

## Series TY-FRL — 8.0 K-factor Upright and 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.

Scan the QR code or enter the URL in a web browser to access the most up-to-date electronic version of this document. Data rates may apply.



[docs.jci.com/tycofire/TFP130](http://docs.jci.com/tycofire/TFP130)

### General Description

The TYCO Series TY-FRL, 8.0 K-factor, Upright and Pendent Sprinklers described in this data sheet are quick response, standard coverage, solder type spray sprinklers designed for use in light and ordinary hazard commercial occupancies such as banks, hotels, shopping malls, schools, and hospitals.

An intermediate level version of the 8.0 K-factor, Series TY-FRL Pendent Sprinkler can be obtained by utilizing the Series TY-FRL Pendent Sprinkler in combination with the Model S4 Shield.

### NOTICE

The Series TY-FRL 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

TY4121 . . . Upright 8.0K, 3/4 in. NPT  
TY4221 . . . Pendent 8.0K, 3/4 in. NPT

#### Note:

- TY4121 is a redesignation for S1866 and G8174.
- TY4221 is a redesignation for S1867 and G8172.

### Technical Data

#### Approvals

UL and C-UL Listed  
FM Approved  
LPCB Approved

**Note:** For complete approval information, see Table A.

#### Maximum Working Pressure

175 psi (12,1 bar)

#### Discharge Coefficient

$K = 8.0 \text{ gpm/psi}^{1/2} (115,2 \text{ Lpm/bar}^{1/2})$

#### Temperature Ratings

See Table A

#### Finishes

Sprinkler: See Table A

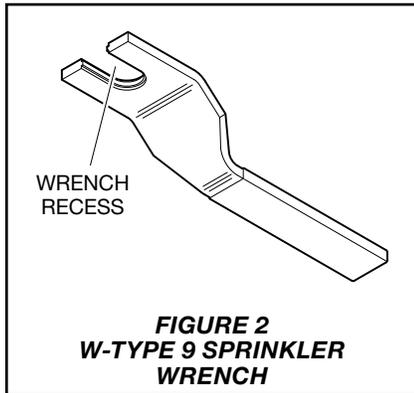
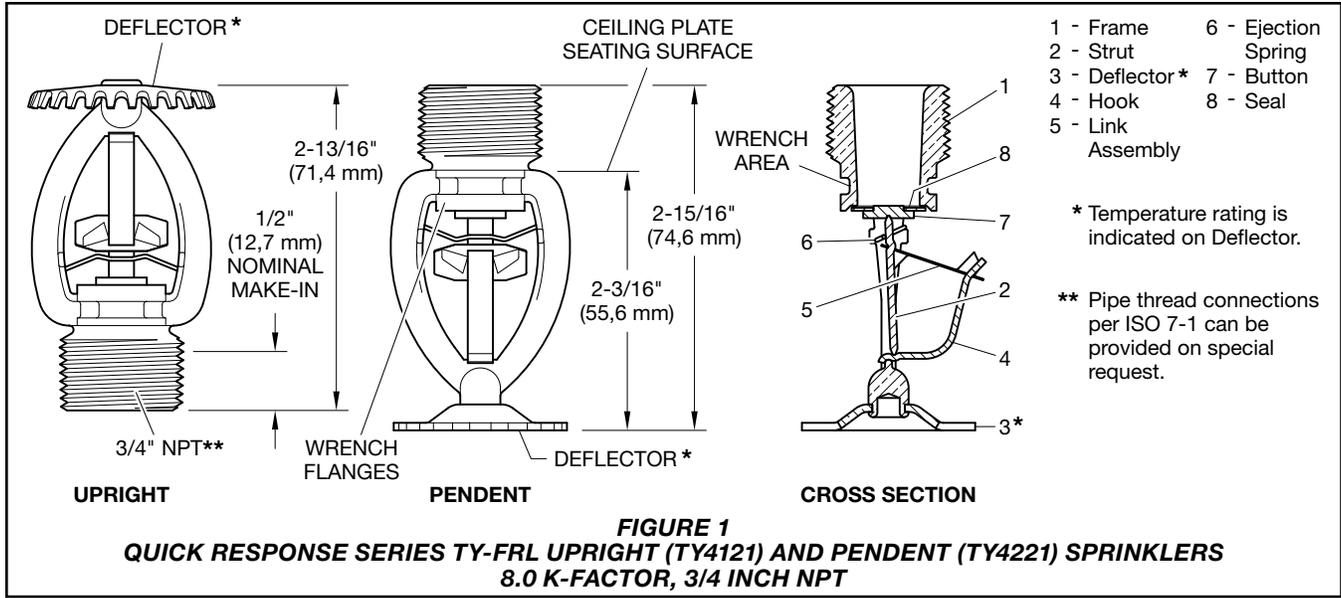


#### Physical Characteristics

Frame . . . . .	Bronze
Strut . . . . .	Monel
Deflector . . . . .	Bronze
Hook . . . . .	Monel
Link Assembly . . . . .	Nickel
Ejection Spring . . . . .	Inconel
Button . . . . .	Bronze
Seal . . . . .	TEFLON

### Operation

The fusible link (heat collector) assembly is comprised of two halves that are joined together by a thin layer of solder. When the rated temperature is reached, the solder melts and the two link halves separate, allowing the sprinkler to operate.



K	Type	Temperature Rating	Frame Color Code	Sprinkler Finish	
				Natural Brass	Chrome Plated
8.0 3/4 in. NPT	<b>Pendent (TY4221)</b>	165°F (74°C)	Unpainted	1, 2, 3	
		212°F (100°C)	White		
	<b>Upright (TY4121)</b>	165°F (74°C)	Unpainted		
		212°F (100°C)	White		

**NOTES:**  
 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.

**TABLE A**  
**LABORATORY LISTINGS AND APPROVALS**

## Design Criteria

The TYCO Series TY-FRL Pendent and Upright 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, the UL Listing is based on the requirements of NFPA 13, and FM Approval is based on the requirements of FM's Loss Prevention Data Sheets.

## Installation

The TYCO Series TY-FRL Sprinklers must be installed in accordance with this section.

A leak tight 3/4 in. NPT sprinkler joint should be obtained with a torque of 10 lb-ft to 20 lb-ft (13,4 N-m to 26,8 N-m). Higher levels of torque may distort the sprinkler inlet and cause leakage or impairment of the sprinkler.

### Series TY-FRL Pendent and Upright Sprinkler Installation

The Series TY-FRL Pendent and Upright Sprinklers must be installed in accordance with this section.

**Step 1.** Pendent sprinklers are to be installed in the pendent position, and upright sprinklers are to be installed 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 9 Sprinkler Wrench as shown in Figure 2. Apply the wrench to the wrench area as shown in Figures 1.

## Care and Maintenance

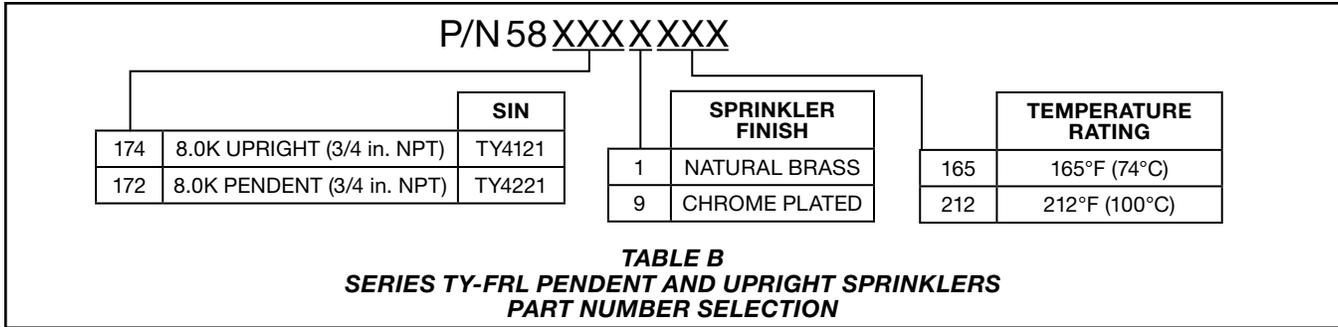
The TYCO Series TY-FRL Sprinklers must be maintained and serviced in accordance with this section.

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 or over-heated sprinklers must be replaced.



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.

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 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-FRL (specify SIN), (specify K-factor), (specify Upright or Pendent) Sprinkler Quick Response, (specify) temperature rating, (specify type of finish), P/N (specify from Table B)

### Sprinkler Wrench

Specify: W-Type 9 Sprinkler Wrench, P/N 560001849

