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rapid response®
HOME FIRE SPRINKLER SYSTEM

Series LFII Residential Sprinklers 4.9 K-Factor Pendent and Recessed Pendent Wet Pipe and Dry Pipe Systems

General Description

The TYCO RAPID RESPONSE Series LFII Residential Pendent and Recessed Pendent Sprinklers (TY2234) are decorative, fast response, frangible bulb sprinklers designed for use in residential occupancies such as homes, apartments, dormitories, and hotels. When aesthetics and optimized flow characteristics are the major consideration, the Series LFII Residential Sprinklers should be the first choice.

The Series LFII Residential Sprinklers are intended for use in the following scenarios:

- wet and dry pipe residential sprinkler systems for one- and two-family dwellings and mobile homes per NFPA 13D
- wet and dry pipe residential sprinkler systems for residential occupancies up to and including four stories in height per NFPA 13R
- wet and dry pipe sprinkler systems for the residential portions of any occupancy per NFPA 13

Historically residential sprinklers, based on their Listing, have been limited to wet pipe sprinkler systems to assure speed of water delivery for a given prescribed design area (number of design sprinklers).

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.

The Listing for the Series LFII Residential Pendent and Recessed Pendent Sprinklers now offers the laboratory approved option of designing dry pipe residential sprinkler systems.

Through extensive testing, it has been determined that the number of design sprinklers (hydraulic design area) for the Series LFII Residential Pendent and Recessed Pendent Sprinklers (TY2234) need not be increased over the number of design sprinklers (hydraulic design area) as specified for wet pipe sprinkler systems, as is accustomed for density/area sprinkler systems designed per NFPA 13.

Consequently, the Series LFII Residential Sprinklers offer the features of non-water filled pipe in addition to not having to increase the number of design sprinklers (hydraulic design area) for systems designed to NFPA 13, 13D, or 13R. Non-water filled pipe will permit options for areas sensitive to freezing.

These Sprinklers have a 4.9 (70,6) K-Factor that provides the required residential flow rates at reduced pressures, enabling smaller pipe sizes and water supply requirements.

The recessed version of the Series LFII Residential Sprinklers is intended for use in areas with finished ceilings. It employs a two-piece Style 20 Recessed Escutcheon.

The Recessed Escutcheon provides 1/4 inch (6,4 mm) of recessed adjustment or up to 1/2 inch (12,7 mm) of total adjustment from the flush ceiling position. The adjustment provided by the Recessed Escutcheon reduces the accuracy to which the pipe nipples to the sprinklers must be cut.

The Series LFII Residential Pendent and Recessed Pendent Sprinklers have been designed with heat sensitivity and water distribution characteristics proven to help in the control of residential fires and to improve the chance for occupants to escape or be evacuated.

NOTICE

The Series LFII Residential Pendent and Recessed Pendent Sprinklers (TY2234) described herein must be installed and maintained in compliance with this document and the applicable standards of the National Fire Protection Association, in addition to the standards of any authorities having jurisdiction. Failure to do so may impair the performance of these devices.

Owners are 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.

Maximum Coverage Area [a] Ft. x Ft. (m x m)	Maximum Spacing Ft. (m)	WET PIPE SYSTEM Minimum Flow and Residual Pressure [b]				
		For Horizontal Ceiling [c, d, e] (Maximum 2-Inch Rise for 12-Inch Run)	For Sloped Ceiling [c, d, e] (Greater than 2-Inch Rise up to Maximum 4-Inch Rise for 12-Inch Run)		For Sloped Ceiling [c, d, e] (Greater than 4-Inch Rise up to Maximum 8-Inch Rise for 12-Inch Run)	
		155°F (68°C) or 175°F (79°C)	155°F (68°C)	175°F (79°C)	155°F (68°C)	175°F (79°C)
12 x 12 (3,7 x 3,7)	12 (3,7)	13 GPM (49,2 LPM) 7.0 psi (0,48 bar)	13 GPM (49,2 LPM) 7.0 psi (0,48 bar)	17 GPM (64,3 LPM) 12.0 psi (0,83 bar)	13 GPM (49,2 LPM) 7.0 psi (0,48 bar)	17 GPM (64,3 LPM) 12.0 psi (0,83 bar)
14 x 14 (4,3 x 4,3)	14 (4,3)	13 GPM (49,2 LPM) 7.0 psi (0,48 bar)	13 GPM (49,2 LPM) 7.0 psi (0,48 bar)	17 GPM (64,3 LPM) 12.0 psi (0,83 bar)	13 GPM (49,2 LPM) 7.0 psi (0,48 bar)	17 GPM (64,3 LPM) 12.0 psi (0,83 bar)
16 x 16 (4,9 x 4,9)	16 (4,9)	13 GPM (49,2 LPM) 7.0 psi (0,48 bar)	13 GPM (49,2 LPM) 7.0 psi (0,48 bar)	17 GPM (64,3 LPM) 12.0 psi (0,83 bar)	13 GPM (49,2 LPM) 7.0 psi (0,48 bar)	17 GPM (64,3 LPM) 12.0 psi (0,83 bar)
18 x 18 (5,5 x 5,5)	18 (5,5)	17 GPM (64,3 LPM) 12.0 psi (0,83 bar)	17 GPM (64,3 LPM) 12.0 psi (0,83 bar)	17 GPM (64,3 LPM) 12.0 psi (0,83 bar)	17 GPM (64,3 LPM) 12.0 psi (0,83 bar)	17 GPM (64,3 LPM) 12.0 psi (0,83 bar)
20 x 20 (6,1 x 6,1)	20 (6,1)	20 GPM (75,7 LPM) 16.7 psi (1,15 bar)	20 GPM (75,7 LPM) 16.7 psi (1,15 bar)	20 GPM (75,7 LPM) 16.7 psi (1,15 bar)	21 GPM (79,5 LPM) 18.4 psi (1,27 bar)	22 GPM (83,3 LPM) 20.2 psi (1,39 bar)

(a) For coverage area dimensions less than or between those indicated, use the minimum required flow for the next highest coverage area for which hydraulic design criteria are stated.

(b) The Minimum Flow requirement is based on minimum flow in GPM (LPM) from each sprinkler. The associated residual pressures are calculated using the nominal K-Factor. Refer to Hydraulic Design under the Design Criteria section.

(c) For NFPA 13D 2010 applications, Horizontal Ceiling criteria shall be used for certain sloped ceiling configurations up to 8:12 pitch. Refer to TIA 1028R for allowed sloped ceiling limitations when using horizontal ceiling criteria.

(d) For NFPA 13R applications, Horizontal Ceiling criteria may be used for sloped ceiling configurations up to 8:12 pitch when acceptable to the Local Authority Having Jurisdiction.

(e) For NFPA 13 residential applications, the greater of 0.1 GPM/Ft.^{2} over the design area or the flow in accordance with the criteria in Table A must be used.

TABLE A
SERIES LFII RESIDENTIAL PENDENT AND RECESSED PENDENT SPRINKLERS (TY2234)
NFPA 13, 13D AND 13R HYDRAULIC DESIGN CRITERIA
WET PIPE SYSTEMS

Maximum Coverage Area [a] Ft. x Ft. (m x m)	Maximum Spacing Ft. (m)	DRY PIPE SYSTEM Minimum Flow and Residual Pressure [b]	
		For Horizontal Ceiling [c] (Maximum 2-Inch Rise for 12-Inch Run)	
		155°F (68°C)	175°F (79°C)
12 x 12 (3,7 x 3,7)	12 (3,7)	13 GPM (49,2 LPM) 7.0 psi (0,48 bar)	13 GPM (49,2 LPM) 7.0 psi (0,48 bar)
14 x 14 (4,3 x 4,3)	14 (4,3)	14 GPM (53,0 LPM) 8.2 psi (0,57 bar)	14 GPM (53,0 LPM) 8.2 psi (0,57 bar)
16 x 16 (4,9 x 4,9)	16 (4,9)	15 GPM (56,8 LPM) 9.4 psi (0,65 bar)	15 GPM (56,8 LPM) 9.4 psi (0,65 bar)
18 x 18 (5,5 x 5,5)	18 (5,5)	18 GPM (68,1 LPM) 13.5 psi (0,93 bar)	18 GPM (68,1 LPM) 13.5 psi (0,93 bar)
20 x 20 (6,1 x 6,1)	20 (6,1)	21 GPM (79,5 LPM) 18.4 psi (1,27 bar)	21 GPM (79,5 LPM) 18.4 psi (1,27 bar)

(a) For coverage area dimensions less than or between those indicated, use the minimum required flow for the next highest coverage area for which hydraulic design criteria are stated.

(b) The Minimum Flow requirement is based on minimum flow in GPM (LPM) from each sprinkler. The associated residual pressures are calculated using the nominal K-Factor. Refer to Hydraulic Design under the Design Criteria section.

(c) For NFPA 13D 2010 applications, Horizontal Ceiling criteria shall be used for certain sloped ceiling configurations up to 8:12 pitch. Refer to TIA 1028R for allowed sloped ceiling limitations when using horizontal ceiling criteria.

TABLE B
SERIES LFII RESIDENTIAL PENDENT AND RECESSED PENDENT SPRINKLERS (TY2234)
NFPA 13D HYDRAULIC DESIGN CRITERIA
DRY PIPE SYSTEMS

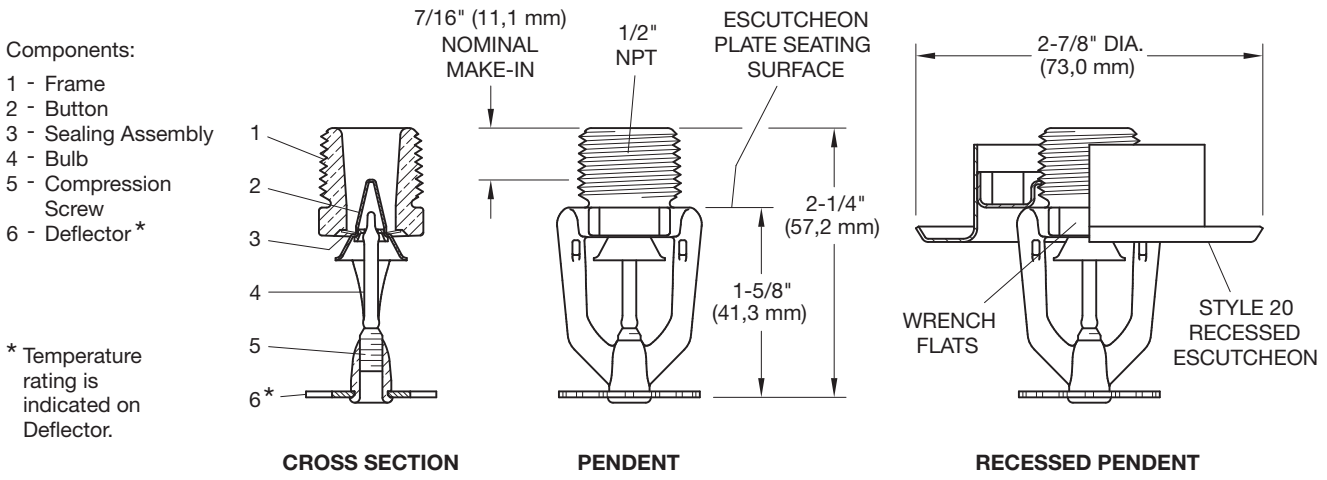


FIGURE 1
RAPID RESPONSE SERIES LFII RESIDENTIAL
PENDENT AND RECESSED PENDENT SPRINKLERS (TY2234)

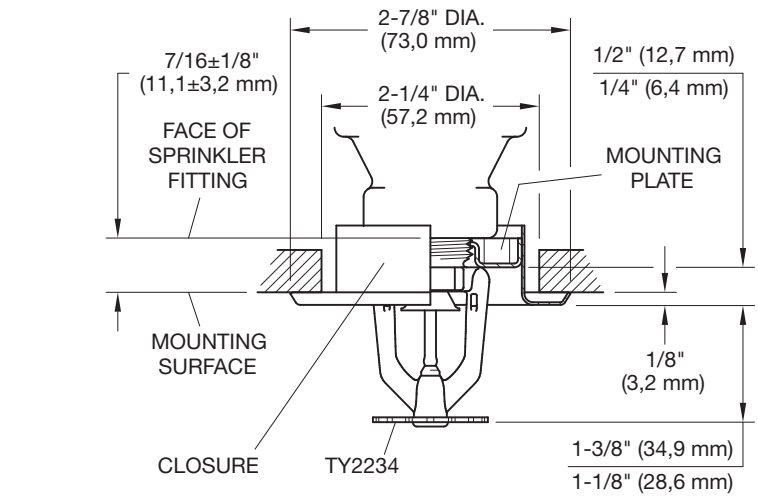


FIGURE 2
STYLE 20 RECESSED ESCUTCHEON FOR USE WITH THE SERIES LFII RESIDENTIAL PENDENT SPRINKLERS (TY2234)

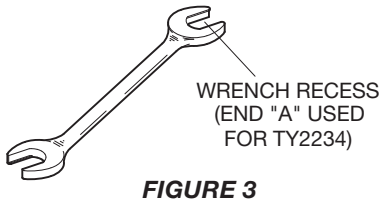


FIGURE 3
W-TYPE 6
SPRINKLER WRENCH

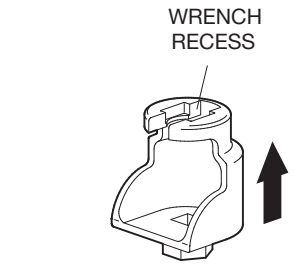


FIGURE 4
W-TYPE 7 RECESSED
SPRINKLER WRENCH

Model/Sprinkler Identification Number (SIN)

TY2234

Technical Data

Approvals
- UL Listed for use with wet pipe and dry pipe systems
- C-UL Listed for use only with wet pipe systems
- NYC Approved under MEA 44-03-E

For details on these approvals, refer to the Design Criteria section.

Maximum Working Pressure
175 psi (12,1 bar)

Discharge Coefficient
K=4.9 GPM/psi$^{1/2}$ (70,6 LPM/bar$^{1/2}$)

Temperature Rating
155°F (68°C) or 175°F (79°C)

Finishes
- White Polyester
- Chrome Plated
- Natural Brass

Physical Characteristics

Frame	Brass
Button	Bronze
Sealing Assembly	Beryllium Nickel w/Teflon*
Bulb (3 mm)	Glass
Compression Screw	Bronze
Deflector	Bronze
Ejection Spring	Stainless Steel

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 sprinkler to activate and flow water.

Design Criteria

The RAPID RESPONSE Series LFII Residential Pendent and Recessed Pendent Sprinklers (TY2234) are UL and C-UL Listed for installation in accordance with the following criteria.

*Registered trademark of Dupont

Note: *When conditions exist that are outside the scope of the provided criteria, refer to the Residential Sprinkler Design Guide TFP490 for the manufacturer's recommendations that may be acceptable to the local authority having jurisdiction.*

System Types
Per the UL Listing, wet pipe and dry pipe systems may be utilized. Per the C-UL Listing, only wet pipe systems may be utilized.

- For dry systems corrosion-resistant or internally galvanized pipe shall be utilized with the sprinklers described in this data sheet.
- For dry systems not using CPVC, pendent sprinklers shall be installed on return bends, where the sprinklers, return bends, and branch line piping (that is, potential areas for trapped water) are in areas at or above 40°F (4°C).

Refer to technical data sheet TFP485 about the use of Residential Sprinklers in residential dry pipe systems.

NOTICE

When corrosion-resistant or internally galvanized pipe and fittings with a potable water supply is utilized, return bends need not be installed. However, any portion of the piping that has the potential to trap water must be maintained at or above 40°F (4°C) unless provision to drain such areas is provided and maintained dry.

Water Delivery
When using the Series LFII Residential Pendent and Recessed Pendent Sprinklers (TY2234) in dry pipe sprinkler systems, the requirements for "Dry System Water Delivery" per Section 8.3.4.3 of the 2010 edition of NFPA 13D apply. For a residential hazard, in no case shall the time of water delivery exceed 15 seconds for the most remote operating sprinkler.

Hydraulic Design (NFPA 13D and 13R)
The minimum required sprinkler flow rate for systems designed to NFPA 13D or NFPA 13R are given in Tables A and B as a function of temperature rating and the maximum allowable coverage areas. The sprinkler flow rate is the minimum required discharge from each of the total number of "design sprinklers" as specified in NFPA 13D or NFPA 13R.

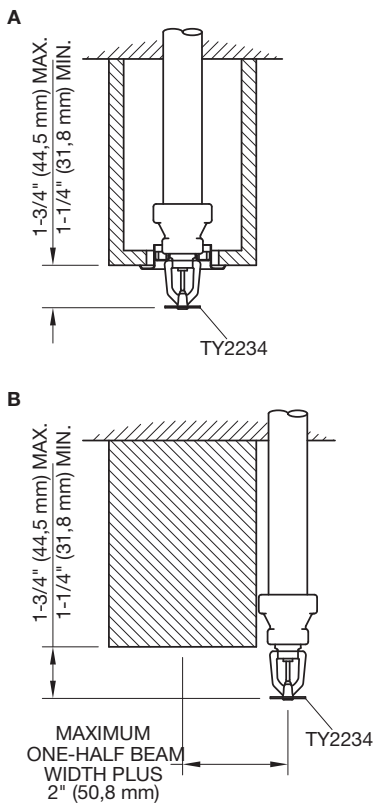


FIGURE 5
SPRINKLER POSITIONING UNDER PRIMARY BEAMS WET PIPE SYSTEMS ONLY
(Refer to the "Beam Ceiling Design Criteria" section.)

NOTICE

The number of "design sprinklers" specified in NFPA 13D and 13R for wet pipe systems is to be applied when designing dry pipe systems. There is no need to increase the design area, as is the case for density/area systems, in accordance with U.S. Patent 7,712,543. Refer to technical data sheet TFP485.

ALL FIGURES: DISTANCES ARE MEASURED TO COMPARTMENT WALL FACES AND TO CENTERLINES OF BEAMS

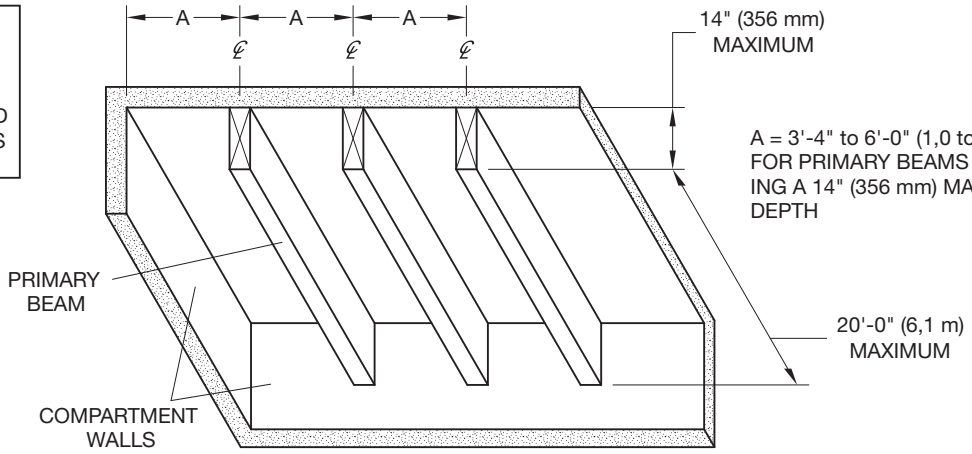


FIGURE 6A
PRIMARY BEAM SPANS UP TO 20'-0" (6,1 m)

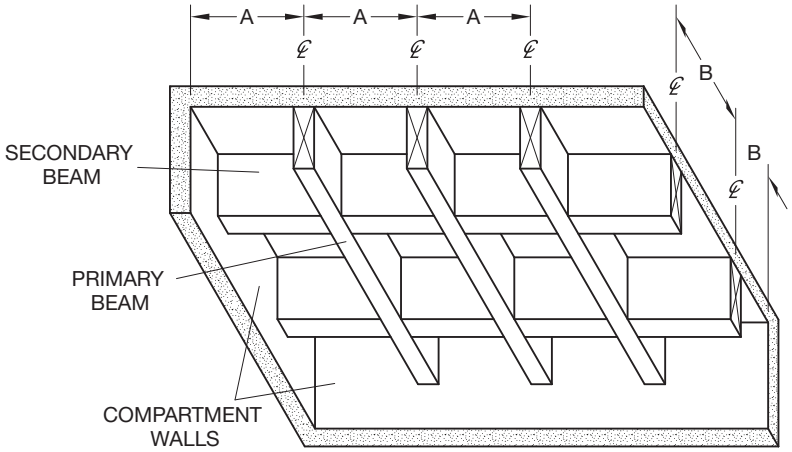
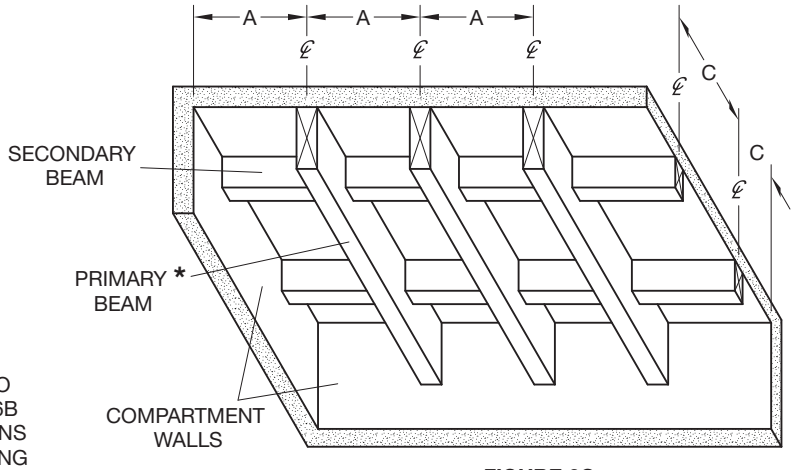


FIGURE 6B
PRIMARY BEAM SPANS GREATER THAN 20'-0" (6,1 m)



* REFER TO FIGURE 6B FOR SPANS EXCEEDING 20'-0" (6,1 m)

FIGURE 6C
COMBINATIONS OF PRIMARY AND SECONDARY BEAMS

FIGURE 6
BEAM ARRANGEMENTS
WET PIPE SYSTEMS ONLY
(Refer to the "Beam Ceiling Design Criteria" section.)

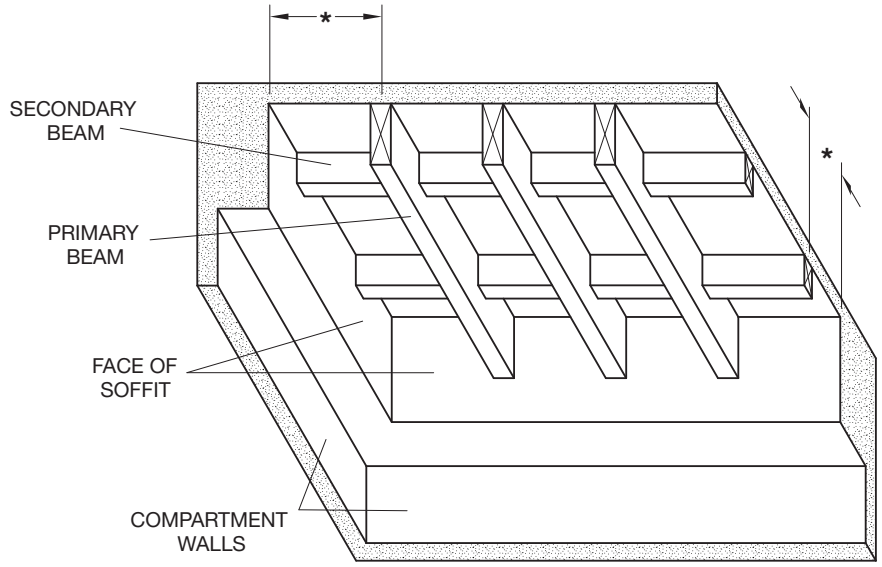


FIGURE 7
BEAM AND SOFFIT ARRANGEMENTS
WET PIPE SYSTEMS ONLY
(Refer to the "Beam Ceiling Design Criteria" section.)

Hydraulic Design (NFPA 13)
For systems designed to NFPA 13, the number of design sprinklers is to be the four most hydraulically demanding sprinklers. The minimum required discharge from each of the four sprinklers is to be the greater of the following:

- The flow rates given in Tables A or B for NFPA 13D and 13R as a function of temperature rating and the maximum allowable coverage area.
- A minimum discharge of 0.1 GPM/sq. ft. over the "design area" comprised of the four most hydraulically demanding sprinklers for actual coverage areas protected by the four sprinklers.

NOTICE

The number of "design sprinklers" specified in NFPA 13 for wet pipe systems is to be applied when designing dry pipe systems. There is no need to increase the design area, as is the case for density/area systems, in accordance with U.S. Patent 7,712,543. Refer to technical data sheet TFP485.

Obstruction to Water Distribution.
Sprinklers are to be located in accordance with the obstruction rules of NFPA 13D, 13R, and 13 as applicable for residential sprinklers as well as with the obstruction criteria described within the TYCO technical data sheet TFP490.

Operational Sensitivity
For ***Horizontal Ceilings*** (maximum 2-inch rise for 12-inch run), the sprinklers are to be installed with a deflector-to-ceiling distance of 1-3/8 to 4 inches or in the recessed position using only the Style 20 Recessed Escutcheon as shown in Figure 2.

NOTICE

The "Beam Ceiling Design Criteria" section permits deflector-to-ceiling distances up to 15-3/4 inches.

To help avoid obstructions to water distribution, a maximum 12-inch deflector-to-ceiling distance is permitted for NFPA 13D and NFPA 13R applications where the sprinklers are located in closets.

For ***Sloped Ceilings*** (greater than 2-inch rise up to 8-inch rise for 12-inch run), the sprinklers are to be installed with a deflector-to-ceiling distance of 1-3/8 to 4 inches or in the recessed position using only the Style 20 Recessed Escutcheon as shown in Figure 2.

Sprinkler Spacing
The minimum spacing between sprinklers is 8 feet (2,4 m). The maximum spacing between sprinklers cannot exceed the length of the coverage area (Table A) being hydraulically calculated; maximum 12 feet for a 12 ft. x 12 ft. coverage area, or 20 feet for a 20 ft. x 20 ft. coverage area.

Beam Ceiling Design Criteria

The RAPID RESPONSE Series LFII Residential Pendent and Recessed Pendent Sprinklers (TY2234) are UL and C-UL Listed for installation in wet pipe systems only for residential occupancies with horizontal ceilings (that is, slopes up to a 2-inch rise over a 12-inch run) with beams when installed in accordance with the following criteria.

General Information
The basic concept of this protection scheme is to locate the sprinklers on the underside of the beams, refer Figure 5, (not in the beam pockets); to identify the main beams that principally run in one direction as "primary beams"; and, to identify the beams that run principally perpendicular to the main beams, as may be present (or in some cases may be necessary for proper sprinkler protection), as "secondary beams".

Primary and Secondary Beam Types
Solid surface, solid or hollow core, combustible or non-combustible.

Primary and Secondary Beam Positioning
Directly attached to the underside of a combustible or non-combustible smooth ceiling at any elevation.

Primary Beam Cross-Section
Maximum depth of 14 inches and the maximum width is unlimited. The cross-sectional shape of the primary beam may be rectangular to circular.

Secondary Beam Cross-Section
Maximum depth to be no greater than the primary beam and the maximum width is unlimited. The cross-sectional shape of the secondary beam may be rectangular to circular.

Primary Beam Spacing
The primary beams (Figure 6A) are to be 3 ft. - 4 in. to 6 ft. from the compartment wall to center of the nearest beam and from center to center between beams.

Secondary Beam Spacing
The secondary beams principally run perpendicular to the primary beams. Secondary beams of a depth equal to the primary beam must be placed so that the beam pockets created by the primary beams do not exceed 20 feet in length (Figure 6B).

NOTICE

When the beam pockets created by the primary beams exceed 20 feet in length, the installation will require the use of secondary beams as described above. Otherwise, secondary beams need not be present.

Secondary beams of a cross-sectional depth greater than one-quarter the depth of the primary beams are to be a minimum of 3 ft. - 4 inches from the compartment wall to center of the nearest beam and from center to center between beams (Figure 6C).

Secondary beams of a cross-sectional depth no greater than one-quarter the depth of the primary beams may be placed at any compartment wall to center of the nearest beam distance and from any center to center distance between beams (Figure 6C).

Lintels
Lintels over doorways exiting the compartment must be present. The minimum height for the lintels is 8 inches or no less than the depth of the Primary Beams, whichever is greater.

Sprinkler Types
Series LFII Pendent and Recessed Pendent Residential Sprinklers (TY2234), 155°F (68°C) and 175°F (79°C).

Sprinkler Coverage Area and Hydraulic Design
The sprinkler coverage areas and hydraulic design criteria as presented in the Table A for "Horizontal Ceilings" are to be applied.

Sprinkler Position
The deflector to bottom of primary beams for the Series LFII Pendent and Recessed Pendent Sprinklers (TY2234) is to be 1-1/4 to 1-3/4 inches (Figure 5A). The vertical center-line of the Series LFII Pendent Sprinklers is to be no greater than half the primary beam cross-sectional width plus 2 inches from the centerline of the primary beam (Figure 5B).

NOTICE

Core drilling of beams to allow the installation of sprinkler drops requires consulting with a structural engineer.

Where core drilling is not permitted, the previously stated sprinkler position criteria for the Series LFII Residential Pendent and Recessed Pendent Sprinklers (TY2234) allows placement of the sprinkler drop adjacent to the primary beam.

Beam and Soffit Arrangements
A soffit is permitted to be placed around the perimeter of a compartment with the beam arrangement within the soffited area (Figure 7).

The cross-section of the soffit may be any size as long as it does not create an obstruction to water distribution per the obstruction rules of NFPA 13 for residential sprinklers.

When soffits are present, the previously provided 3 ft.-4 inches to 6 ft. "compartment wall to adjacent beam" distance for the primary and secondary beams is to be measured from the face of the soffit as opposed to the compartment wall.

Note: *Although the distance to the beams is measured from the face of the soffit, the sprinkler coverage area is to be measured from the compartment wall.*

Installation

The RAPID RESPONSE Series LFII Residential Pendent and Recessed Pendent Sprinklers (TY2234) must be installed in accordance with the following instructions.

NOTICE

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 inch (1,6 mm).

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 insufficient adjustment in an Escutcheon Plate by under- or over-tightening the Sprinkler. Re-adjust the position of the sprinkler fitting to suit.

Series LFII Residential Pendent Sprinklers
The Series LFII Residential Pendent Sprinklers must be installed in accordance with the following instructions.

1. Install pendent sprinklers in the pendent position with the deflector parallel to the ceiling.
2. With pipe-thread sealant applied to the pipe threads, hand-tighten the sprinkler into the sprinkler fitting.
3. Tighten the sprinkler into the sprinkler fitting using only the W-Type 6 Sprinkler Wrench (Figure 3). With reference to Figure 1, apply the W-Type 6 Sprinkler Wrench to the wrench flats.

Series LFII Residential Recessed Pendent Sprinklers
The Series LFII Residential Recessed Pendent Sprinklers must be installed in accordance with the following instructions.

1. Install recessed pendent sprinklers in the pendent position with the deflector parallel to the ceiling.
2. After installing the Style 20 Mounting Plate over the sprinkler threads and with pipe-thread sealant applied to the pipe threads, hand-tighten the sprinkler into the sprinkler fitting.
3. Tighten the sprinkler into the sprinkler fitting using only the W-Type 7 Recessed Sprinkler Wrench (Figure 4). With reference to Figure 1, apply the W-Type 7 Recessed Sprinkler Wrench to the sprinkler wrench flats.
4. After the ceiling has been installed or the finish coat has been applied, slide on the Style 20 Closure over the Series LFII Residential Sprinkler and push the Closure over the Mounting Plate until its flange comes in contact with the ceiling.

Care and Maintenance

The RAPID RESPONSE Series LFII Residential Pendent and Recessed Pendent Sprinklers (TY2234) 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.

Absence of the outer piece of an escutcheon, which is used to cover a clearance hole, can delay sprinkler operation in a fire situation.

Owners must assure that the sprinklers are not used for hanging of 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.

Exercise care to avoid damage to sprinklers 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 slippage, 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.
- have a cracked bulb or have lost liquid from the bulb. Refer to the Installation section in this data sheet.

Initial and frequent visual inspections of random samples are recommended for corrosion-resistant sprinklers to verify the integrity of the corrosion-resistant material of construction. Thereafter, annual inspections per NFPA 25 should suffice.

Inspections of corrosion-resistant sprinklers are recommended at close range, instead of from the floor level per NFPA. Inspection at close range can better determine the exact sprinkler condition and the long-term integrity of the corrosion-resistant material, which can be affected by the corrosive conditions present.

Responsibility lies with the owner 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 are recommended to 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.

Ordering Procedure

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

Sprinkler Assembly
Specify Series LFII Residential Pendent and Recessed Pendent Sprinkler (TY2234), K=4.9, with (temperature rating), (finish), and P/N (below).

155°F (68°C) or Chrome Plated	P/N 51-201-9-155
155°F (68°C) White Polyester	P/N 51-201-4-155
155°F (68°C) White (RAL9010)*	P/N 51-201-3-155
155°F (68°C) Natural Brass	P/N 51-201-1-155
175°F (79°C) or Chrome Plated	P/N 51-201-9-175
175°F (79°C) White Polyester	P/N 51-201-4-175
175°F (79°C) White (RAL9010)*	P/N 51-201-3-175
175°F (79°C) Natural Brass	P/N 51-201-1-175

*Eastern Hemisphere sales only.

Recessed Escutcheon
Specify Style 20 Recessed Escutcheon with finish and P/N. Refer to Technical Data Sheet TFP770.

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

Specify W-Type 7 Sprinkler Wrench, P/N 56-850-4-001.