Worldwide Contacts | www.tyco-fire.com

Series RFII — 5.6 K-factor Royal Flush II Concealed Pendent Sprinklers Quick Response, Extended 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/tfp260

General Description

The TYCO Series RFII, 5.6 K-factor, Royal Flush Concealed Pendent Sprinklers, (TY3532), Quick Response, Extended Coverage, Light Hazard (ECLH) are decorative, 3 mm bulb-type sprinklers featuring a flat cover plate designed to conceal the sprinkler. These sprinklers are optimal for architecturally sensitive areas such as hotel lobbies, office buildings, churches, and restaurants.

The Series RFII sprinklers are intended for use in automatic sprinkler systems designed in accordance with standard installation rules such as NFPA 13. The fast-response thermal sensitivity rating of the Series RFII (TY3532) sprinkler provides for a quick response, extended coverage (QREC) rating up to a 20 ft x 20 ft (6,1 m x 6,1 m) coverage area.

Each sprinkler includes a cover plate/retainer assembly and a sprinkler/support cup assembly. The separable, two-piece assembly design provides the following benefits:

- Allows installation of the sprinklers and pressure testing of the fire protection system prior to installation of a suspended ceiling or application of the finish coating to a fixed ceiling.
- Permits the removal of suspended ceiling panels for access to building service equipment without having to first shut down the fire protection system and remove sprinklers.
- Provides for 1/2 in. (12,7 mm) of vertical adjustment to allow a measure of flexibility in determining the length of fixed piping to cut for the sprinkler drops.

The Series RFII Sprinklers are shipped with a disposable protective cap. The protective cap is temporarily removed during installation and replaced to help protect the sprinkler during ceiling installation or finish. The tip of the protective cap can be used to mark the center of the ceiling hole into plaster board or ceiling tiles by gently pushing the ceiling product against the protective cap. When ceiling installation is complete, the protective cap is removed and the cover plate/retainer assembly is installed.



NOTICE

The Series RFII Concealed Pendent Sprinklers described herein must be installed and maintained in compliance with this document and with the applicable standards of the NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), in addition to the standards of any 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.

Sprinkler Identification Number (SIN)

TY3532

Technical Data

Approvals
UL and C-UL Listed

Note: *The listings apply only to the service conditions indicated in the Design Criteria section.*

Maximum Working Pressure
175 psi (12,1 bar)

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

Temperature Rating
155°F (68°C) Sprinkler–139°F (59°C) Plate

200°F (93°C) Sprinkler–165°F (74°C) Plate

Adjustment
1/2 in. (12,7 mm)

Finishes
See the Ordering Procedure section

Physical Characteristics

Frame	Bronze
Support Cup	Plated Steel
Guide Pins	Stainless Steel
Deflector	Bronze
Compression Screw	Brass
Bulb	Glass
Cap	Bronze or Copper
Sealing Assembly	Beryllium Nickel w/TEFLON
Cover Plate	Brass
Retainer	Brass
Ejection Spring	Stainless Steel

Design Criteria

The TYCO Series RFII, 5.6 K-factor, Royal Flush Concealed Pendent Sprinklers (TY3532) are UL and C-UL Listed for use in light hazard occupancies, using the design criteria in Table A, in addition to the requirements specified in the current NFPA 13 for extended coverage pendent sprinklers.

The Series RFII Concealed Pendent Sprinklers are only listed and approved with the Series RFII Concealed Cover Plates with a factory-applied finish.

NOTICE

Do not use the Series RFII in applications where the air pressure above the ceiling is greater than that below. Down drafts through the sprinkler/support cup assembly can delay sprinkler operation in a fire situation.

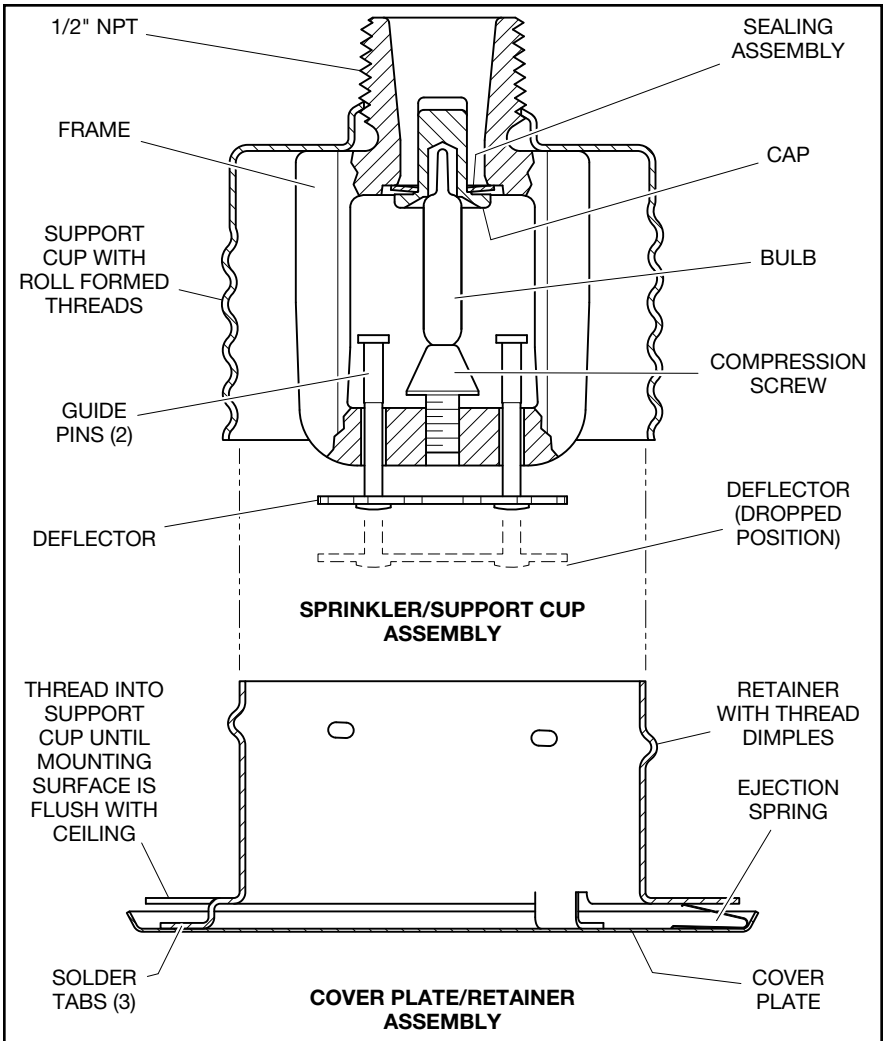


FIGURE 1
SERIES RFII CONCEALED SPRINKLER

RESPONSE RATING	SPACING	MINIMUM FLOW/PRESSURE
QUICK	16 ft x 16 ft (4,9 m x 4,9 m)	26.0 gpm / 21.6 psi (98,4 Lpm / 1,49 bar)
QUICK	18 ft x 18 ft (5,5 m x 5,5 m)	33.0 gpm / 34.7 psi (124,9 Lpm / 2,39 bar)
QUICK	20 ft x 20 ft (6,1 m x 6,1 m)	40.0 gpm / 51 psi (151,4 Lpm / 3,52 bar)

TABLE A
SERIES RFII (TY3532)
155°F (68°C) AND 200°F (93°C) CONCEALED SPRINKLER
HYDRAULIC DESIGN CRITERIA

Operation

When exposed to heat from a fire, the cover plate, normally soldered to the retainer at three points, falls away to expose the sprinkler/support cup assembly.

The deflector - supported by the guide pins - then drops down to its operational position.

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, activating the sprinkler and allowing water to flow.

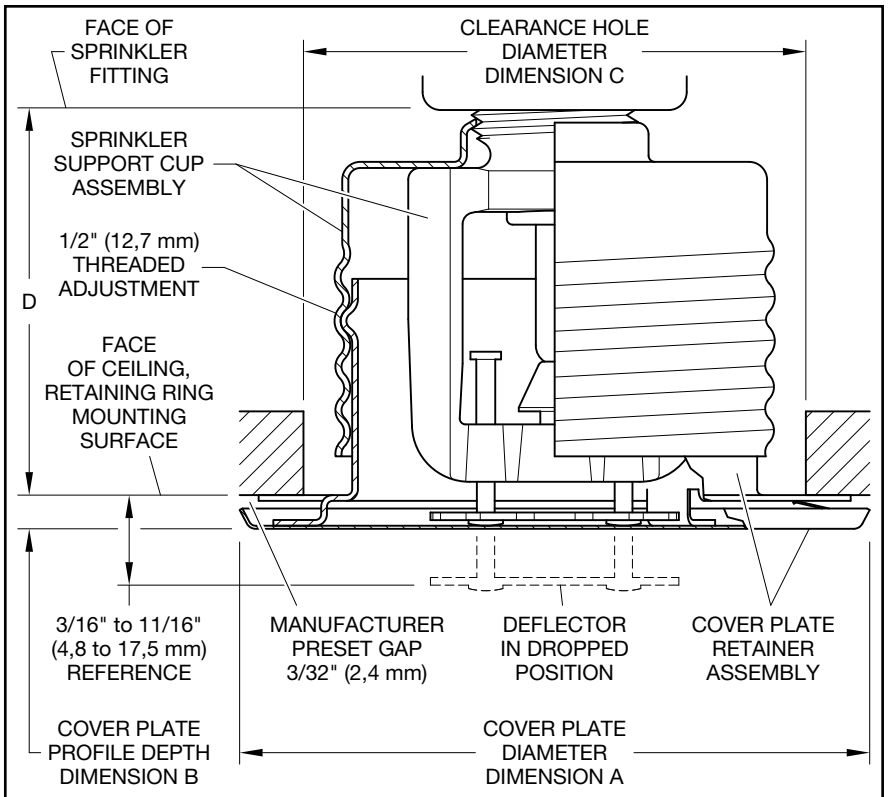


FIGURE 2
SERIES RFII CONCEALED SPRINKLER INSTALLATION DIMENSIONS

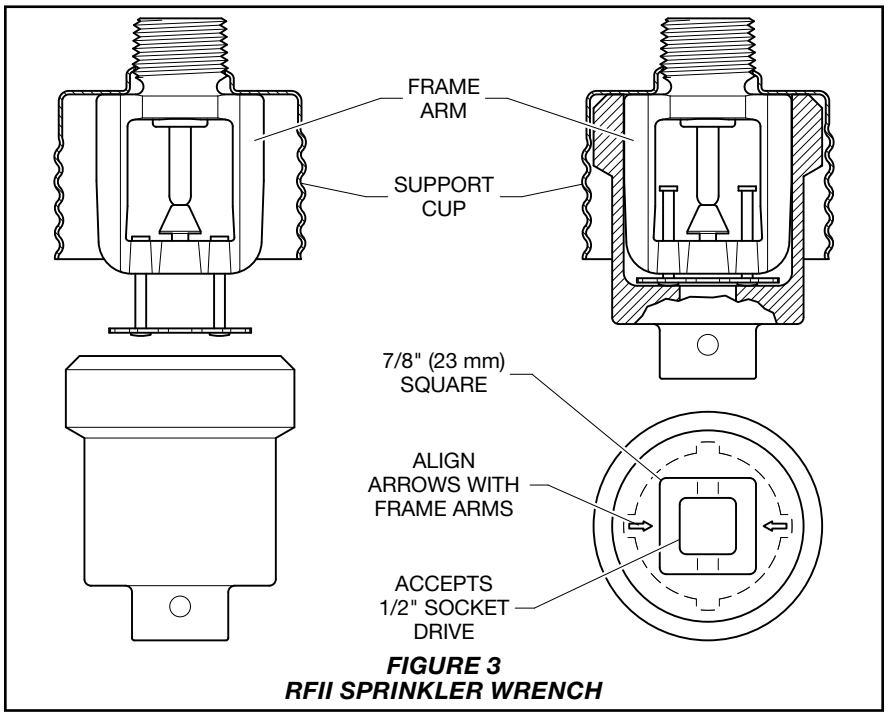


FIGURE 3
RFII SPRINKLER WRENCH

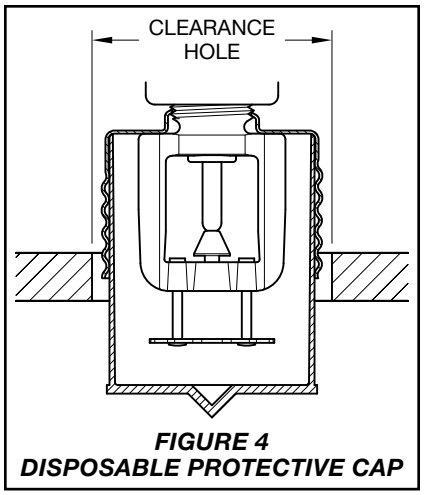


FIGURE 4
DISPOSABLE PROTECTIVE CAP

Installation

The TYCO Series RFII, 5.6 K-factor, Royal Flush Concealed Pendent Sprinklers, (TY3532) must be installed in accordance with this section.

General Instructions
Do not install any bulb-type sprinkler if the bulb is cracked or there is a loss of liquid from the bulb. With the sprinkler held horizontally, a small air bubble should be present. The diameter of the air bubble is approximately 1/16 in. (1,6 mm) for the 155°F (68°C) and 3/32 in. (2,4 mm) for the 200°F (93°C) temperature ratings.

Obtain a 1/2 in. NPT sprinkler joint by applying a minimum to maximum torque of 7 ft-lb to 14 ft-lb (9,5 N·m 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 insufficient adjustment in the sprinkler by under- or over-tightening the sprinkler/support cup assembly. Re-adjust the position of the sprinkler fitting to suit.

Step 1. Install the sprinkler only in the pendent position with the centerline of the sprinkler perpendicular to the mounting surface.

Step 2. Remove the protective cap.

Step 3. With pipe thread sealant applied to the pipe threads, hand-tighten the sprinkler into the sprinkler fitting.

Step 4. Wrench-tighten the sprinkler using only the RFII Sprinkler Wrench shown in Figure 3. Apply the wrench to the sprinkler as shown in Figure 3.

Step 5. Replace the protective cap by pushing it upwards until it bottoms out against the support cup as shown in. Figure 4.

The protective cap helps prevent damage to the deflector and frame arms when installing or finishing the ceiling. You can also use it to locate the center of the clearance hole by gently pushing the ceiling material up against the center point of the protective cap.

NOTICE

As long as the protective cap remains in place, the system is considered "Out of Service".

Step 6. After the ceiling has been completed with the 2-1/2 in. (63,5 mm) diameter clearance hole and in preparation for installing the cover plate/retainer assembly, remove and discard the protective cap.

Verify that the deflector moves up and down freely. If the sprinkler is damaged and the deflector does not move up and down freely, replace the entire sprinkler. Do not attempt to modify or repair a damaged sprinkler.

Step 7. Screw on the cover plate/retainer assembly until its flange makes contact with the ceiling. Do not continue to screw on the cover plate/retainer assembly so that it lifts a ceiling panel out of its normal position. If you cannot engage the cover plate/retainer assembly with the support cup or you cannot engage the cover plate/retainer assembly sufficiently to contact the ceiling, you must reposition the sprinkler fitting.

Care and Maintenance

The TYCO Series RFII, 5.6 K-factor, Royal Flush Concealed Pendent Sprinklers, (TY3532) 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 system from the proper authorities and notify all personnel who may be affected by this action.

Absence of the cover plate/retainer assembly can delay sprinkler operation in a fire situation.

When properly installed, there is a nominal 3/32 in. (2,4 mm) air gap between the lip of the cover plate and the ceiling, as shown in Figure 2. This air gap is necessary for proper operation of the sprinkler. If the ceiling requires repainting after sprinkler installation, ensure that the new paint does not seal off any of the air gap.

Do not pull the cover plate relative to the enclosure. Separation may result.

Replace sprinklers that are leaking or exhibiting visible signs of corrosion.

Never repaint, plate, coat, or otherwise alter automatic sprinklers after they leave the factory. Never repaint factory-painted cover plates. If necessary, replace them with factory-painted units. Non-factory applied paint can adversely delay or prevent sprinkler operation in the event of a fire.

Replace modified or over-heated sprinklers.

Exercise care to avoid damage to the sprinklers before, during, and after installation. Replace sprinklers damaged by dropping, striking, wrench twisting, wrench slipping, or the like. Also, replace any sprinkler that has a cracked bulb or that has lost liquid from its bulb. For information about replacing a sprinkler, see the Installation Section.

If you must remove a sprinkler, do not reinstall it or a replacement without reinstalling the cover plate/retainer assembly. If a cover plate/retainer assembly becomes dislodged during service, replace it immediately.

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 such as NFPA 25, in addition to the standards of any other 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 code.

Limited Warranty

For warranty terms and conditions, visit www.tyco-fire.com.

Ordering Procedure

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

Sprinkler/Support Cup Assembly
Specify: Series RFII Royal Flush Concealed Pendent Sprinkler, TY3532, (specify) temperature rating, P/N (specify):

155°F (68°C) 517941155

200°F (93°C) 517941200

Separately Ordered Cover Plate/Retainer Assembly
Specify: (temperature rating, listed below) Series RFII Concealed Cover Plate with (finish), P/N (specify):

139°F (59°C)[a]

Grey White (RAL9002)	567920135
Brass	567921135
Pure White[c] (RAL9010)	567923135
Signal White (RAL9003)	567924135
Jet Black (RAL9005)	567926135
Terra Brown (RAL8028)	567927135
Chrome	567929135
Custom	56792X135

165°F (74°C)[b]

Grey White (RAL9002)	567920165
Brass	567921165
Pure White[c] (RAL9010)	567923165
Signal White (RAL9003)	567924165
Jet Black (RAL9005)	567926165
Terra Brown (RAL8028)	567927165
Chrome	567929165
Custom	58792X165

a. For use with 155°F (68°C) sprinklers
b. For use with 200°F (93°C) sprinklers
c. Eastern Hemisphere sales only

Sprinkler Wrench
Specify: RFII Sprinkler Wrench, P/N 560001075

1467 Elmwood Avenue, Cranston, RI 02910 | Telephone +1-401-781-8220

© 2025 Johnson Controls. All rights reserved. All specifications and other information shown were current as of document revision date and are subject to change without notice.

NATIONAL FIRE PROTECTION ASSOCIATION and NFPA are registered trademarks of National Fire Protection Association;
TEFLON is a trademark of The Chemours Company FC, LLC

Johnson Controls