Standard Response (Light Hazard) must be installed and utilized in Light Hazard Occupancies, under smooth ceilings as outlined in the appliable installation standard recognized by the Approval Agency. For example, UL recognizes NFPA 13, and FM recognize the FM Loss Prevention Data Sheets. Only the Style 10, 20, 30, or 40 Recessed Escutcheon, as applicable, is to be used for recessed installations.

	Sprinkler	Temperature	Bulb	Sprinkler Finish <sup>6</sup>				
K-Factor	K-Factor Type Rating Liquid Color	Natural Brass	Chrome Plated	Polyesterc				
5.6		135°F (57°C)	Orange					
1/2 in.	EC HSW (TY3332)	155°F (68°C)	Red	1, 2, 3, 4, 5				
NPT	(**************************************	175°F (79°C)	Yellow	7				
5.6		135°F (57°C)	Orange					
1/2 in.	Recessed EC HSWa (TY3332)	155°F (68°C)	Red	1, 2,4, 5				
NPT	(110002)	175°F (79°C)	Yellow					
5.6	5.6 1/2 in. NPT Recessed EC HSW <sup>b</sup> (TY3332)	135°F (57°C)	Orange					
1/2 in.		155°F (68°C)	Red	1, 2, 3, 4, 5				
NPT		175°F (79°C)	Yellow					
8.0		135°F (57°C)	Orange					
3/4 in.	EC HSW (TY4332)	155°F (68°C)	Red	1, 2, 3, 4, 5				
NPT		175°F (79°C)	Yellow	]				
8.0		135°F (57°C)	Orange		1045			
3/4 in.	Recessed EC HSW <sup>a</sup> (TY4332)	155°F (68°C)	Red	1, 2, 4, 5				
NPT	(1 14332)	175°F (79°C)	Yellow	1, 2, 3				
8.0		135°F (57°C)	Orange	1, 2, 3, 4, 5				
3/4 in.	Recessed EC HSW <sup>b</sup> (TY4332)	155°F (68°C)	Red					
NPT	(1002)	175°F (79°C)	Yellow	]				

- Notes:
  1. Listed by Underwriters Laboratories, Inc. (UL) per Table C
- 2. Listed by Underwriters Laboratories, Inc. (by Jer Table C 3. Approved by Factory Mutual Research Corporation (FM) per Table D 4. Approved by the City of New York under MEA 354-01-E

- 4. Approved by the City of New York under MEA 394-01-E
  5. EAC Approved
  6. Where Polyester Coated Sprinklers are noted to be UL and C-UL Listed, the sprinklers are UL and C-UL Listed corrosion-resistant sprinklers.
  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

## TABLE A LABORATORY LISTINGS AND APPROVALS (Note: For additional criteria, see the Design Criteria Section)

	Sprinkler	Sprinkler Finish			
K-Factor	Туре	Natural Brass	Chrome Plated	Polyester	
5.6	EC HSW (TY3332 <b>)</b>				
1/2 in. NPT	Recessed EC HSW (TY3332)	250 psi (17, 2 bar) OR 175 psi (12,1 bar) (See Note 1)			
8.0	EC HSW (TY4332)				
3/4 in. NPT	Recessed EC HSW (TY4332)	- (occinate i)			

## TABLE B **MAXIMUM WORKING PRESSURE**

<sup>1.</sup> 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.

	5.6	6K Extended C	overage Horizon	tal Sidewall Sprinkler (TY	(3332)	
Response Rating	Coverage Area <sup>(1)</sup> , ft x ft (m x m)	Minimum Flow <sup>(2)</sup> , gpm (lpm)	Minimum Pressure <sup>(2)</sup> , psi (bar)	Deflector-to-Ceiling Distance <sup>(3)</sup> , Inches (mm)	Sprinkler Temperature Rating, °F	Minimum Spacing <sup>(4)</sup> ft (m)
Quick	16 x 16 (4,9 x 4,9)	26 (98)	21.6 (1,48)	4 to 12 (100 to 300)	135, 155, 175	10 (3,1)
Quick	16 x 18 (4,9 x 5,5)	29 (110)	26.8 (1,85)	4 to 12 (100 to 300)	135, 155, 175	10 (3,1)
Quick	16 x 20 (4.9 x 6,1)	32 (121)	32.7 (2,25)	4 to 6 (100 to 150)	135	10 (3,1)
Quick	16 x 22 (4,9 x 6,7)	35 (133)	39.1 (2,70)	4 to 6 (100 to 150)	135	10 (3,1)
Standard	16 x 20 (4,9 x 6,1)	32 (121)	32.7 (2,25)	4 to 6 (100 to 150)	155	10 (3,1)
Standard	16 x 22 (4,9 x 6,7)	35 (133)	39.1 (2,70)	4 to 6 (100 to 150)	155, 175	10 (3,1)
	8.0	OK Extended C	overage Horizon	tal Sidewall Sprinkler (TY	<b>4332</b> )	
Response Rating	Coverage Area <sup>(1)</sup> , ft x ft (m x m)	Minimum Flow <sup>(2)</sup> ,	Minimum Pressure <sup>(2)</sup> ,	Deflector-to-Ceiling Distance <sup>(3)</sup> ,	Sprinkler Temperature Bating °F	Minimum Spacing <sup>(4)</sup> , ft (m)

Response Rating	Coverage Area <sup>(1)</sup> , ft x ft (m x m)	Minimum Flow <sup>(2)</sup> , gpm (lpm)	Minimum Pressure <sup>(2)</sup> , psi (bar)	Deflector-to-Ceiling Distance <sup>(3)</sup> , Inches (mm)	Sprinkler Temperature Rating, °F	Minimum Spacing <sup>(4)</sup> , ft (m)
Quick	16 x 16 (4,9 x 4,9)	26 (98)	10.6 (0,73)	4 to 12 (100 to 300)	135, 155, 175	10 (3,1)/13 (4,0) <sup>(5)</sup>
Quick	16 x 18 (4,9 x 5,5)	29 (110)	13.1 (0,90)	4 to 12 (100 to 300)	135, 155, 175	10 (3,1)/13 (4,0) <sup>(5)</sup>
Quick	16 x 20 (4.9 x 6,1)	32 (121)	16.0 (1,10)	4 to 6 (100 to 150)	135	10 (3,1)/13 (4,0) <sup>(5)</sup>
Quick	16 x 20 (4.9 x 6,1)	33 (125)	17.0 (1,17)	4 to 12 (100 to 300)	135	10 (3,1)/13 (4,0) <sup>(5)</sup>
Quick	16 x 22 (4,9 x 6,7)	35 (133)	19.1 (1,32)	4 to 6 (100 to 150)	135	10 (3,1)/13 (4,0) <sup>(5)</sup>
Quick	16 x 22 (4,9 x 6,7)	36 (136)	20.3 (1,59)	4 to 12 (100 to 300)	135	10 (3,1)/13 (4,0) <sup>(5)</sup>
Quick	16 x 24 (4,9 x 7,3)	39 (148)	23.8 (1,64)	4 to 6 (100 to 150)	135	10 (3,1)/13 (4,0) <sup>(5)</sup>
Quick	16 x 24 (4,9 x 7,3)	40 (151)	25.0 (1,72)	4 to 12 (100 to 300)	135	10 (3,1)/13 (4,0) <sup>(5)</sup>
Standard	16 x 20 (4.9 x 6,1)	32 (121)	16.0 (1,10)	4 to 6 (100 to 150)	155	10 (3,1)/13 (4,0) <sup>(5)</sup>
Standard	16 x 20 (4.9 x 6,1)	33 (125)	17.0 (1,17)	4 to 12 (100 to 300)	155	10 (3,1)/13 (4,0) <sup>(5)</sup>
Standard	16 x 22 (4,9 x 6,7)	35 (133)	19.1 (1,32)	4 to 6 (100 to 150)	155, 175	10 (3,1)/13 (4,0) <sup>(5)</sup>
Standard	16 x 22 (4,9 x 6,7)	36 (136)	20.3 (1,59)	4 to 12 (100 to 300)	155, 175	10 (3,1)/13 (4,0) <sup>(5)</sup>
Standard	16 x 24 (4,9 x 7,3)	39 (148)	23.8 (1,64)	4 to 6 (100 to 150)	155, 175	10 (3,1)/13 (4,0) <sup>(5)</sup>
Standard	16 x 24 (4,9 x 7,3)	40 (151)	25.0 (1,72)	4 to 12 (100 to 300)	155, 175	10 (3,1)/13 (4,0) <sup>(5)</sup>

## TABLE C UL AND C-UL LISTING COVERAGE AND FLOW RATE CRITERIA

<sup>1.</sup> Backwall (where sprinkler is located) by sidewall (length of throw)
2. Requirement is based on minimum flow in gpm from each sprinkler. The indicted residual pressures are based on the nominal K-factor.
3. The centerline of the sprinkler waterway is located 7/16 in. (11,1 mm) below the deflector (Ref. Figures 1 and 2).
4. Minimum spacing is for lateral distance between sprinklers located along a single wall, otherwise adjacent sprinklers (i.e., sidewall sprinklers on an adjacent wall, on an opposite wall, or pendent sprinklers) must be located outside of the maximum listed protection area of the extended coverage sidewall sprinkler being utilized.
5. Minimum spacing is 13 ft (4,0 m) when design pressure exceeds 175 psi (12,1 bar), otherwise the minimum spacing is 10 ft (3 m).

	5.6K Extended Coverage Horizontal Sidewall Sprinkler (TY3332)					
Response Rating	Coverage Area <sup>(1)</sup> , ft x ft (m x m)	Minimum Flow <sup>(2)</sup> , gpm (lpm)	Minimum Pressure <sup>(2)</sup> , psi (bar)	Deflector-to-Ceiling Distance <sup>(3)</sup> , Inches (mm)	Sprinkler Temperature Rating, °F	Minimum Spacing <sup>(4)</sup> , ft (m)
Quick	16 x 16 (4,9 x 4,9)	26 (98)	22 (1,51)	4 to 12 (100 to 300)	135, 155	10 (3,1)
Quick	16 x 18 (4,9 x 5,5)	30 (114)	29 (2,00)	4 to 12 (100 to 300)	135, 155	10 (3,1)
Quick	16 x 20 (4.9 x 6,1)	33 (125)	35 (2,41)	4 to 12 (100 to 300)	135, 155	10 (3,1)
Standard	16 x 16 (4,9 x 4,9)	26 (98)	22 (1,51)	4 to 12 (100 to 300)	175	10 (3,1)
Standard	16 x 20 (4,9 x 6,1)	30 (114)	29 (2,00)	4 to 12 (100 to 300)	175	10 (3,1)
Standard	16 x 22 (4,9 x 6,7)	33 (125)	35 (2,41)	4 to 12 (100 to 300))	175	10 (3,1)
	0 (	OK Extended C	overege Herizon	tal Sidawall Sprinklar (TV	(4220)	

## 8.0K Extended Coverage Horizontal Sidewall Sprinkler (TY4332)

	o.ok Extended Goverage Horizontal Oldewall Ophilikier (114002)					
Response Rating	Coverage Area <sup>(1)</sup> , ft x ft (m x m)	Minimum Flow <sup>(2)</sup> , gpm (lpm)	Minimum Pressure <sup>(2)</sup> , psi (bar)	Deflector-to-Ceiling Distance <sup>(3)</sup> , Inches (mm)	Sprinkler Temperature Rating, °F	Minimum Spacing <sup>(4)</sup> , ft (m)
Quick	16 x 16 (4,9 x 4,9)	32 (121)	16 (1,10)	4 to 12 (100 to 300)	135, 155	10 (3,1)
Quick	16 x 18 (4,9 x 5,5)	36 (136)	20 (1,38)	4 to 12 (100 to 300)	135, 155	10 (3,1)
Quick	16 x 20 (4.9 x 6,1)	40 (151)	25 (1,72)	4 to 12 (100 to 300)	135, 155	10 (3,1)
Quick	16 x 22 (4,9 x 6,7)	44 (167)	30 (2,06)	4 to 12 (100 to 300)	135, 155	10 (3,1)
Quick	16 x 24 (4,9 x 6,7)	48 (182)	36 (2,48)	4 to 12 (100 to 300)	135, 155	10 (3,1)
Standard	16 x 16 (4,9 x 4,9)	32 (121)	16 (1,10)	4 to 12 (100 to 300))	175	10 (3,1)
Standard	16 x 18 (4,9 x 5,5)	36 (136)	20 (1,38)	4 to 12 (100 to 300)	175	10 (3,1)
Standard	16 x 20 (4.9 x 6,1)	40 (151)	25 (1,72)	4 to 12 (100 to 300))	175	10 (3,1)
Standard	16 x 22 (4,9 x 6,7)	44 (167)	30 (2,06)	4 to 12 (100 to 300)	175	10 (3,1)
Standard	16 x 24 (4,9 x 6,7)	48 (182)	36 (2,48)	4 to 12 (100 to 300)	175	10 (3,1)

- Notes:

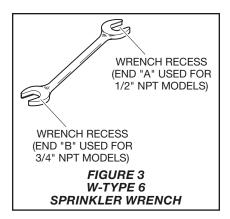
  1. Backwall (where sprinkler is located) by sidewall (length of throw)

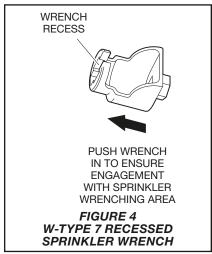
  2. Requirement is based on maintaining both minimum flow and minimum residual pressure.

  3. The centerline of the sprinkler waterway is located 7/16 in. (11,1 mm) below the deflector (Ref. Figures 1 and 2).

  4. Minimum spacing is for lateral distance between sprinklers located along a single wall, otherwise adjacent sprinklers (i.e., sidewall sprinklers on an adjacent wall, on an opposite wall, or pendent sprinklers) must be located outside of the maximum listed protection area of the extended coverage sidewall sprinkler being utilized.

## TABLE D FM COVERAGE AND FLOW RATE CRITERIA





## Installation

TYCO Series TY-FRB 5.6 and 8.0 K-factor Extended Coverage Horizontal Sidewall Sprinklers Quick and Standard Response (Light Hazard) must be installed in accordance with this section

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).

A leak tight 1/2 inch 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 (13,4 to 26,8 N·m). Higher levels of torque may distort the sprinkler inlet 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 EC Sidewall Sprinkler

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

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

**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 3. Apply the W-Type 6 Sprinkler Wrench is to be applied to the sprinkler wrench flats as shown in Figures 1 and 2.

## Series TY-FRB Recessed EC Sidewall Sprinkler

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

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

**Step 2.** 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 3.** Tighten the sprinkler into the sprinkler fitting using only the W-Type 7 Recessed Sprinkler Wrench as shown in Figure 4. Apply the W-Type 7 Recessed Sprinkler Wrench to the sprinkler wrench flats as shown in Figures 1 and 2.

Step 4. After the wall has been installed or the finish coat has been applied, slide on the Style 10, 20, 30, or 40. Closure over the Series TY-FRB Sprinkler and push the Closure over the Mounting Plate until its flange comes in contact with the wall.

## Care and Maintenance

TYCO Series TY-FRB 5.6 and 8.0 K-factor Extended Coverage Horizontal Sidewall Sprinklers Quick and Standard Response (Light Hazard) 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, per-

mission 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.

The owner must assure that the sprinklers are not used for hanging of any objects; otherwise, non-operation in the event of a fire or inadvertent operation may result.

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

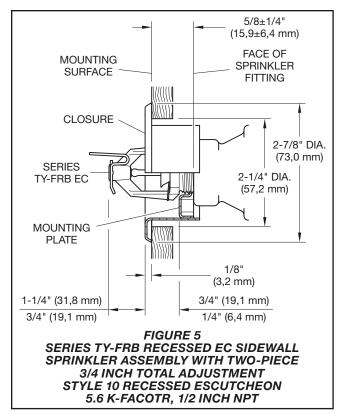
Sprinklers that are found to be leaking or exhibiting visible signs of corrosion must be replaced.

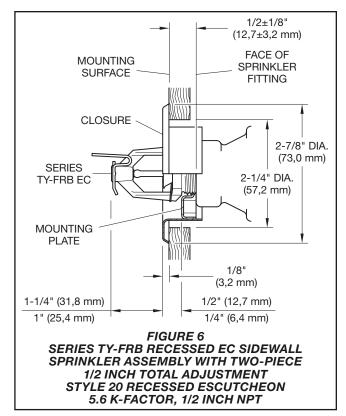
Automatic sprinklers must never be painted, plated, coated or otherwise altered after leaving the factory. Modified sprinklers must be replaced. Sprinklers that have been exposed to corrosive products of combustion, but have not operated, should be replaced if they cannot be completely cleaned by wiping the sprinkler with a cloth or by brushing it with a soft bristle brush.

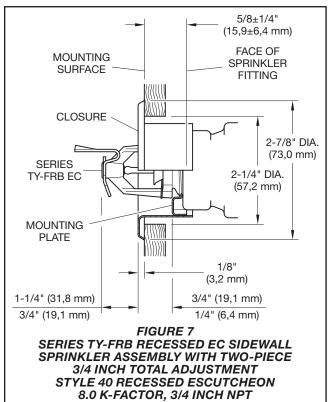
Care must be exercised to avoid damage to the sprinklers before, during, and after installation. Sprinklers damaged by dropping, striking, wrench twist/slippage, or the like, must be replaced. Also, replace any sprinkler that has a cracked bulb or that has lost liquid from its bulb. See the Installation Section.

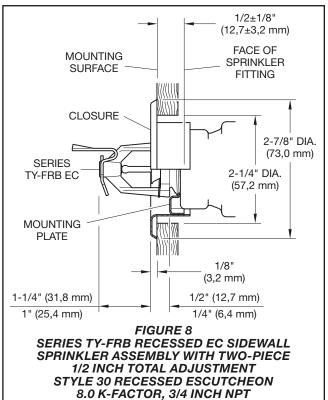
Frequent visual inspections are recommended to be initially performed for corrosion resistant coated sprinklers, after the installation has been completed, to verify the integrity of the corrosion resistant coating. Thereafter, annual inspections per NFPA 25 should suffice; however, instead of inspecting 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.

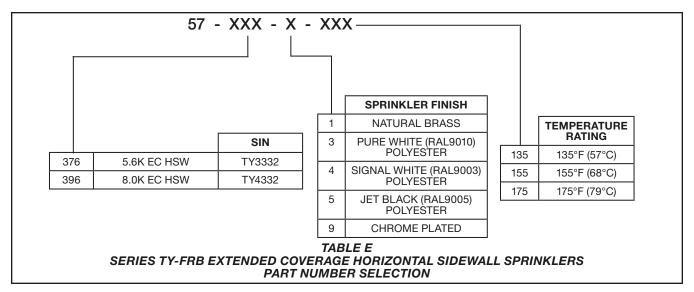
The owner is responsible for the inspection, testing, and maintenance of their fire protection system and devices in compliance with this document, as well as with the applicable standards of the National Fire Protection Association such as NFPA 25, in addition to the standards of any other authorities 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 warrany 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 Assembly with NPT Thread Connections

Specify: Series TY-FRB, (specify SIN), Extended Coverage Horizontal Sidewall Sprinkler, K=(specify), (specify) temperature rating, (specify) finish, P/N (specify from Table E)

### **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





# **TFP296 Change History Appendix**

ISSUE DATE	NOTES
09-22	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 8, 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.
08-18	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.
05-18	Removed level as required ceiling characteristic.
09-14	Tables C and D, corrected metric equivalents of 16 ft to 4,9 m, formerly 4,6 m.
03-14	Removed VdS Approved; Clarified polyester finish on sprinklers.
01-07	Changed UL and C-UL Listed and NYC Approved Maximum Working Pressure for TY4332 8.0K sprinkler to 250 psi (12,1 bar).
04-06	Changed UL and C-UL Listed and NYC Approved Maximum Working Pressure for TY3332 5.6K sprinkler to 250 psi (12,1 bar).
01-05	Added reference to Installer Warning data sheet TFP700; Added VdS Approved; Added White (RAL9010) finish for Eastern Hemisphere sales.
01-03	Added new Tyco Fire & Building Products masthead.
09-02	New Technical Data Sheet TFP296 describes Series TY-FRB, QR-EC Horizontal Sidewall Sprinklers.

