

Model FTR-1 Fixed Temperature Release For Deluge and Preaction Systems Wet or Dry Pilot Release Service

General Description

The Model FTR-1 Fixed Temperature Release is a fixed-temperature, heat detector intended for wet or dry pilot release service. As such it can be used for pilot line service, instead of standard sprinklers, to activate deluge and preaction systems equipped with either wet or dry pilot line detection.

The FTR-1, while resembling a standard sprinkler in construction, follows the installation rules for a listed fixed temperature heat detector as opposed to the standard rules of using standard sprinklers as pilot sprinklers. The FTR-1 features a fast response thermal element, extended spacings as compared to using standard sprinklers as pilot sprinklers, and corrosion resistant assembly option for outdoor applications, i.e., Teflon* coated, not available in the offering of standard sprinklers.

Both the white Polyester and gray Teflon* coatings can be used for decorative applications, and both of these finishes are UL Listed as corrosion-resistant. The Teflon* coated FTR-1 features a stainless steel button and compression screw making it a more desirable choice where maximum corrosion resistance is a consideration.

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.

Corrosion resistant coatings are utilized to extend the life of copper alloy construction beyond that which would otherwise be obtained when exposed to corrosive atmospheres. Although the corrosion resistant coatings have passed the standard corrosion tests performed by UL, the testing is not representative of all possible corrosive atmospheres. Consequently, it is recommended that the end user be consulted with respect to the suitability of these coatings for any given corrosive environment. The effects of ambient temperature, concentration of chemicals, and gas/chemical velocity, should be considered, as a minimum, along with the corrosive nature of the chemical to which the FTR-1's will be exposed.

As an option the Model FTR-1 Fixed Temperature Release may be equipped a Model G1 Sprinkler Guard described in Technical Data Sheet TFP780.

WARNINGS

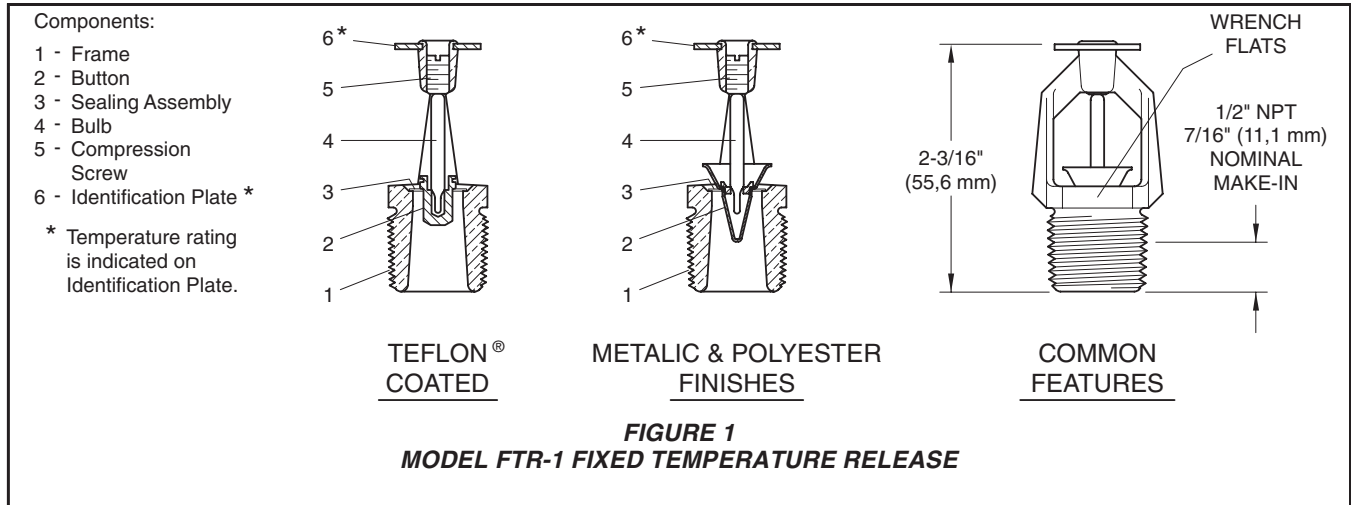
*The Model FTR-1 Fixed Temperature Release described herein must be installed and maintained in compliance with this document, as well as with the applicable standards of the National Fire Protection Association, in addition to the standards of any other authorities having jurisdiction. **Failure to 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. The installing contractor or sprinkler manufacturer should be contacted with any questions.



Identification Number

TY3030



Release Temperature Classification	Nominal Release Temperature Rating	Maximum Ambient Ceiling Temperature ⁽¹⁾	Bulb Fluid Color	Listed Spacing ⁽²⁾
Ordinary	135°F/57°C	100°F/38°C	Orange	40' x 40' (12,2 m x 12,2 m)
Ordinary	155°F/68°C	100°F/38°C	Red	30' x 30' (9,1 m x 9,1 m)
Intermediate	175°F/79°C	150°F/65°C	Yellow	40' x 40' (12,2 m x 12,2 m)
Intermediate	200°F/141°C	150°F/65°C	Green	30' x 30' (9,1 m x 9,1 m)

NOTES

1. Based on NFPA 13. Other limits may apply, depending on fire loading, release location, and other requirements of the Authority Having Jurisdiction.
2. Listed spacings are for smooth, flat, horizontal ceilings. Installation must comply with NFPA 15 or NFPA 72, as applicable.

TABLE A
UL AND C-UL LISTED SPACINGS FOR THE MODEL FTR-1 FIXED TEMPERATURE RELEASE
(For installation below smooth, flat, horizontal ceilings)

Technical Data

Approvals

UL and C-UL Listed
(Fixed Temperature Heat Detector)

Maximum Working Pressure

250 psi (17,2 bar)

Pipe Thread Connection

1/2 NPT

Discharge Coefficient

K = 5.6 GPM/psi^{1/2} (80 LPM/bar^{1/2})

Finish

(Frame and Identification Plate)
Natural Brass, White Polyester Coated, Gray Teflon* Coated

Temperature Rating

135°F/57°C, 155°F/68°C, 175°F/79°C, and 200°F/93°C

Physical Characteristics

Frame Bronze
 Button Copper/Bronze
 (Stainless Steel for Teflon Coated Assemblies)
 Sealing Assembly
 Beryllium Nickel w/Teflon*
 Bulb Glass (3 mm dia.)
 Compression Screw Bronze
 (Stainless Steel for Teflon Coated Assemblies)
 Identification Plate Brass

* Registered trademark of DuPont

Operation

The glass bulb contains a fluid that expands when exposed to heat. When the rated temperature is reached, the fluid expands sufficiently to shatter the glass bulb, allowing the pressure (water for wet pilot or air/nitrogen for dry pilot) to escape from the pilot line.

Design Criteria

FTR-1 TEMPERATURE RATING

- Select the proper temperature rated FTR-1 for the hazard and ambient temperatures involved. (Normally, it is advisable to use the lowest temperature combinations approved for the hazard and ambient temperature involved to permit early detection.)
- For localized high ambient temperature such as those caused by unit heaters and skylights, substitute a higher temperature-rated FTR-1 per Table A.

FTR-1 SPACING

SPACING INDOORS - SMOOTH CEILING UP TO AND INCLUDING 10 FEET (3.05 m)

- Refer to Table A for listed spacing of the FTR-1's below smooth, flat, horizontal ceilings.

SPACING INDOORS - SOLID JOIST, BEAM, SLOPED CEILINGS, HIGH CEILINGS GREATER THAN 10 FEET (3.05 m) UP TO AND INCLUDING 30 FEET (9.14 m)

- Reduce to the smooth ceiling spacings per the requirements of the 2002 Edition of NFPA 72, Section 5.6.5.

SPACING INDOORS - GENERAL GUIDELINES

- The distance between adjacent FTR-1's is not to exceed the listed spacing.
- The distance between an FTR-1 and any wall or partition that extends to within 18 inches (457 mm) of the ceiling is not to exceed 1/2 the listed spacing.
- The distance from the FTR-1 to all points in the area of coverage (corners) is not to exceed 70% of the listed spacing.

SPACING OUTDOORS

- Follow the applicable fixed temperature detector requirements of the 2001 Edition of NFPA 15, Section 6.5.2.3

FTR-1 LOCATION

LOCATION INDOORS

The FTR-1 Fixed Temperature Releases are spot-type releases and the requirements of NFPA 72 with respect their location apply. In general the requirements are as follows:

- For smooth ceilings, locate the FTR-1 with an Identification Plate to ceiling distance of 1 to 12 inches (25,4 to 305 mm), and no closer than 4 inches (100 mm) from any wall.
- For solid joist construction, locate the FTR-1 with the Identification Plate within a horizontal plane of 1 to 6 inches (25,4 to 152 mm) below the bottom of the joists and a maximum distance of 22 inches (559 mm) below the ceiling/roof deck, and no closer than 4 inches (100 mm) from any wall.
- For beam construction where the beams are less than 12 inches (300 mm) in depth and less than 8 feet (2,4 m) on center, locate the FTR-1 with the Identification Plate within a horizontal plane of 1 to 6 inches (25,4 to 152 mm) below the bottom of the beams and a maximum distance of 22 inches (559 mm) below the ceiling/roof deck, and no closer than 4 inches (100 mm) from any wall.

LOCATION OUTDOORS

- Follow the applicable requirements of the 2001 Edition of NFPA 15, Section 6.5.2

FTR-1 ORIENTATION

The FTR-1 may be installed in any orientation; however, in locations where the pilot line system is subject to freezing conditions they are to be installed in the upright position (i.e., with the Identification Plate at the top as shown in Figure 1).

Installation

The Model FTR-1 Fixed Temperature Release must be installed in accordance with the following instructions:

NOTES

Refer to Technical Data Sheet TFP700 for the "INSTALLER WARNING". Due to the similarity of the Model FTR-1 Fixed Temperature Release to automatic sprinklers, all of the information pertaining to automatic sprinklers applies to the FTR-1.

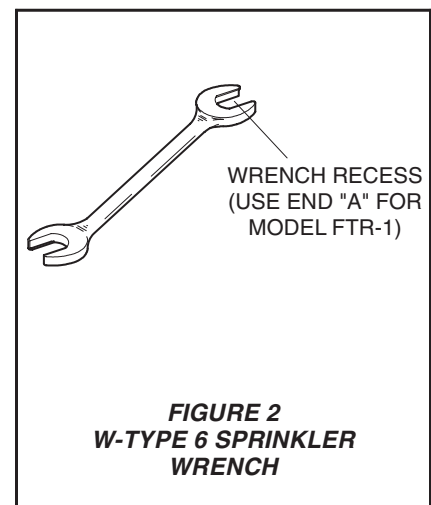
Do not install an FTR-1 if the bulb is cracked or there is a loss of liquid from the bulb. With the FTR-1 is held horizontally, a small air bubble should be present. The diameter of the air bubble is approximately 1,6 mm.

A leak tight 1/2 inch NPT threaded connection should be obtained with a torque of 7 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. Higher levels of torque may distort the FTR-1 inlet with consequent leakage or impairment to the FTR-1.

Step 1. The FTR-1 may be installed in any orientation; however, in locations where the pilot line system is subject to freezing conditions they are to be installed in the upright position (i.e., with the Identification Plate at the top as shown in Figure 1).

Step 2. With pipe thread sealant applied to the pipe threads, hand tighten the FTR-1 into the sprinkler fitting.

Step 3. Wrench tighten the FTR-1 using only the W-Type 6 (End A) Sprinkler Wrench. The wrench recess of the sprinkler wrench (Ref. Figure 2) is to be applied to the FTR-1 wrench flats (Ref. Figure 1).



Care and Maintenance

The Model FTR-1 Fixed Temperature Release must be maintained and serviced in accordance with the following instructions:

NOTE

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.

Model FTR-1 Fixed Temperature Releases that are found to be leaking or exhibiting visible signs of corrosion must be replaced.

Model FTR-1 Fixed Temperature Releases must never be painted, plated, coated, or otherwise altered after leaving the factory. Modified FTR-1's must be replaced. FTR-1's 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 FTR-1 with a cloth or by brushing it with a soft bristle brush.

Care must be exercised to avoid damage to the FTR-1's - before, during, and after installation. FTR-1's damaged by dropping, striking, wrench twist/slippage, or the like, must be replaced. Also, replace any FTR-1 that has a cracked bulb or that has lost liquid from its bulb. (Ref. Installation Section).

Frequent visual inspections are recommended to be initially performed for corrosion resistant coated FTR-1's, after the installation has been completed, to verify the integrity of the corrosion resistant coating. Thereafter, annual inspections per NFPA 25 (as required for automatic sprinklers) should suffice; however, instead of inspecting from the ground level, a random sampling of close-up visual inspections should be made, so as to better determine the exact condition of the FTR-1 and the long term integrity of the corrosion resistant coating, as it may be affected by the corrosive conditions present.

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 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 in accordance with local requirements and/or national codes.

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 warranty 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 FIT-

NESS FOR A PARTICULAR PURPOSE.

Ordering Procedure

Sprinkler Assemblies :

Specify: Model FTR-1 (TY3030), (specify temperature rating), Fixed Temperature Release with (specify finish), P/N (specify).

135°F/57°C
 Natural Brass PSN 51-041-1-135
 White Polyester
 Coated PSN 51-041-4-135
 Gray Teflon Coated PSN 51-041-3-135

155°F/68°C
 Natural Brass PSN 51-041-1-155
 White Polyester
 Coated PSN 51-041-4-155
 Gray Teflon Coated PSN 51-041-3-155

175°F/79°C
 Natural Brass PSN 51-041-1-175
 White Polyester
 Coated PSN 51-041-4-175
 Gray Teflon Coated PSN 51-041-3-175

200°F/93°C
 Natural Brass PSN 51-041-1-200
 White Polyester
 Coated PSN 51-041-4-200
 Gray Teflon Coated PSN 51-041-3-200

Sprinkler Wrench:

Specify: W-Type 6 Sprinkler Wrench, P/N 56-000-6-387.