

Series TY-B – 5.6 K-factor Horizontal and Vertical Sidewall 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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General Description

The TYCO Series TY-B, 5.6 K-factor, Horizontal and Vertical Sidewall Sprinklers described in this technical data sheet are standard response, standard coverage decorative 5 mm glass bulb type spray sprinklers designed for use in light and ordinary hazard, commercial occupancies such as banks, hotels, and shopping malls.

They are designed for installation along a wall or the side of a beam and just beneath a smooth ceiling. Sidewall 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.

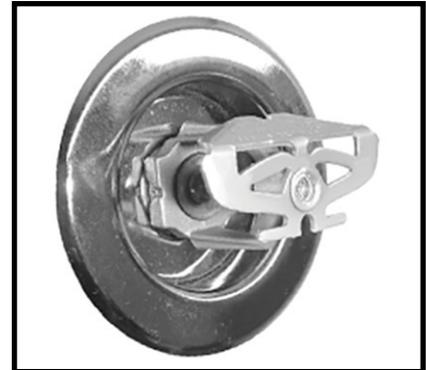
The recessed version of the Series TY-B Horizontal Sidewall Sprinkler is intended for use in areas with a finished wall. It uses a two-piece Style 10 Recessed Escutcheon. The Recessed Escutcheon provides 1/2 in. (12,7 mm) of recessed adjustment or up to 3/4 in. (19,1 mm) of total adjustment from the flush sidewall position. The adjustment provided by the Recessed Escutcheon reduces the accuracy to which the fixed pipe nipples 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.

NOTICE

The Series TY-B 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, 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

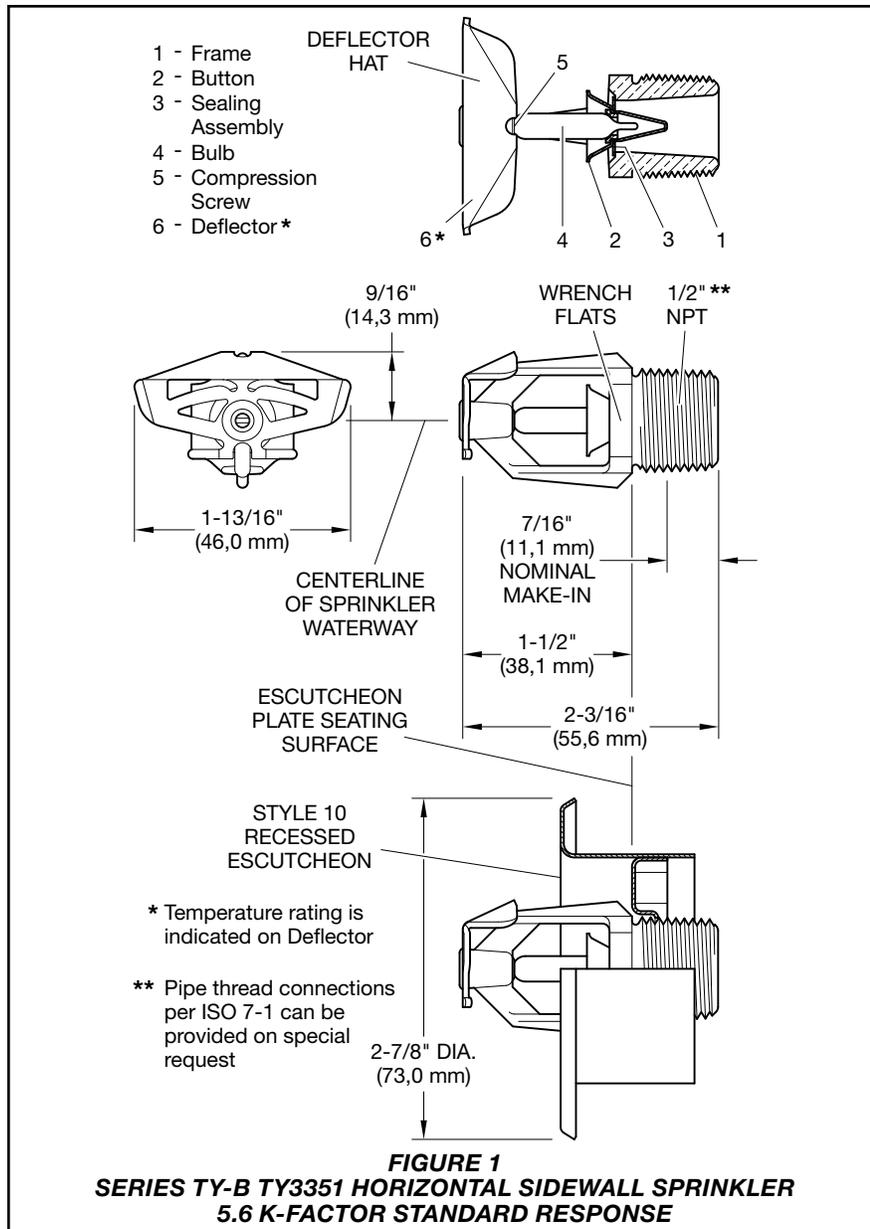
TY3351. Horizontal Sidewall
TY3451. Vertical Sidewall

Technical Data

Approvals
UL and C-UL Listed
FM Approved
LPCB Certified

Note: For complete approval information, including corrosion-resistant status, see Table A.

Maximum Working Pressure
See Table B



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

Temperature Ratings
 See Table A

Finishes
 Sprinkler: See Table C

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
HSW Deflector	.....	Bronze
VSW 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

The TYCO Series TY-B, 5.6 K-factor, Horizontal and Vertical Sidewall Sprinklers are intended for fire protection systems designed in accordance with the standard installation rules recognized by

the applicable Listing or Approval agency (for example, UL Listing is based on the requirements of NFPA 13, and FM Approval is based on the requirements of the FM Loss Prevention Data Sheets). Only the Style 10 Recessed Escutcheon, as applicable, is to be used for recessed horizontal installations.

Installation

The TYCO Series TY-B, 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 360°F (182°C) temperature ratings.

A leak-tight 1/2 in. NPT sprinkler joint should be obtained by applying a minimum-to-maximum torque of 7 lb-ft to 14 lb-ft (9,5 N·m to 19,0 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.

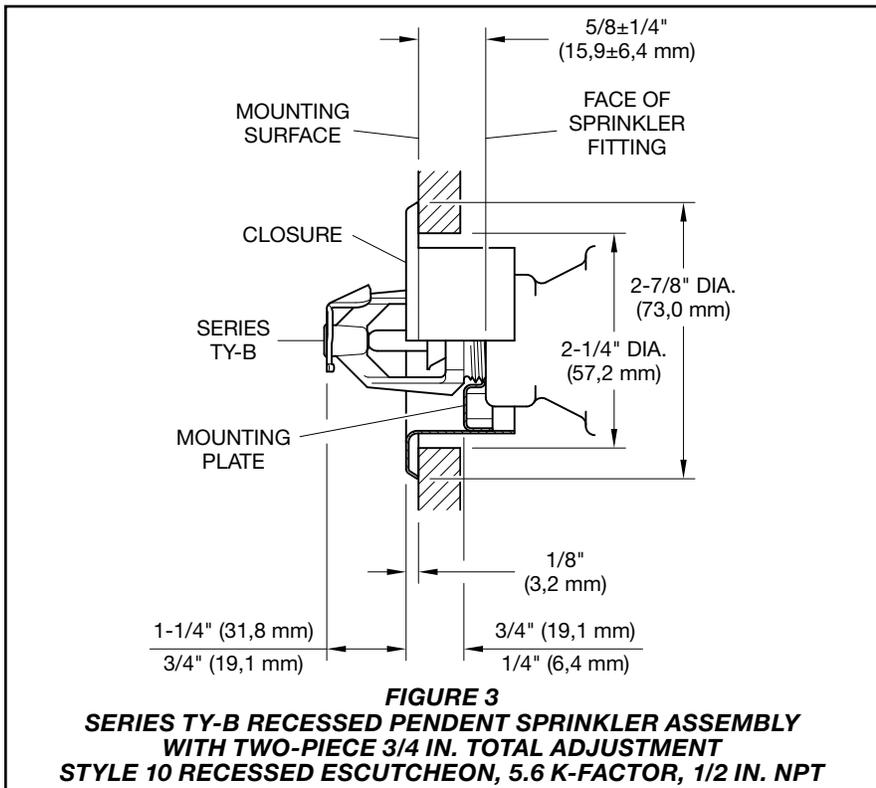
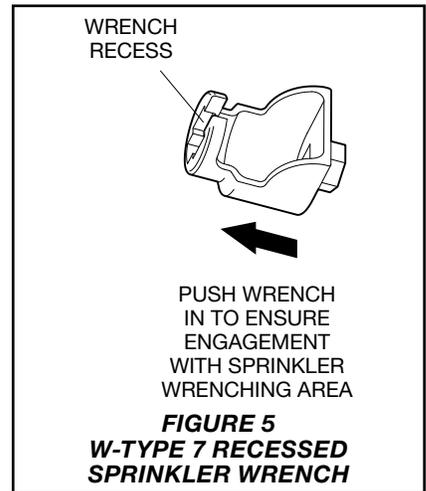
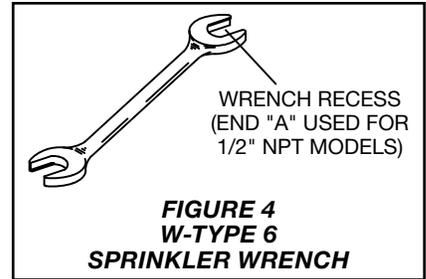
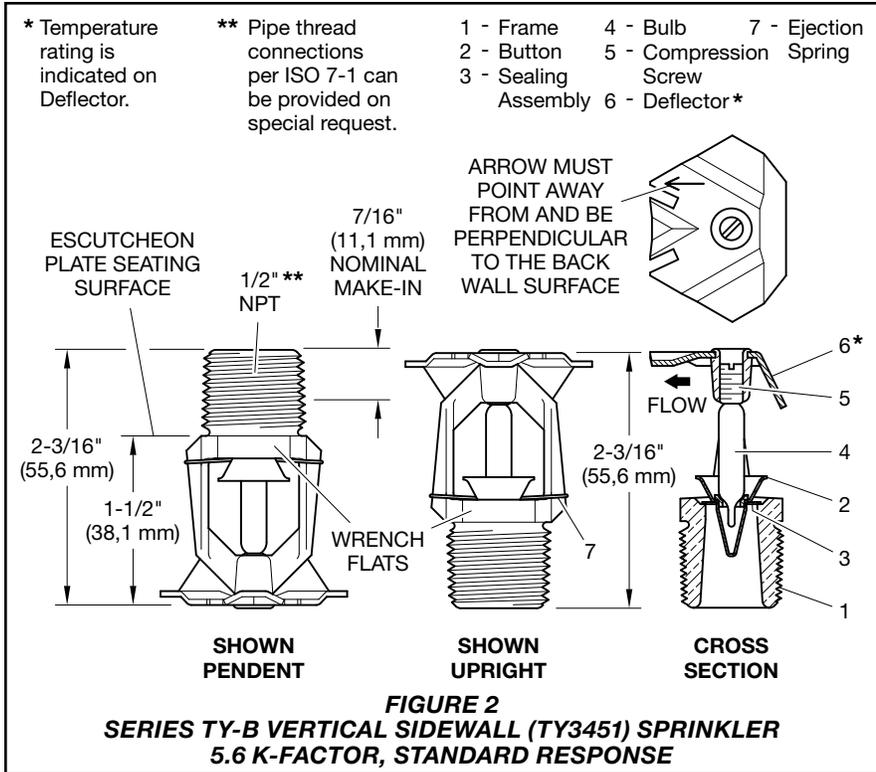
Horizontal Sidewall Sprinkler Installation

The TYCO Series TY-B Recessed Horizontal Sidewall Sprinklers must be installed in accordance with the following instructions. Install recessed horizontal sidewall sprinklers in the horizontal position with the 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 1. After installing the Style 10 Mounting Plate over the sprinkler 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 shown in Figure 5. Apply the W-Type 7 Recessed Sprinkler Wrench to the sprinkler wrench flats as shown in Figure 1.

Step 3. After the ceiling is installed or the finish coat is applied, slide on the Style 10 Closure over the Series TY-B Sprinkler and push the Closure over the Mounting Plate until its flange comes in contact with the ceiling.



Vertical Sidewall Sprinkler Installation

The Series TY-B Vertical Sidewall Sprinklers must be installed in accordance with the following instructions. Install vertical sidewall sprinklers in the pendent or upright position with the arrow on the Deflector pointing away from the wall.

Step 1. 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 6 Sprinkler Wrench shown in Figure 4. Apply the wrench to the wrench flats shown in Figure 2.

K-Factor	Sprinkler Type	Temperature Rating	Bulb Liquid Color	Sprinkler Finish ⁹		
				Natural Brass	Chrome Plated	Polyester ^b
5.6 1/2 in. NPT	Horizontal Sidewall (TY3351) Figure 1	135°F (57°C)	Orange	1, 2, 3, 4		1, 2, 3
		155°F (68°C)	Red			
		175°F (79°C)	Yellow			
		200°F (93°C)	Green			
		286°F (141°C)	Blue			
		360°F (182°C)	Mauve	1, 2, 4		1, 2
	Recessed Horizontal Sidewall (TY3351)^a Figure 3	135°F (57°C)	Orange	1, 2, 3		
		155°F (68°C)	Red			
		175°F (79°C)	Yellow			
		200°F (93°C)	Green			
5.6 1/2 in. NPT	Vertical Sidewall (TY3451) Pendent or Upright Figure 2	135°F (57°C)	Orange	5, 6, 7		
		155°F (68°C)	Red			
		175°F (79°C)	Yellow			
		200°F (93°C)	Green			
		286°F (141°C)	Blue			
		360°F (182°C)	Mauve				5, 6

NOTES:

- UL Listed for use in Light and Ordinary Hazard Occupancies at a 4 to 12 in. (100 to 300 mm) top of deflector-to-ceiling distance
- C-UL Listed for use in Light and Ordinary Hazard Occupancies at a 4 to 12 in. (100 to 300 mm) top of deflector-to-ceiling distance
- FM Approved for use in Light Hazard Occupancies at a 4 to 12 IN. (100 to 300 mm) top of deflector-to-ceiling distance
- LPCB Approved (Ref. No. 094a & 007k) at a 4 to 6 in. (100 to 150 mm) deflector-to-ceiling distance
- UL Listed for use in Light and Ordinary Hazard Occupancies
- C-UL Listed for use in Light and Ordinary Hazard Occupancies
- FM Approved for use in Light Hazard Occupancies
- LPCB Approved (Ref. No. 094a & 007k)
- Where polyester coated sprinklers are noted to be UL and C-UL Listed, the sprinklers are UL and C-UL Listed as corrosion-resistant sprinklers.
- Installed with Style 10 (1/2 in. NPT) or Style 40 (3/4 in. NPT) 3/4 in. Total Adjustment Recessed Escutcheon, as applicable
- Frame and deflector only

TABLE A
SERIES TY-B 5.6 K-FACTOR HORIZONTAL AND VERTICAL SPRINKLERS
LABORATORY LISTINGS AND APPROVALS

K-Factor	Sprinkler Type	Sprinkler Finish		
		Natural Brass	Chrome Plated	Polyester ¹
5.6 1/2 in. NPT	Horizontal Sidewall (TY3351)		250 psi (17,2 bar) ² OR	
	Recessed Horizontal Sidewall (TY3351)				175 psi (12,1 bar)
	Vertical Sidewall (TY3451)		175 psi (12,1 bar)	

Notes:

- Frame and deflector only.
- The maximum working pressure of 250 psi (17,2 bar) only applies to UL Listing, C-UL Listing.

TABLE B
SERIES TY-B 5.6 K-FACTOR HORIZONTAL AND VERTICAL SPRINKLERS
MAXIMUM WORKING PRESSURE

P/N 57 XXXXXXX

		SIN			SPRINKLER FINISH					TEMPERATURE RATING
578	HORIZONTAL SIDEWALL	TY3351		1	NATURAL BRASS		135		135°F (57°C)	
575	VERTICAL SIDEWALL	TY3451		3	PURE WHITE (RAL9010) ³ POLYESTER		155		155°F (68°C)	
				4	SIGNAL WHITE (RAL9003) POLYESTER		175		175°F (79°C)	
				9	CHROME PLATED ⁴		200		200°F (93°C)	
							286		286°F (141°C)	
							360		360°F (182°C)	
							000		OPEN ²	

Notes:

- Eastern Hemisphere sales only.
- Available only for horizontal sidewall TY3351 for use in Deluge Systems ("OPEN" indicates sprinkler assembly without glass bulb, button, and sealing assembly).
- Not available for horizontal sidewall TY3351 in 360°F (182°C) temperature rating.
- Not available for vertical sidewall TY3451 in 175°F (79°C) temperature rating.

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

Care and Maintenance

The TYCO Series TY-B, 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, obtain permission to shut down the affected fire protection system from the proper authorities and notify all personnel who may be affected by this action.

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.

Absence of an escutcheon, which is used to cover a clearance, may delay the time to 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 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. Sprinklers that have a cracked bulb or that have lost liquid from its bulb must be replaced, 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 product manufacturer with any questions.

Automatic sprinklers are recommended to 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-B (specify SIN), (specify K-factor), (specify Horizontal or Vertical Sidewall) Sprinklers with (specify) temperature rating, (specify) finish or coating, P/N (See Table C)

Recessed Escutcheon

Specify: Style 10 Recessed Escutcheon with (specify) finish, P/N (specify*)

* Refer to Technical Data Sheet TFP770

Sprinkler Wrench

Specify: W-Type 6 Sprinkler Wrench, P/N 560006387

Specify: W-Type 7 Sprinkler Wrench, P/N 568504001

