

Series TY-B & TY-FRB — 10 mm Orifice Upright & Pendent Sprinklers w/ ISO 7/1-R3/8 Threads Standard & Quick Response

General Description

The Series TY-B (5 mm Bulb) and TY-FRB (3 mm Bulb), 10 mm orifice Upright and Pendent Sprinklers are automatic sprinklers of the frangible bulb type. They are spray sprinklers intended for use in fire sprinkler systems designed in accordance with the installation rules recognized by the applicable Approval agency. The TY-B (5 mm Bulb) is rated standard response, while the TY-FRB (3 mm Bulb) is rated quick response. Both the Upright and Pendent Sprinklers produce a hemispherical water distribution pattern below the deflector.

WARNINGS

The Series TY-B & 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, 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. The installing contractor or sprinkler manufacturer should be contacted with any questions.

IMPORTANT

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.

Model/Sprinkler Identification Numbers

TY2108 - Upright (5 mm Bulb)
TY2208 - Pendent (5 mm Bulb)
TY2109 - Upright (3 mm Bulb)
TY2209 - Pendent (3 mm Bulb)

Technical Data

Approvals

LPCB and VdS Approved.
(Refer to Table A)

Maximum Working Pressure
12,1 bar

Discharge Coefficient
K = 57 LPM/bar^{1/2}

Temperature Ratings
Refer to Table A

Finishes

Sprinkler: Refer to Table A

Physical Characteristics

Frame Bronze
Button Brass/Copper
Sealing Assembly
. Beryllium Nickel w/Teflon†
Bulb Glass
Compression Screw Bronze
Deflector Copper

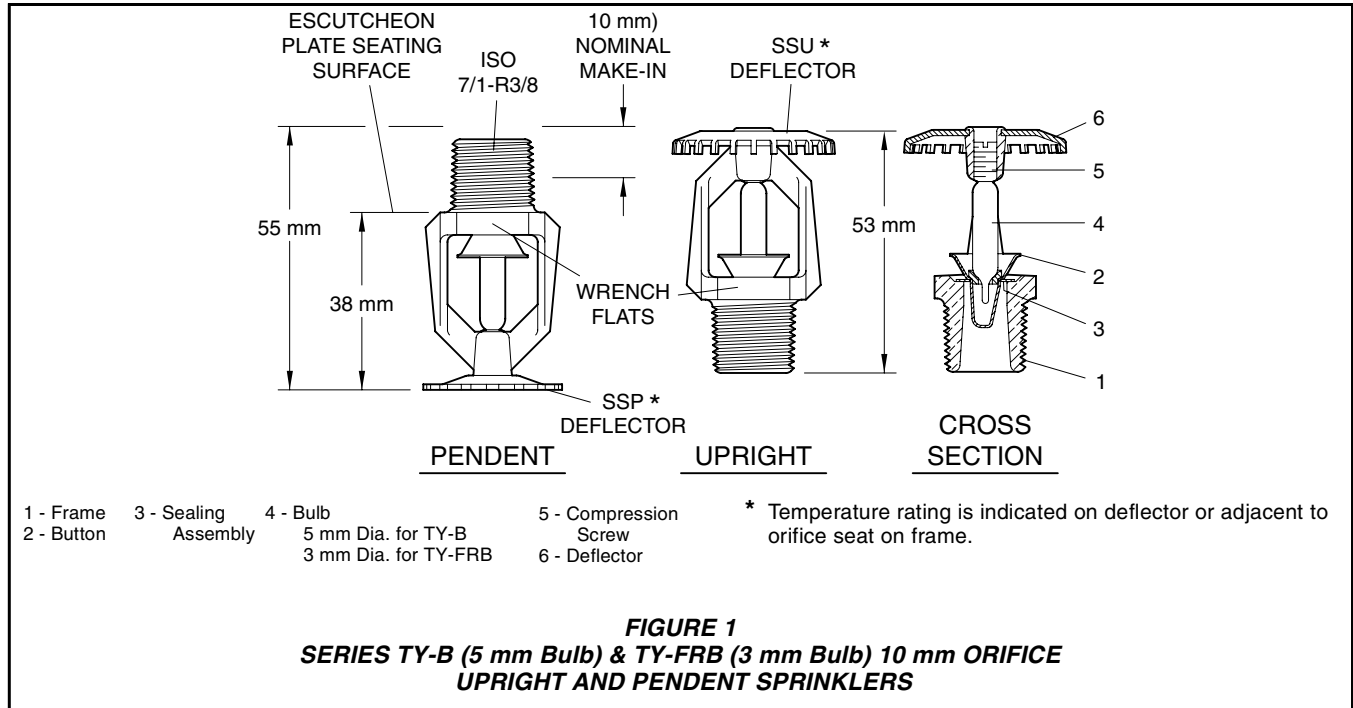
Operation

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

The Series TY-B & TY-FRB, 10 mm Orifice, Pendent and Upright Sprinklers are intended for fire protection systems designed in accordance with the standard installation rules recognized by the applicable Approval agency. The sprinklers are only for non-recessed applications.



Installation

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

NOTES

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 inch (1,6 mm) for the 135°F/57°C to 3/32 inch (2,4 mm) for the 360°F/182°C temperature ratings.

A leak tight ISO 7/1-R3/8 sprinkler joint should be obtained with a torque of 8 to 16 Nm. A maximum of 25 Nm of torque may be used to install sprinklers. Higher levels of torque may distort the sprinkler inlet and cause leakage or impairment of the sprinkler.

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

Care and Maintenance

The Series TY-B & TY-FRB Sprinklers must be maintained and serviced in accordance with the following instructions:

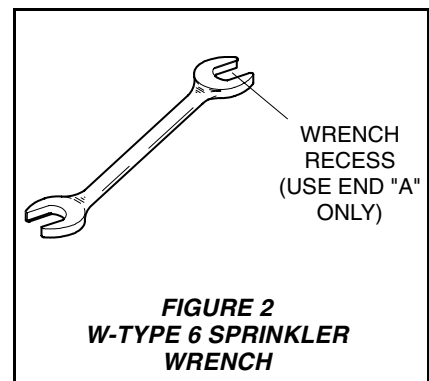
NOTES

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.

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. (Ref. 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 (e.g., NFPA 25), in addition to the standards of any other authorities having jurisdiction. The installing contractor or sprinkler manufacturer should be contacted relative to 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 code.

TYPE	TEMP.	BULB LIQUID	SPRINKLER FINISH		
			NATURAL BRASS	CHROME PLATED	WHITE*** POLYESTER
5 mm Bulb UPRIGHT (TY2108) or 5 mm Bulb PENDENT (TY2208)	135°F/57°C	Orange	1, 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			
3 mm Bulb UPRIGHT (TY2109) or 3 mm Bulb PENDENT (TY2209)	135°F/57°C	Orange	2, 3		
	155°F/68°C	Red			
	175°F/79°C	Yellow			
	200°F/93°C	Green			
	286°F/141°C	Blue			

NOTES:

1. Approved by the Loss Prevention Certification Board (LPCB Ref. No. 094a/05 & 007k/03).
 2. Approved by the Loss Prevention Certification Board (LPCB Ref. No. 007k/04) as Quick Response.
 3. VdS Approved (For details contact Tyco Fire & Building Products, Enschede, Netherlands, Tel. 31-53-428-4444/Fax 31-53-428-3377).
- *** Frame and deflector only. Listings and approvals apply to color (Special Order).
 N/A: Not Available

**TABLE A
 LABORATORY LISTINGS AND APPROVALS**

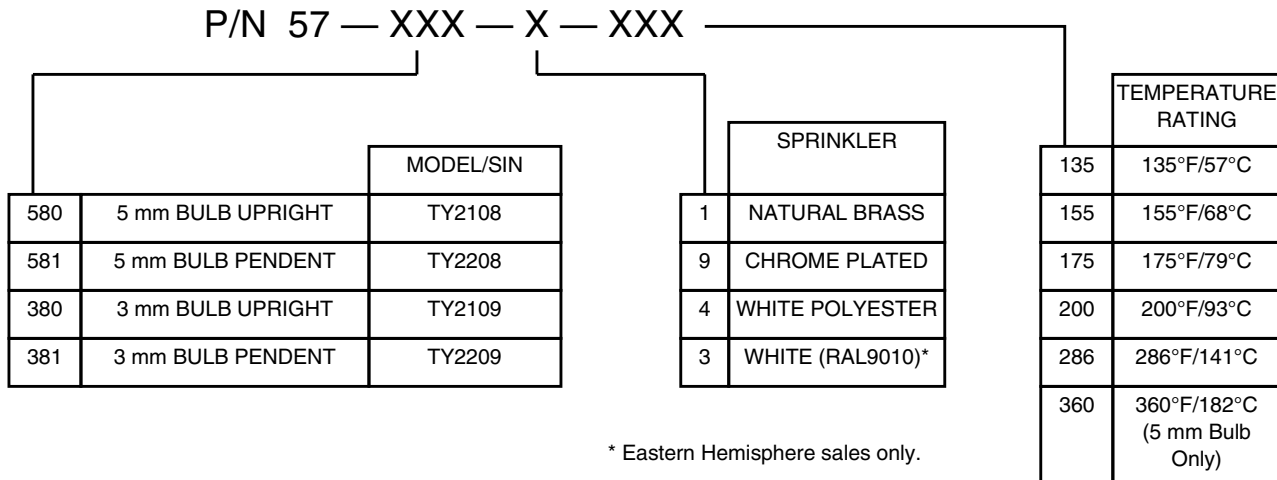
Limited Warranty

Products manufactured by Tyco Fire Products are warranted solely to the original Buyer for ten (10) years against defects in material and workmanship when paid for and properly installed and maintained under normal use and service. This warranty will expire ten (10) years from date of shipment by Tyco Fire Products. No warranty is given for products or components manufactured by companies not affiliated by ownership with Tyco Fire Products or for products and components which have been subject to misuse, improper installation, corrosion, or which have not been installed, maintained, modified or repaired in accordance with applicable Standards of the National Fire Protection Association, and/or the standards of any other Authorities Having Jurisdiction. Materials found by Tyco Fire Products to be defective shall be either repaired or replaced, at Tyco Fire Products' sole option. Tyco Fire Products neither assumes, nor authorizes any person to assume for it, any other obligation in connection with the sale of products or parts of products. Tyco Fire Products

shall not be responsible for sprinkler system design errors or inaccurate or incomplete information supplied by Buyer or Buyer's representatives.

IN NO EVENT SHALL TYCO FIRE PRODUCTS BE LIABLE, IN CONTRACT, TORT, STRICT LIABILITY OR UNDER ANY OTHER LEGAL THEORY, FOR INCIDENTAL, INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LABOR CHARGES, REGARDLESS OF WHETHER TYCO FIRE PRODUCTS WAS INFORMED ABOUT THE POSSIBILITY OF SUCH DAMAGES, AND IN NO EVENT SHALL TYCO FIRE PRODUCTS' LIABILITY EXCEED AN AMOUNT EQUAL TO THE SALES PRICE.

THE FOREGOING WARRANTY IS MADE IN LIEU OF ANY AND ALL OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.



* Eastern Hemisphere sales only.

TABLE B
PART NUMBER SELECTION
SERIES TY-B (5 mm Bulb) & TY-FRB (3 mm Bulb) 10 mm ORIFICE
UPRIGHT AND PENDENT SPRINKLERS

Ordering Procedure

When placing an order, indicate the full product name. Refer to the Price List for complete listing of Part Numbers.

Contact your local distributor for availability.

Sprinkler Assemblies:

Specify: (Specify Model/SIN), Series (specify TY-B or TY-FRB), (specify Standard or Quick Response), 10 mm Orifice, (specify temperature rating), (specify Pendent or Upright) Sprinkler with (specify type of finish or coating), P/N (specify from Table B)

Sprinkler Wrench:

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