

## Model TFP PH5 – 5.6 K-factor Institutional Horizontal Sidewall Sprinklers Standard Response, Standard Coverage

### 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 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.

Tyco Fire Suppression & Building Products specifically disclaims any liability for damages or injury (including death) arising out of or caused by manipulation, dismantling, or misuse

#### 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.

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. The installing contractor or manufacturer should be contacted with any questions.

### Model/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 inch 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\*  
Fusible Element . . . . . Solder, Copper,  
and Stainless Steel  
Dust Cover . . . . . Chrome Plated Steel

### Operation

In the standby condition, the design of the Tyco® Model TFP PH5 is such that a dynamic load of 80 lbs. (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.

\*Registered Trademark of DuPont

## 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 to 6 inches (100 to 152,4 mm). To meet this requirement, the center-line of the sprinkler waterway must be located 4-1/2 to 6-1/2 inches (114,3 to 165,1 mm) below the ceiling (refer to Figure 3).

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

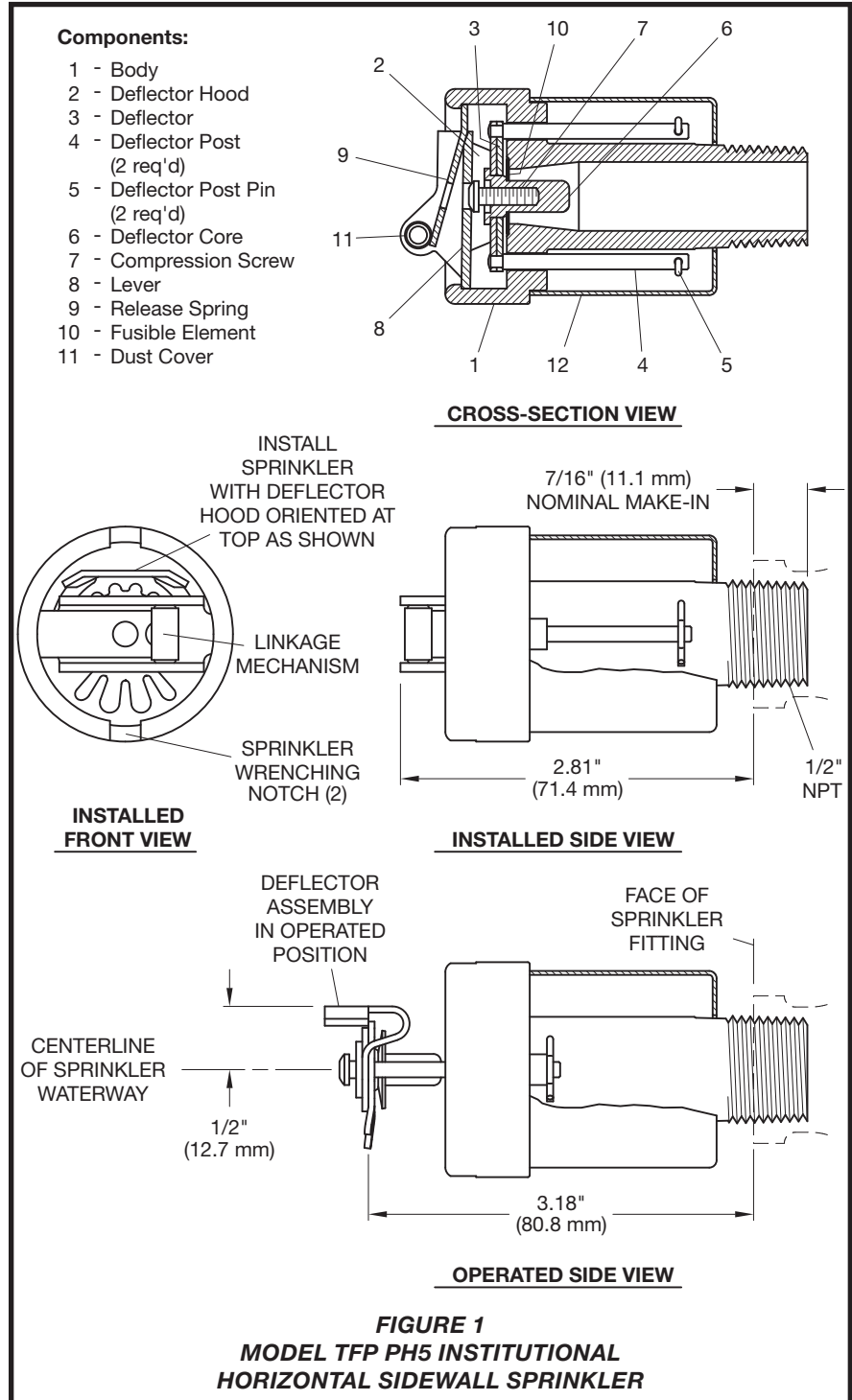
### NOTICE

*The Sprinkler Body must not extend beyond the Institutional Escutcheon (refer to 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 (refer to 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 the following instructions.

### 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 inch NPT sprinkler joint by applying a minimum-to-maximum torque of 7 to 14 ft.lbs. (9,5 to 19,0 Nm). 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 (refer to 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 (Figure 5), wrench-tighten the Sprinkler while applying the wrenching teeth of the Sprinkler Wrench to the sprinkler wrenching notch areas (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 (refer to Figure 4). Otherwise, the tamper-resistant design of the Model TFP PH5 will be compromised.

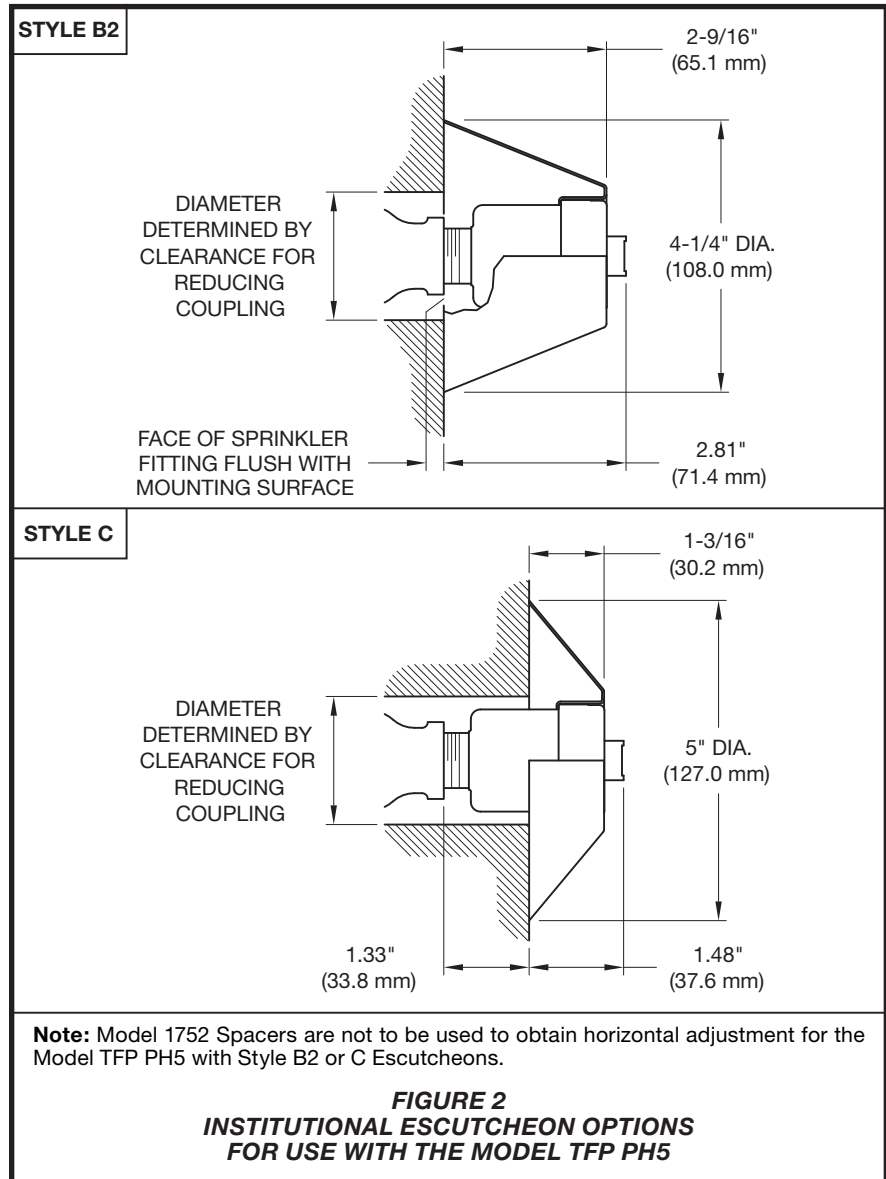
## Care and Maintenance

The Tyco® Model TFP PH5 Sprinklers must be maintained and serviced in accordance with the following instructions.

**NOTICE**

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.

Service inspections should be made on a regular basis to detect possible damage or alterations to the sprinkler



and escutcheon. Inspections should include making certain that the Institutional Escutcheon is held fast to the mounting surface. Damaged or altered sprinklers are to be replaced immediately to avoid personal injury and to prevent use for causing personal injury, as well as to maintain the sprinkler system in an operative condition.

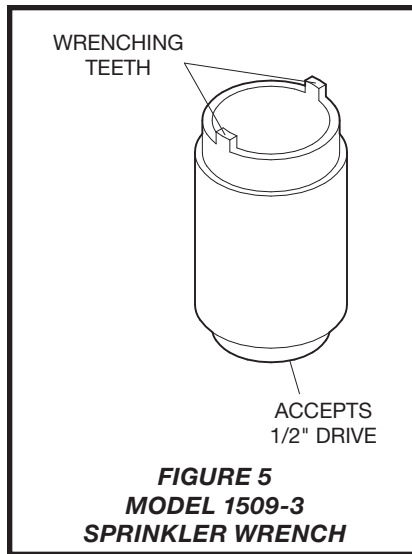
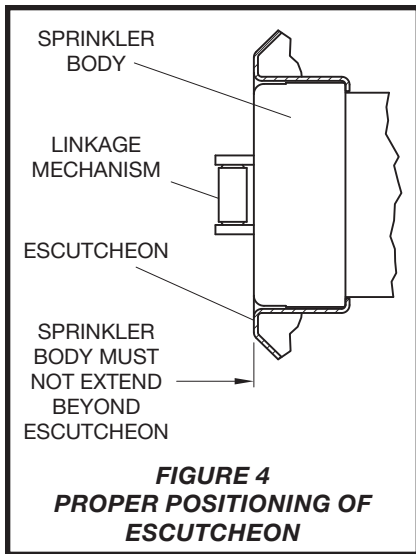
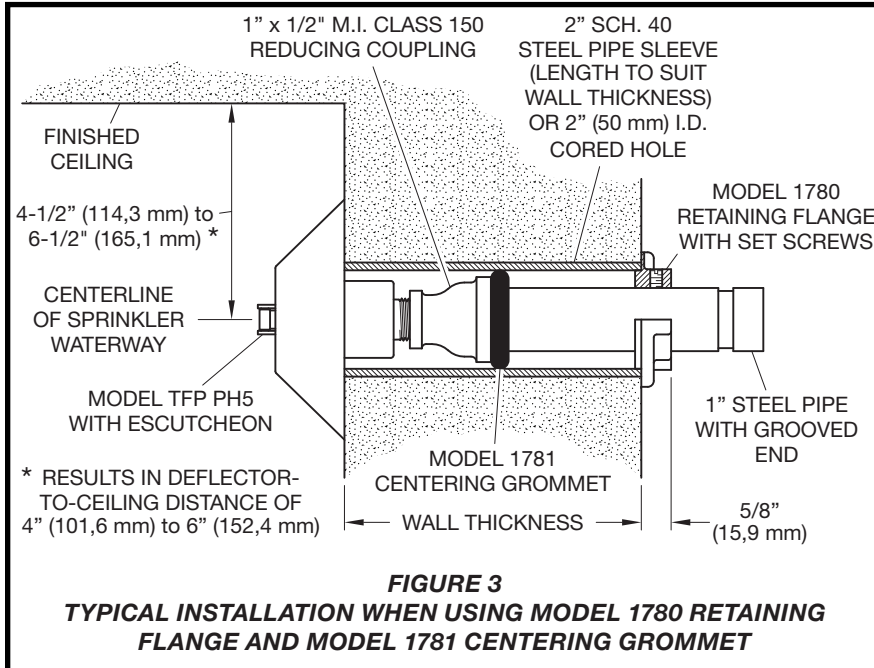
Exercise care to avoid damage before, during, and after installation. Never paint, plate, coat, or otherwise alter automatic sprinklers after they leave the factory. Replace sprinklers that:

- were modified or over-heated.
- were damaged by dropping, striking, wrench twisting, wrench slipping, or the like.
- are leaking or exhibiting visible signs of corrosion.
- were exposed to corrosive products

of combustion but have not operated if you cannot easily remove combustion by-products with a cloth.

Responsibility lies with sprinkler owners 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 sprinkler manufacturer regarding 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

Products manufactured by Tyco Fire Suppression & Building Products (TFSBP) 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 TFSBP. No warranty is given for products or components manufactured by companies not affiliated by ownership with TFSBP 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 TFSBP to be defective shall be either repaired or replaced, at TFSBP's sole option. TFSBP neither assumes, nor authorizes any person to assume for it, any other obligation in connection with the sale of products or parts of products. TFSBP 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 TFSBP 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 TFSBP was informed about the possibility of such damages, and in no event shall TFSBP's 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.

This limited warranty sets forth the exclusive remedy for claims based on failure of or defect in products, materials or components, whether the claim is made in contract, tort, strict liability or any other legal theory.

This warranty will apply to the full extent permitted by law. The invalidity, in whole or part, of any portion of this warranty will not affect the remainder.

## Disclaimer

Tyco Fire Suppression & Building Products 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.

### 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.

Style B2 ..... P/N 56-001-7-512  
 Style C ..... P/N 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.