



Series TY-FRL – 5.6 K-factor Horizontal Sidewall Sprinkler Quick Response, Standard Coverage

General Description

TYCO Series TY-FRL 5.6K Horizontal Sidewall Sprinklers (HSW), Quick Response, Standard Coverage are solder-type spray sprinklers designed for use in light and ordinary hazard commercial occupancies such as banks, hotels, shopping malls, offices, etc. They are designed for installation along a wall or the side of a beam and just beneath a smooth ceiling. Horizontal 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.

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 (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.

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.

Sprinkler Identification Numbers (SINs)

TY3321 – HSW 5.6K, 1/2 in. NPT
TY3321 is a re-designation for Star SIN S1878 and Gem SIN G8946.

Technical Data

Approvals
UL and C-UL Listed
FM and NYC Approved
(Refer to Table A for complete approval information.)

Maximum Working Pressure
175 psi (12,1 bar)

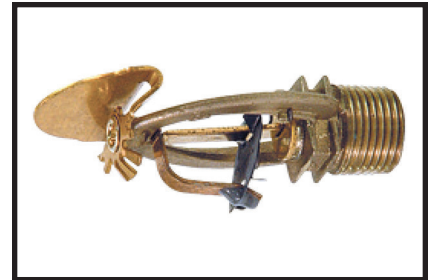
Discharge Coefficient
K=5.6 gpm/psi^{1/2} (80,6 lpm/bar^{1/2})

Temperature Ratings
Refer to Table A

Finishes
Refer to 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.

Design Criteria

TYCO Series TY-FRL 5.6K HSW Sprinklers, Quick Response, Standard Coverage are intended for fire protection systems designed in accordance with the standard installation rules recognized by the applicable listing or approval agency (e.g., UL Listing is based on NFPA 13 requirements); however, the minimum distance between sprinklers to prevent cold soldering is 8 ft (2,4 m). The Series TY-FRL HSW Sprinklers must be installed with a deflector-to-ceiling distance of 4 in. to 6 in. (100 mm to 150 mm). To meet this requirement the centerline of the sprinkler waterway must be located 4-5/16 in. to 6-5/16 in. (110 mm to 160 mm) below the ceiling. Installation of the Series TY-FRL HSW Sprinklers in recessed escutcheons will void all manufacturer's warranties, as well as possibly void the sprinkler's approvals and/or listings.

K FACTOR	SPRINKLER TYPE	TEMPERATURE RATING	FRAME COLOR CODE	SPRINKLER FINISH	
				NATURAL BRASS	CHROME PLATED
5.6 1/2 in. NPT	HORIZONTAL SIDEWALL (TY3321)	165°F (74°C)	Unpainted	1, 2, 3, 4	
		212°F (100°C)	White		

Notes:
 1. UL Listed for light or ordinary hazard occupancies as Quick Response sprinklers
 2. C-UL Listed for light or ordinary hazard occupancies as Quick Response sprinklers
 3. FM Approved for light hazard occupancies Quick Response sprinklers
 4. Approved by the City of New York under MEA 112-04-E

TABLE A
LABORATORY LISTINGS AND APPROVALS

- 1 - Frame
 - 2 - Strut
 - 3 - Deflector*
 - 4 - Hook
 - 5 - Link Assembly
 - 6 - Ejection Spring
 - 7 - Button
 - 8 - Seal
- * Temperature rating is indicated on Deflector
 ** Pipe thread connections per ISO 7-1 can be provided on special request

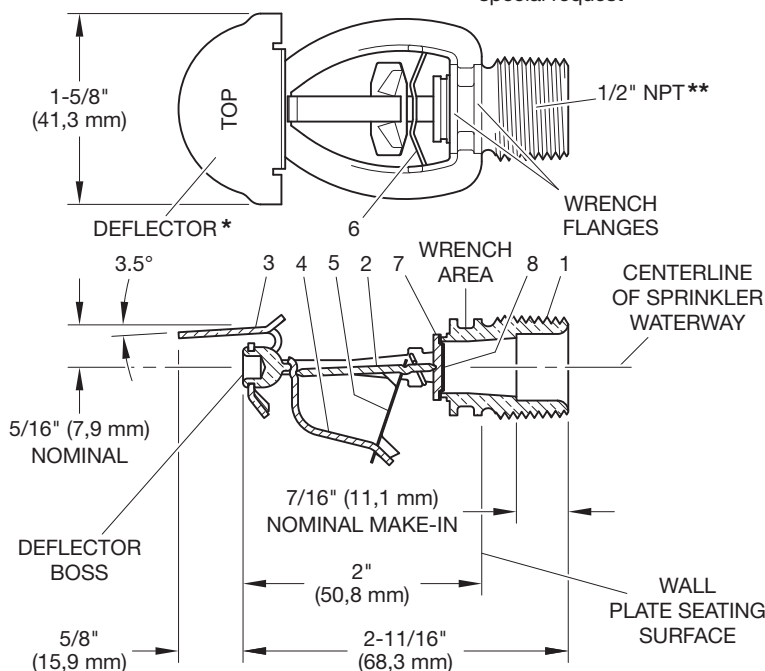


FIGURE 1
QUICK RESPONSE
SERIES TY-FRL (TY3321) HORIZONTAL SIDEWALL SPRINKLER
5.6 K-FACTOR, 1/2 INCH NPT

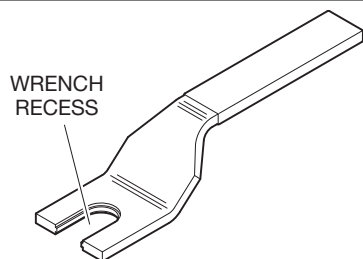


FIGURE 2
W-TYPE 9
SPRINKLER WRENCH

Installation

TYCO Series TY-FRL 5.6K HSW Sprinklers, Quick Response, Standard Coverage must be installed in accordance with this section.

General Instructions

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). A maximum of 21 lb-ft. (28,5 N·m) of torque may be used to install sprinklers with 1/2 NPT connections. 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 Sprinklers

Note: The Series TY-FRL HSW Sprinklers must be installed with their centerline of waterway parallel to the ceiling and perpendicular to the back wall surface. The word "TOP" on the deflector must face upwards toward the ceiling.

Step 1. After installing an escutcheon (as applicable) over the sprinkler pipe threads and 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 9 Sprinkler Wrench (Ref. Figure 2). With reference to Figure 1, the W-Type 9 Sprinkler Wrench is to be applied to the wrench area.

