

## Model TFP PH5 — 5.6 K-factor Institutional Horizontal 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.

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/TFP654](http://docs.jci.com/tycofire/TFP654)

### General Description

The TYCO Model TFP PH5, 5.6 K-factor, Institutional Horizontal Sidewall Sprinklers are standard-response, standard-coverage spray sprinklers designed for use in areas such as correctional, detention, and mental health care facilities.

The unique features of the Model TFP PH5 provide a tamper-resistant sprinkler design that helps eliminate the opportunity for individuals to injure themselves or others with components of a fire sprinkler. At the same time, the Model TFP PH5 optimizes an

aesthetically appealing flush design that conceals most of the operating parts.

### NOTICE

The TYCO Model TFP PH5 Institutional Horizontal Sidewall Sprinklers described herein must be installed and maintained in compliance with this document, as well as with the applicable standards recognized by the Approval agency, in addition to the standards of any authorities having jurisdiction. Failure to do so may impair the performance of these devices.

Johnson Controls specifically disclaims any liability for damages or injury (including death) arising out of or caused by manipulation, dismantling, or misuse of TFP PH5 Sprinklers or the use or attempted use of the TFP PH5 Sprinklers or any component thereof as an instrument unrelated to its intended function as a fire protection device.

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 Number (SIN)

TY3390

### Technical Data

#### Approvals

UL and C-UL Listed for light and ordinary hazard occupancies (Refer to the Design Criteria section.)  
NYC under MEA 351-01-E

#### Maximum Working Pressure

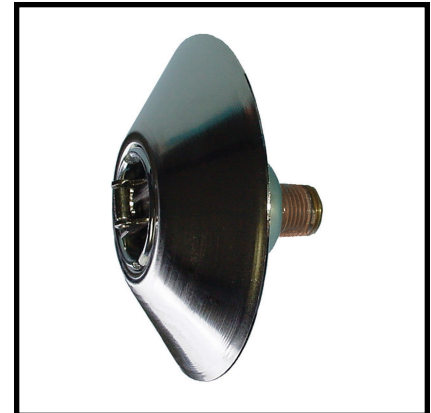
175 psi (12,1 bar)

#### Inlet Thread Connection

1/2 in. NPT

#### Discharge Coefficient

K = 5.6 GPM/psi<sup>1/2</sup> (80,6 LPM/bar<sup>1/2</sup>)



### Temperature Ratings

165°F (74°C)

### Finishes

Sprinkler: Chrome Plated  
Escutcheon: Chrome Plated

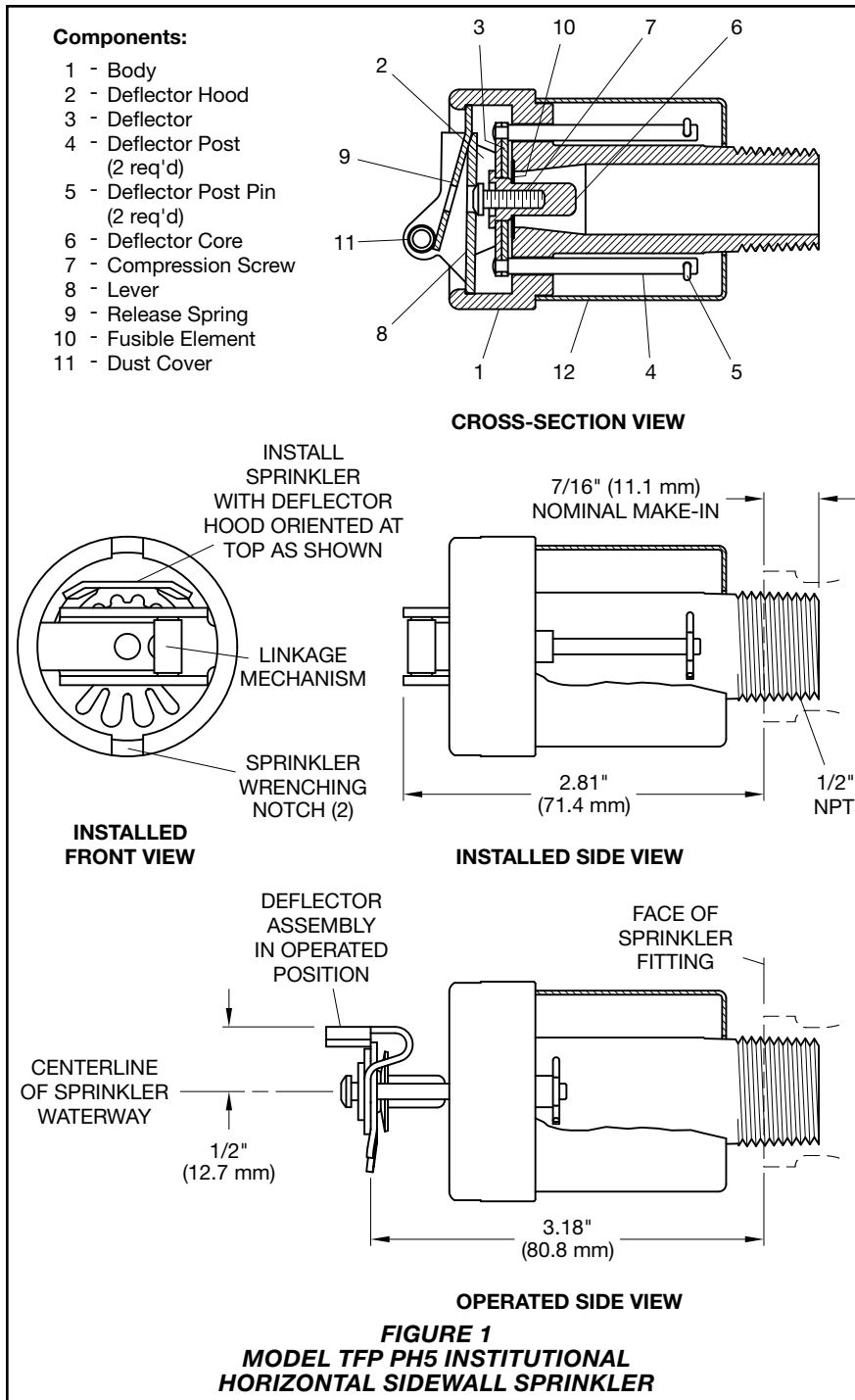
### Physical Characteristics

Body	Brass
Deflector	Bronze
Deflector Hood	Bronze
Deflector Post	Bronze
Deflector Post Pin	Bronze
Deflector Core	Bronze
Compression Screw	Bronze
Lever	Bronze
Release Spring	Bronze
Sealing Assembly	Beryllium Nickel w/TEFLON
Dust Cover	Chrome Plated Steel
Fusible Element	Solder, Copper, Stainless Steel

### Operation

In the standby condition, the design of the TYCO Model TFP PH5 is such that a dynamic load of 80 lb (36 kg) or more applied to the linkage mechanism will release the sprinkler. Also, when properly installed, the escutcheon is held fast to the wall to deter its removal. The shape of the escutcheon cannot be grasped easily, which further deters tampering.

A fusible solder operating element secures the linkage mechanism of the Model TFP PH5. When the rated temperature is reached, the solder melts, releasing the linkage mechanism that holds the sprinkler closed. This release allows the deflector to extend outward and water to flow.



## Design Criteria

The TYCO Model TFP PH5, 5.6 K-factor (SIN TY3390) Institutional Horizontal Sidewall Sprinklers are intended for use in 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 NFPA 13 requirements).

The Model TFP PH5 (SIN TY3390) must be installed with a deflector-to-ceiling distance of 4 in. to 6 in. (100 mm to 152,4 mm). To meet this requirement, the center-line of the sprinkler waterway must be located 4-1/2 in. to 6-1/2 in. (114,3 mm to 165,1 mm) below the ceiling (Ref. Figure 3).

Only the Institutional Escutcheons shown in Figure 2 can be utilized with the Model TFP PH5.

## NOTICE

The Sprinkler Body must not extend beyond the Institutional Escutcheon (Ref. Figure 4). Otherwise, the tamper-resistant design of the Model TFP PH5 will be compromised. Consequently, Model 1752 Spacers, which are associated with other TFP institutional sprinklers, cannot be utilized.

Integrity of the tamper-resistant design of the Institutional Escutcheon is dependent on the piping installation design. When installed properly, the Institutional Escutcheon is held fast to the mounting surface by the tightening of the sprinkler assembly into the sprinkler fitting. In order to accomplish a proper installation, the sprinkler fitting must be:

- properly located with respect to distance from the face of the sprinkler fitting to the face of the mounting surface (Ref. Figure 3);
- rigidly secured and held immobile; and,
- installed with the center-line of the sprinkler fitting perpendicular to the mounting surface to assure that the escutcheon sits squarely against the mounting surface around the entire perimeter of the Institutional Escutcheon.

Figure 3 illustrates a typical installation that can be utilized to help adjust the location of the sprinkler fitting; to help assure immobility of the sprinkler fitting; and, to help maintain perpendicularity of the sprinkler fitting to the mounting surface.

## Installation

The TYCO Model TFP PH5 Sprinklers must be installed in accordance with this section.

## NOTICE

Refer to the Design Criteria section for important information regarding the piping installation design and its effect on maintaining the integrity of the tamper-resistant design of the Institutional Escutcheons.

Obtain a leak-tight 1/2 in. NPT sprinkler joint by applying a minimum-to-maximum torque of 7 to 14 lb-ft (9,5 to 19,0 N·m). Higher levels of torque can distort the sprinkler inlet with consequent leakage or impairment of the sprinkler.

Do not attempt to compensate for improper location of the sprinkler fitting by under- or over-tightening the sprinkler. Re-adjust the position of the sprinkler fitting to suit.

After the installation is complete, make certain that the Institutional Escutcheon is held fast (that is, tight with no movement or gap) to the mounting surface and that the Escutcheon sits squarely against the mounting surface around the entire perimeter of the Escutcheon.

**Step 1.** Install the TFP PH5 Sprinklers horizontally with the center-line of their waterway perpendicular to the mounting surface and parallel to the ceiling. The Deflector must be located with the top towards the ceiling (Ref. Figure 1).

**Step 2.** With the Institutional Escutcheon in place and with pipe-thread sealant applied to the pipe threads, hand-tighten the sprinkler into the sprinkler fitting.

**Step 3.** Using only the Model 1509-3 Sprinkler Wrench (Ref. Figure 5), wrench-tighten the Sprinkler while applying the wrenching teeth of the Sprinkler Wrench to the sprinkler wrenching notch areas (Ref. Figure 1).

**Step 4.** After the installation is complete, make certain that the Institutional Escutcheon is held fast to the mounting surface and that it sits squarely against the mounting surface around its entire perimeter.

**NOTICE**

*The Sprinkler Body must not extend beyond the Institutional Escutcheon (Ref. Figure 4). Otherwise, the tamper-resistant design of the Model TFP PH5 will be compromised.*

**Care and Maintenance**

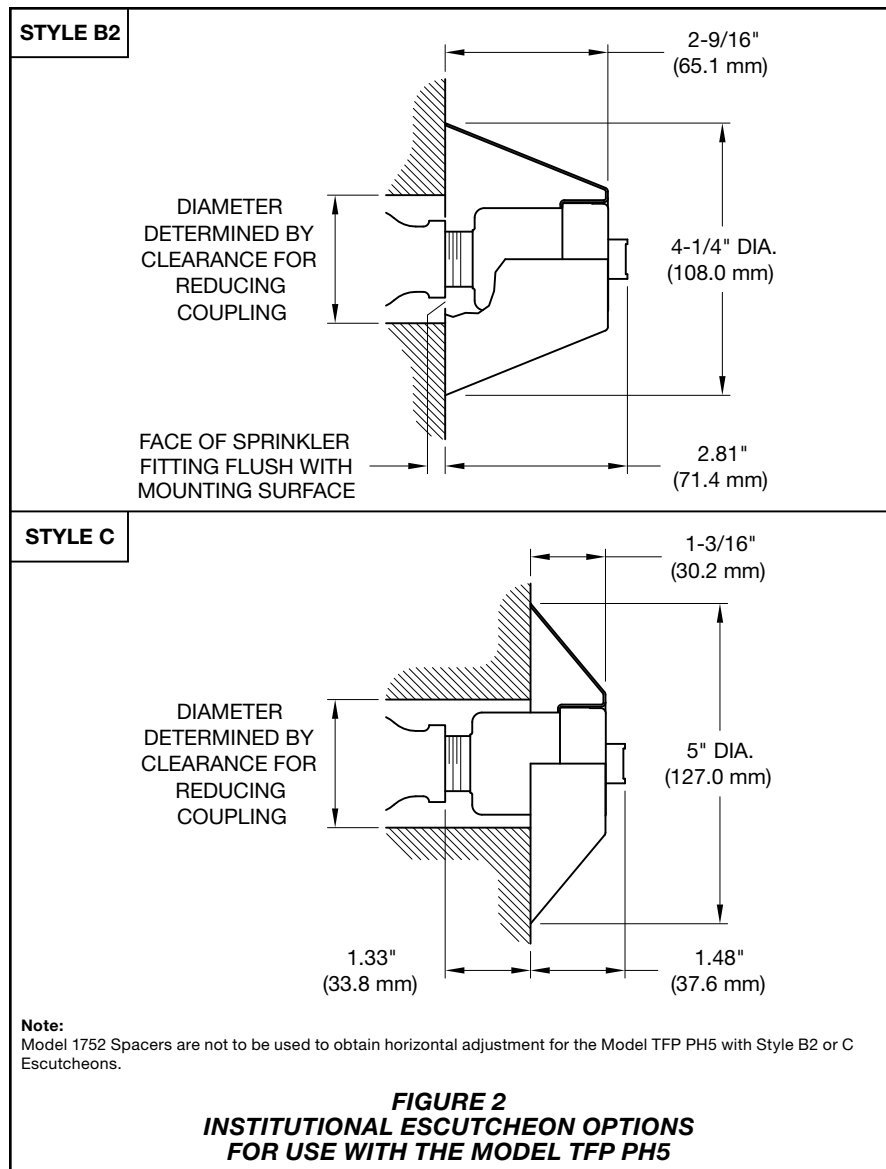
The TYCO Model TFP PH5 Sprinklers must be maintained and serviced in accordance with this section.

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 systems 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.

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.



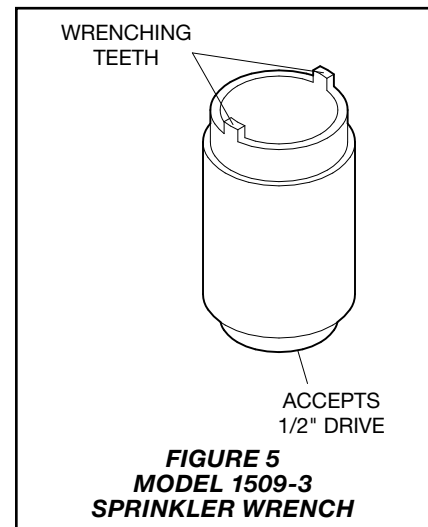
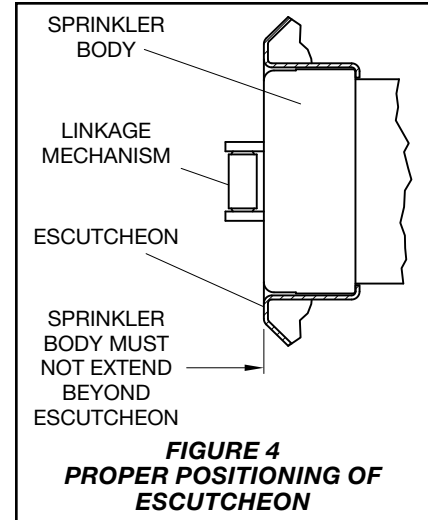
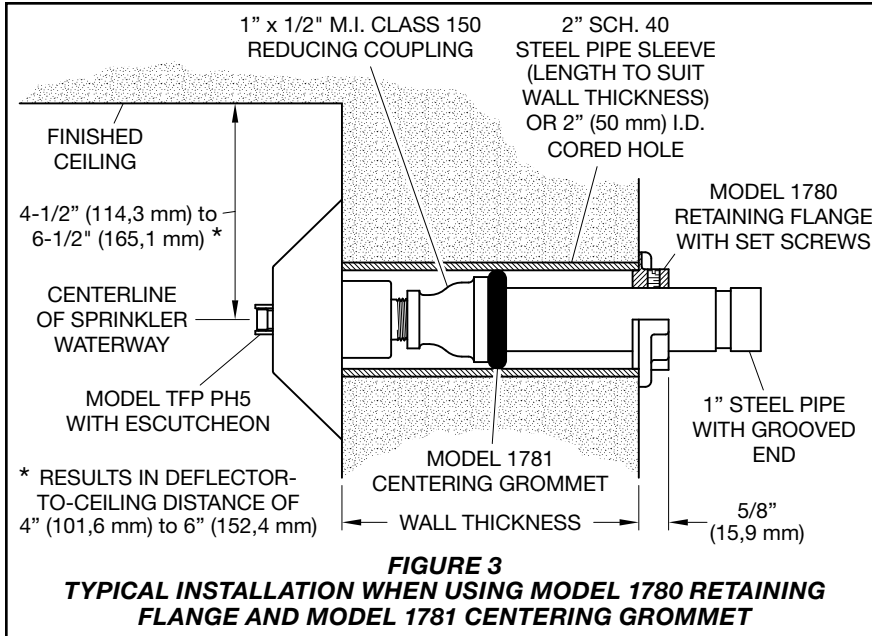
Modified sprinklers must be replaced. Sprinklers that have been exposed to corrosive products of combustion, but have not operated, should be replaced if they cannot be completely cleaned by wiping the sprinkler with a cloth or by brushing it with a soft bristle brush.

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. Also, replace any sprinkler that has a cracked bulb or that has lost liquid from its bulb. Refer to the Installation section for additional information.

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 (that is, NFPA 25), in addition

to the standards of any authorities having jurisdiction. Contact the installing contractor or product manufacturer with any questions.

Automatic sprinkler systems should 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).

## Disclaimer

Johnson Controls specifically disclaims any liability for damages or injury (including death) arising out of or caused by manipulation, dismantling, or misuse of TFP PH5 Sprinklers or the use or attempted use of TFP PH5 Sprinklers or any component thereof as an instrument unrelated to its intended function as a fire protection device.

## Ordering Procedure

Contact your local distributor for availability. When placing an order, indicate the full product name and Part Number (P/N).

### Sprinkler Assemblies

Specify: 5.6 K-factor, Chrome Plated, 165°F (74°C), Model TFP PH5 (TY3390) Institutional Horizontal Sidewall Sprinkler, P/N 51-106-9-165

### Separately Ordered Escutcheons

Specify: Style (B2 or C), Chrome Plated, Institutional Escutcheons, P/N (specify):

Style B2 ..... 56-001-7-512  
Style C ..... 56-001-7-513

### Separately Ordered Wrenches

Specify: Model 1509-3 Sprinkler Wrench, P/N 56-001-5-093

### Separately Ordered Parts For Installation In Concrete Walls

Specify: Model 1781 Centering Grommet for installation in concrete, P/N 56-000-1-781

Specify: Model 1780 Retaining Flange with Set Screws for installation in concrete, P/N 56-000-1-780



Worldwide  
Contacts | [www.tyco-fire.com](http://www.tyco-fire.com)

## **TFP654 Change History Appendix**

ISSUE DATE	NOTES
08-22	Page 1, added QR code and URL to allow convenient access to electronic version from printed document; Page 4, 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.
02-17	Updated limited warranty information.
09-10	Clarified deflector-to-ceiling distance allowed for UL Listed Temperature Rating.
07-09	Removed 140°F (60°C) Temperature Rating.
04-04	Added reference to Installer Warning data sheet TFP700; Clarified Operation section.
01-03	Added new Tyco Fire & Building Products masthead; Changed Temperature Rating to 140°F (60°C), formerly 135°F (57°C).
02-02	New Technical Data Sheet TFP654 describes Model TFP PH5 Institutional Sprinkler.