

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

General Description

The 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.

WARNING

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 of the National Fire Protection Association, in addition to the standards of any other authorities having jurisdiction. Failure to do so may impair the integrity of these devices.

The owner is responsible for maintaining their fire protection system and devices in proper operating condition. The installing contractor or manufacturer should be contacted relative to 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 inch NPT

Discharge Coefficient
K = 5.6 GPM/psi^{1/2}
(80.6 LPM/bar^{1/2})

Temperature Ratings
135°F/57°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 Model TFP PH5 is such that a suspended 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 allows the deflector to extend outward and water to flow.

Design Criteria

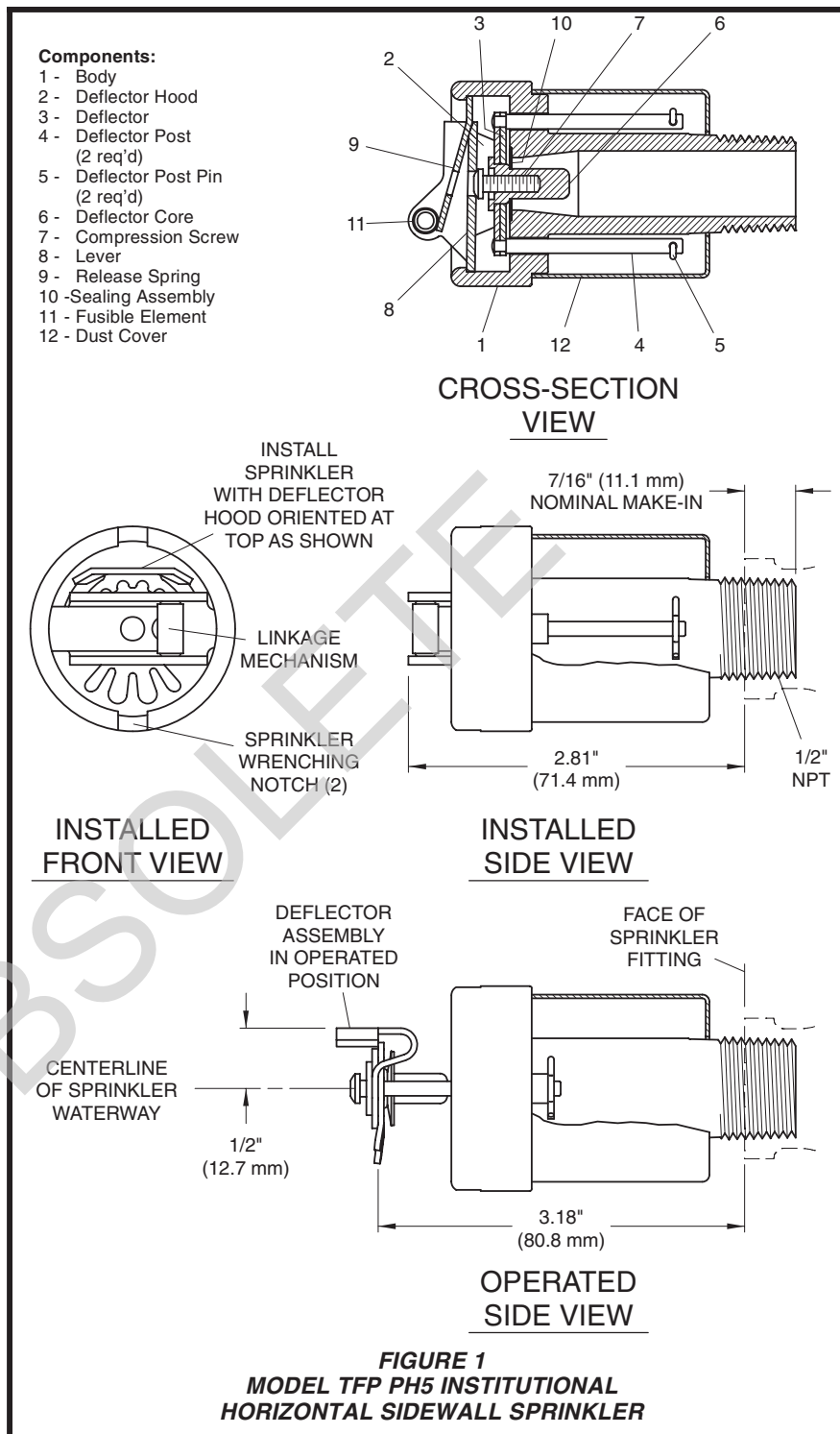
The 5.6 K-factor, Model TFP PH5 (SIN TY3390) Institutional Horizontal Side-wall Sprinklers are intended for use in fire protection systems designed in accordance with the standard installation rules recognized by the applicable Listing or Approval agency (e.g., UL Listing is based on NFPA 13 requirements). The Model TFP PH5 (SIN TY3390) must be installed with a deflector to ceiling distance of 4 to 12 inches (100 to 300 mm). To meet this requirement, the centerline of the sprinkler waterway must be located 4-1/2 to 12-1/2 inches (114,3 to 317,5 mm) below the ceiling (Ref. Figure 2).

Only the Institutional Escutcheons shown in Figure 3 can be utilized with the Model TFP PH5.

NOTES

The Sprinkler Body must not extend beyond the Institutional Escutcheon (Ref. Figure 5). 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 mounting surface (Ref. Figure 3); the sprinkler fitting being rigidly secured and held immobile; and, the centerline of the sprinkler fitting being 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 2 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 5.6 K-factor, Model TFP PH5 Sprinklers must be installed in accordance with the following instructions:

NOTES

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.

A leak tight 1/2 inch NPT sprinkler joint should be obtained with a torque of 9 to 14 ft.lbs. (9.5 to 19.0 Nm). A maximum of 21 ft.lbs. (28.5 Nm) of torque is to be used to install these sprinklers. Higher levels of torque may distort the sprinkler inlet with consequent leak-

age or impairment of the sprinkler.

Do not attempt to compensate for improper location of the sprinkler fitting by under- or over-tightening the sprinkler. Readjust the position of the sprinkler fitting to suit, or increase or decrease the number of Model 1752 Spacers, as applicable.

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 ceiling around its entire perimeter.

Step 1. The TFP PH5 Sprinklers must be installed horizontally with the centerline of their waterway perpendicular to the back wall surface, and 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. Wrench tighten the Sprinkler using only the Model 1509-3 Sprinkler Wrench (Ref. Fig. 5). The wrenching teeth of the Sprinkler Wrench are to be applied to the sprinkler wrenching notch areas (Ref. Fig. 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 wall around its entire perimeter.

NOTE

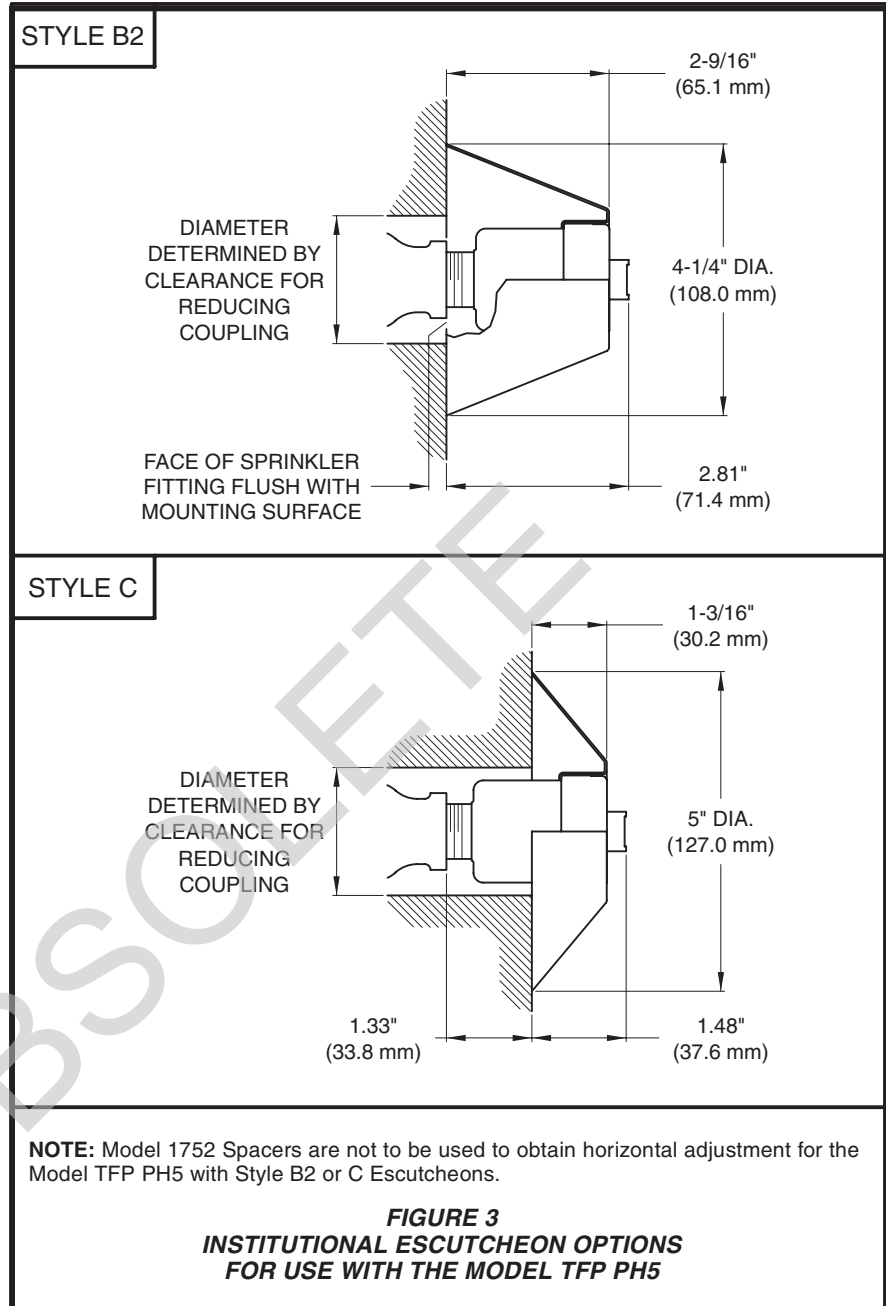
The Sprinkler Body must not extend beyond the Institutional Escutcheon (Ref. Fig. 4). Otherwise the tamper resistant design of the Model TFP PH5 will be compromised.

Care and Maintenance

The 5.6 K-factor, Model TFP PH5 Sprinklers must be maintained and serviced in accordance with the following instructions:

NOTES

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.



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 systems must be obtained from the proper authorities and all personnel who may be affected by this action must be notified.

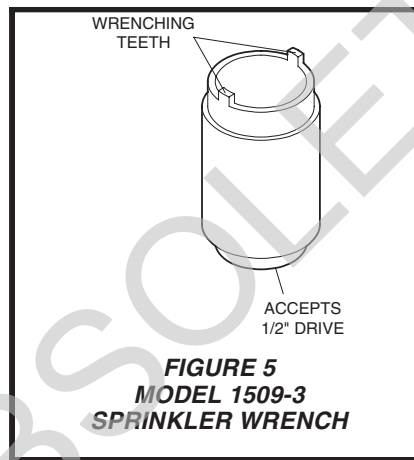
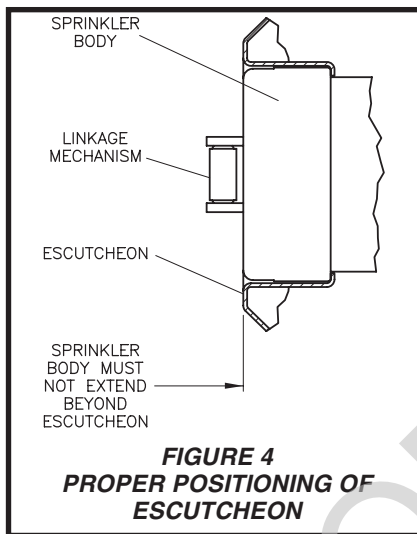
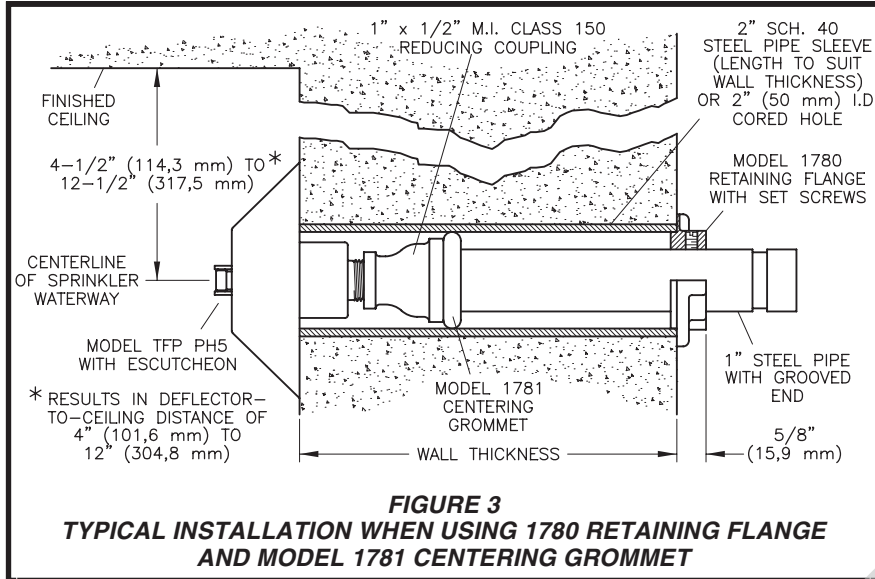
Sprinklers that are found to be leaking or exhibiting visible signs of corrosion must be replaced.

Automatic sprinklers must never be shipped or stored where their temperatures will exceed 100°F/38°C and they 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 (e.g., NFPA 25), in



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.

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 war-

ranty 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.

Ordering Procedure

Contact your local distributor for availability.

Sprinkler Assemblies:

Specify: 5.6 K-factor, Chrome Plated, 135°F/57°C, Model TFP PH5 (TY3390) Institutional Horizontal Side-wall Sprinkler, P/N 51-106-9-135.

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.