

FEATURES & BENEFITS

- ◆ **Only FM Approved Package of Residential Sprinklers for NFPA 13 occupancies**
- ◆ **Larger K-Factor allows for smaller pipe sizes and lower pressure**
- ◆ **Optimized for NFPA 13 residential designs requiring a 0.10 density**
- ◆ **Available in 155°F/68°C and 175°F/79°C temperatures**
- ◆ **Featuring the industry's only 10 year limited product warranty**

GENERAL DESCRIPTION

The Tyco® Series LFII (TY4334) Rapid Response™ Residential Horizontal Sidewall Sprinklers and (TY4234) Rapid Response™ Residential Pendant, Recessed Pendant, and Concealed Pendant Sprinklers are decorative, fast response, frangible bulb sprinklers designed for use in residential occupancies such as homes, apartments, dormitories, and hotels. When enhanced flow characteristics for residential portions of any occupancy per NFPA 13 are the major consideration, the Series LFII (TY4234 and TY4334) should be the first choice.

When higher flow demands are required for residential sprinklers used in an NFPA 13 design, the large 5.8 K factor of the Series LFII (TY4334) and 6.9 K factor of the Series LFII (TY4234) are an attractive choice. Although primarily intended where residential sprinklers are to be used in an NFPA 13 design, the Series LFII (TY4234 and TY4334) can also be used in wet pipe residential sprinkler systems for one- and two-family dwellings and mobile homes per NFPA 13D, and wet pipe residential sprinkler systems for residential occupancies up to and including four stories in height per NFPA 13R.

SERIES LFII 6.9 K PENDENT & 5.8 K HORIZONTAL SIDEWALL SPRINKLERS

UL Listed & FM Approved Residential Sprinklers

TY4234 TECHNICAL DATA

6.9 K-factor Residential Pendant, Recessed Pendant & Concealed Pendant Sprinklers

Approvals & Listings:

Pendant / Recessed Pendant:
UL and C-UL Listed, FM Approved
Concealed Pendant:
UL and C-UL Listed

Discharge Coefficient:

K = 6.9 GPM/psi^{1/2} (99.4 LPM/bar^{1/2})

Pipe Thread Connection: 3/4" NPT

Temperature Ratings:

Pendant / Recessed Pendant:
155°F/68°C or 175°F/79°C
Concealed Pendant:
155°F/68°C (with Cover Plate 135°F/57°C)
175°F/79°C (with Cover Plate 135°F/57°C)

Sprinkler Component Finishes

Sprinklers: White Polyester Coated, Chrome Plated, or Natural Brass
Recessed Escutcheon: White, Chrome, or Brass
Concealed Cover Plate: Flat White, Bright White, Chrome, or Custom

Maximum Coverage Area: 400 ft.²

Maximum distance between sprinkles should not exceed the length of the coverage area.

TY4334 TECHNICAL DATA

5.8 K-factor Residential Horizontal Sidewall Sprinkler

Approvals & Listings:

UL and C-UL Listed, FM Approved

Discharge Coefficient:

K = 5.8 GPM/psi^{1/2} (83.5 LPM/bar^{1/2})

Pipe Thread Connection: 1/2" NPT

Temperature Ratings: 155°F (68°C) or 175°F (79°C)

Sprinkler Finishes: White Polyester Coated, Chrome Plated, or Natural Brass

Maximum Coverage Area:

Recessed: 324 ft.², **Non-Recessed:** 352 ft.²
Maximum distance between sprinkles should not exceed the length of the coverage area.

COLLECTIVE TECHNICAL DATA

Maximum Working Pressure: 175 psi (12.1 bar)

Minimum Distance Between Sprinklers: 8 ft. (2.4 m)

System Type: Wet Pipe Systems Only



SERIES LFII

ORDERING PROCEDURE & SPECIFICATIONS

SPECIFICATIONS

	TY4234	TY4334
Normal K Factor	6.9	5.8
Temperature	155°F or 175°F (63°C or 79°C)	155°F or 175°F (68°C or 79°C)
Thread Size	3/4" NPT	1/2" NPT

ORDERING PROCEDURE

TY4234 Pendent(s) LFII 6.9K – 3/4" NPT

Temperature	Finish	P/N
155°F (68°C)	Brass	P/N: 51-069-1-155
155°F (68°C)	Chrome	P/N: 51-069-9-155
155°F (68°C)	White	P/N: 51-069-4-155
175°F (79°C)	Brass	P/N: 51-069-1-175
175°F (79°C)	Chrome	P/N: 51-069-9-175
175°F (79°C)	White	P/N: 51-069-4-175

Recessed Escutcheons

Style	Finish	P/N
Style 30	Brass	P/N: 56-705-2-011
Style 30	Chrome	P/N: 56-705-9-011
Style 30	White	P/N: 56-705-4-011

Recessed escutcheons are ordered separately.

TY4234 Concealed(s) LFII 6.9K – 3/4" NPT

Temperature	Finish	P/N
155°F (68°C)	Brass	P/N: 51-068-1-155
175°F (79°C)	Brass	P/N: 51-068-1-175

Cover Plates

Temperature	Finish	P/N
155°F (68°C)	Chrome	P/N: 56-873-9-135
155°F (68°C)	Off White	P/N: 56-873-0-135
155°F (68°C)	Bright White	P/N: 56-873-4-135
175°F (79°C)	Flat White	P/N: 56-873-5-135
175°F (79°C)	Custom	P/N: 56-873-X-135

Cover plates ordered separately.
Custom cover plates are non-returnable.

TY4334 Sidewall LFII 5.8K – 1/2" NPT

Temperature	Finish	P/N
155°F (68°C)	Brass	P/N: 51-534-1-155
155°F (68°C)	Chrome	P/N: 51-534-9-155
155°F (68°C)	White	P/N: 51-534-4-155
175°F (79°C)	Brass	P/N: 51-534-1-175
175°F (79°C)	Chrome	P/N: 51-534-9-175
175°F (79°C)	White	P/N: 51-534-4-175

Recessed Escutcheons

Style	Finish	P/N
Style 20	Brass	P/N: 56-705-2-010
Style 20	Chrome	P/N: 56-705-9-010
Style 20	White	P/N: 56-705-4-010

Recessed escutcheons are ordered separately.

Sprinkler Wrench

W-Type 6 P/N: 56-000-6-387



W-Type 7 P/N: 56-850-4-001



SXL RULE – Hydraulic Design

The minimum required sprinkler flow rate for systems designed to NFPA 13D or NFPA 13R are given in the TY4234 and TY4334 table below 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. 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 & 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 the actual coverage areas being protected by each of the four sprinklers.

Table A - UL & C-UL Listed Flow Chart for TY4234 - 6.9 K Pendent Sprinklers

Minimum Flow & Residual Pressure For Horizontal Ceilings

Maximum Coverage Area ^(a) Width x Length ^(b) ft. x ft. (m x m)	Maximum Spacing ft. (m)	(Max. 2 inch Rise for 12 inch Run)	
		Pendent & Recessed Pendent 155°F/68°C or 175°F/79°C	Concealed Pendent 155°F/68°C or 175°F/79°C
12 x 12 (3,7 x 3,7)	12 (3,7)	19 GPM (71,9 LPM) 7.6 psi (0,52 bar)	19 GPM (71,9 LPM) 7.6 psi (0,52 bar)
14 x 14 (4,3 x 4,3)	14 (4,3)	19 GPM (71,9 LPM) 7.6 psi (0,52 bar)	19 GPM (71,9 LPM) 7.6 psi (0,52 bar)
16 x 16 (4,9 x 4,9)	16 (4,9)	19 GPM (71,9 LPM) 7.6 psi (0,52 bar)	19 GPM (71,9 LPM) 7.6 psi (0,52 bar)
18 X 18 (5,5 x 5,5)	18 (5,5)	19 GPM (71,9 LPM) 7.6 psi (0,52 bar)	21 GPM (79,5 LPM) 9.3 psi (0,64 bar)
20 x 20 (6,1 x 6,1)	20 (6,1)	22 GPM (83,3 LPM) 10.2 psi (0,70 bar)	24 GPM (90,8 LPM) 12.1 psi (0,83 bar)

EXAMPLE FOR TY4234:

A corridor being protected is 8 ft. wide; consequently, an actual coverage area of 8 ft. x 20 ft. is being contemplated. Based on using the LFII (TY4234) Residential Pendent Sprinkler, the flow rate provided in Table A for a 20 ft. x 20 ft. coverage area is 22 GPM. However based on minimum discharge of 0.1 gpm/sq. ft. the flow rate would be 16 GPM. In this case a minimum flow rate of 22 GPM for this design sprinkler must be utilized.

Table B - UL & C-UL Listed Flow Chart for TY4334 - 5.8 K Horizontal Sidewall Sprinkler

Maximum Coverage Area ^(a) Width x Length ^(b) ft. x ft. (m x m)	Maximum Spacing ft. (m)	Minimum Flow & Residual Pressure			
		Top-Of-Deflector-To-Ceiling 4 – 6 inches (102 – 152 mm)		Top-Of-Deflector-To-Ceiling 6 – 12 inches (152 – 305 mm)	
		155°F/68°C	175°F/79°C	155°F/68°C	175°F/79°C
RECESSED OR NON-RECESSED					
12 x 12 (3,7 x 3,7)	12 (3,7)	19 GPM (71,9 LPM) 10.7 psi (0,74 bar)	19 GPM (71,9 LPM) 10.7 psi (0,74 bar)	19 GPM (71,9 LPM) 10.7 psi (0,74 bar)	19 GPM (71,9 LPM) 10.7 psi (0,74 bar)
14 x 14 (4,3 x 4,3)	14 (4,3)	21 GPM (79,5 LPM) 13.1 psi (0,90 bar)	21 GPM (79,5 LPM) 13.1 psi (0,90 bar)	23 GPM (87,1 LPM) 15.7 psi (1,08 bar)	23 GPM (87,1 LPM) 15.7 psi (1,08 bar)
16 x 14 (4,9 x 4,3)	16 (4,9)	21 GPM (79,5 LPM) 13.1 psi (0,90 bar)	21 GPM (79,5 LPM) 13.1 psi (0,90 bar)	23 GPM (87,1 LPM) 15.7 psi (1,08 bar)	23 GPM (87,1 LPM) 15.7 psi (1,08 bar)
16 x 16 (4,9 x 4,9)	16 (4,9)	21 GPM (79,5 LPM) 13.1 psi (0,90 bar)	21 GPM (79,5 LPM) 13.1 psi (0,90 bar)	23 GPM (87,1 LPM) 15.7 psi (1,08 bar)	23 GPM (87,1 LPM) 15.7 psi (1,08 bar)
16 x 18 (4,9 x 5,5)	16 (4,9)	23 GPM (87,1 LPM) 15.7 psi (1,08 bar)	23 GPM (87,1 LPM) 15.7 psi (1,08 bar)	24 GPM (90,8 LPM) 17.1 psi (1,18 bar)	24 GPM (90,8 LPM) 17.1 psi (1,18 bar)
16 x 20 (4,9 x 6,1)	16 (4,9)	29 GPM (109,8 LPM) 25.0 psi (1,72 bar)	29 GPM (109,8 LPM) 25.0 psi (1,72 bar)	30 GPM (113,6 LPM) 26.8 psi (1,85 bar)	30 GPM (113,6 LPM) 26.8 psi (1,85 bar)
18 X 18 (5,5 x 5,5)	18 (5,5)	29 GPM (109,8 LPM) 25.0 psi (1,72 bar)	29 GPM (109,8 LPM) 25.0 psi (1,72 bar)	30 GPM (113,6 LPM) 26.8 psi (1,85 bar)	30 GPM (113,6 LPM) 26.8 psi (1,85 bar)
NON-RECESSED ONLY					
16 x 22 (4,9 x 6,7)	16 (4,9)	38 GPM (143,8 LPM) 42.9 psi (2,96bar)	38 GPM (143,8 LPM) 42.9 psi (2,96bar)	40 GPM (151,4 LPM) 47.6 psi (2,96 bar)	40 GPM (151,4 LPM) 47.6 psi (2,96 bar)

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

(b) 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 the Hydraulic Design criteria for details.

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Always refer to the **Technical Data Sheets TFP408 and TFP417** for complete description of all Listing & Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.