

Residential PRODUCT BROCHURE



Selection Guide

Reliable[®]

TECHNOLOGY • QUALITY • SERVICE

Company Profile



Our new state-of-the-art manufacturing facility in Liberty, SC



Frank J. Fee

COMPANY

The Reliable Automatic Sprinkler Co., Inc. is one of the world's largest producers of automatic fire sprinklers and sprinkler system control equipment.

Reliable has undertaken a major expansion of its manufacturing capability with the construction of a new state-of-the-art plant located in Liberty, South Carolina, a short distance from Greenville. This new 300,000 square foot facility has been fully operational since summer 2006 and is ISO9001 certified.

In mid 2006 the company relocated its corporate headquarters to Elmsford, NY, which is also the Northeast regional sales and distribution center. Reliable also maintains sales and regional distribution centers in Washington, D.C., Atlanta, Orlando, Chicago, Minneapolis, Denver, Dallas, Houston, Los Angeles, Las Vegas, Seattle, and Toronto, Canada. Reliable has sales offices in Boston, Philadelphia, Richmond, San Francisco, and Vancouver B.C. Reliable ships products to more than 50 countries worldwide, with international sales conducted from its offices in London, England, Hamburg, Germany, Beijing, Shanghai, Hong Kong, PR of China and Adelaide, Australia.

Reliable now offers fabrication in local areas. One Source Fabrication is operated and managed by individuals with over 30 years of fabrication experience. Local areas are now in Grand Prairie, Portland, Denver, and Las Vegas and soon to be in many other locations.

HISTORY

Reliable was founded in 1918 by Frank J. Fee, a mechanical contractor who began manufacturing sprinklers when he had trouble securing them for his own jobs. Frank J. Fee, Jr., succeeded his father as company President in 1945, and his son, Frank J. Fee III, became President in 1976. This puts Reliable today in its third generation of Fee family leadership. As part of senior management with Frank J. Fee III are his two brothers, Kevin T. Fee, Executive Vice President, and Michael R. Fee, Vice President, Marketing and Sales Operations. The family-run company also has many employees who have served in excess of 25 years, enhancing its team-family tradition.

PRODUCT OFFERINGS

The company is a manufacturer of automatic fire sprinklers, valve and accessory products, and a major distributor of sprinkler system components. Reliable produces both of the industry's two basic types of sprinklers, the solder type and the frangible bulb, which can be used for virtually every type of building applications. Reliable also produces a broad range of valves including alarm, dry, deluge, preaction, and check valve that control water flow to sprinkler systems and actuate alarm signaling.

FIRE PROTECTION INDUSTRY

Reliable has always been an industry-minded company. Reliable is an active participant in the



Frank J. Fee, Jr.



Frank J. Fee, III

following industry associations: American Fire Sprinkler Association, American Society of Plumbing Engineers, British Automatic Fire Sprinkler Association, bvfa Bundesverband Technischer Brandschutz, Canadian Automatic Sprinkler Association, European Fire Sprinkler Network, Factory Mutual Advisory Board, Home Fire Sprinkler Coalition, International Fire Sprinkler Association, National Fire Protection Association, National Fire Sprinkler Association, National Fire Sprinkler Network, and Society of Fire Protection Engineers.

Past President Frank J. Fee, Jr., attained many notable positions in the fire protection community, including Chairman of the National Fire Protection Association and Chairman of the National Automatic Sprinkler and Fire Control Association.

Frank J. Fee III is currently serving on the National Fire Protection Association's International Advisory Board and has held several Board of Directors positions for NFPA including Treasurer, Secretary, and Director. He was past Chairman of the Board and Director of the National Fire Sprinkler Association. Frank has been the recipient of the AFSA's "Henry S. Parmelee Award" (1990), the NFPA's "Distinguished Service Award" (1998), and the NFSAs "Golden Sprinkler Award" (1998), in recognition of his outstanding contributions to the fire sprinkler industry.



Kevin T. Fee

Kevin T. Fee is currently serving on the Board of Directors of the National Fire Sprinkler Association and has been appointed Treasurer. Kevin is the recipient of NFSAs "Golden Sprinkler Award" (2008). He was Chairman (1990 - 1994). Kevin has been a Board member since 1981 and is approaching his 30th consecutive year and is the longest tenured Board member in the history of NFSAs. Kevin was a founding member of the International Fire Sprinkler Association and served as its first Chairman (2000 - 2003) and is presently a Board member. Kevin was also past Chairman of the American Fire Sprinkler Association's Manufacturer and Supplier Council.

Michael R. Fee is currently serving on the American Fire Sprinkler Association's Manufacturer and Supplier Council, Legislative Committee, and Membership Committee. For many years, Michael has been on the Membership Committee and helped establish the local chapter development programs. Michael has been Chairman (2000-2004) of AFSA's Manufacturer and Supplier Council.



Michael R. Fee

MISSION

Three goals are at the heart of the mission that the Fee family established long ago: first to be the leading worldwide manufacturer of innovative, quality-oriented fire sprinklers and systems devices; second, to be a leading supplier of fire sprinkler system components; and third, to be the leader in providing the highest level of operational excellence in customer service, exceeding all customer expectations. It is this mission that propels Reliable through the 21st Century and beyond in its service to the fire sprinkler industry.

LISTINGS AND APPROVALS

Reliable products are listed and approved by various fire protection product approval laboratories and organizations such as:



Refer to the product's Technical Bulletin for specific listing and approval information.

ENVIRONMENT

Reliable is pursuing a **GREEN POLICY** and is committed to protecting our environment by developing products that use recycled materials that reduce the use of natural resources.

Introduction



Developed specifically for residential occupancies, Reliable offers the most complete line of Residential Sprinklers and accessories in the industry.

- Our Residential Sprinklers are cULus Listed and meet NFPA standards.
- We offer all our Residential Sprinklers in a variety of finishes. Custom finishes can also be provided.
- Most of our Residential Sprinklers have sloped ceiling listings for up to 4/12 and 8/12 pitch.

Table of Contents

Residential Options from Reliable.....	5
Sloped Ceiling TIA#1028R.....	6
Ceiling Application Matrices.....	7
Pendent & Recessed Pendent Sprinklers.....	8-12
HSW & Recessed HSW Sprinklers.....	13-15
Concealed HSW (SWC) Sprinklers.....	16
Conical Concealed (CCP) Sprinklers.....	17-20
Flat Concealed Sprinklers.....	21-23
Cover Plate Finishes.....	24
Accessories.....	25-26

Look at the Residential Options from Reliable

Pendent and Recessed Pendent	K = 3.0	K = 4.9	K = 5.8	K = 7.6
Conical Concealed (CCP)	K = 3.0	K = 4.9	K = 5.8	K = 7.6
Horizontal Sidewall (HSW)		K = 4.4	K = 5.8	
Flat Residential Concealed (RFC)	K = 3.0	K = 4.3	K = 4.9	K = 5.6

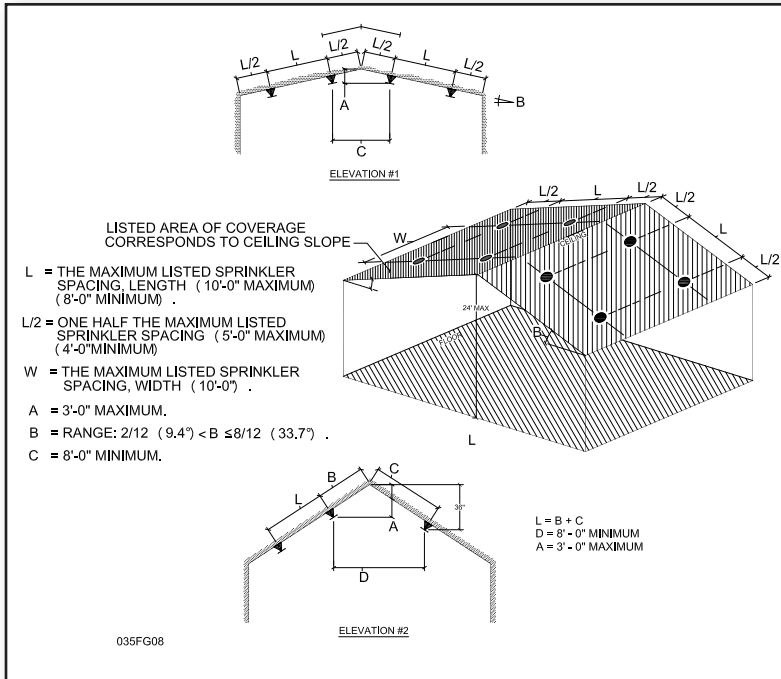
- All of Reliable’s residential fire sprinklers identify the K-Factor of the sprinkler in the model number of the sprinkler (i.e. F1RES 30: K-Factor = 3.0)
- All of Reliable’s residential fire sprinklers have passed UL 1626 and/or UL 1626A fire tests and are listed for use in installations governed by the NFPA 13D, 13R & 13 standards.
- NFPA 13D (2007) section 8.1.3.1.2 and NFPA 13R (2007) section 6.8.1.3.1.3 state, “Where construction features or other special conditions exist that are outside the scope of the sprinkler listings, listed sprinklers shall be permitted to be installed beyond their listing limitations.” Also see the appendix material of these two sections in the standards and the explanatory information offered in the 2007 edition of the Automatic Sprinkler Systems for Residential Occupancies Handbook.
- Flat ceilings are defined by the NFPA standards as having a slope not exceeding 2 inches of rise for 12 inches of run.
- See page 12 of Reliable’s Bulletin 035 regarding new low flow requirements at 10’ x 10’ maximum spacing for sloped ceiling applications. **These are highlighted in yellow throughout this brochure.**
- As residential sprinkler systems continue to evolve, The Reliable Automatic Sprinkler Co. will be offering new fire sprinklers that meet or exceed the new National Sanitary Foundation (NSF) maximum lead content requirements for use in potable water (i.e. drinking water) systems.

Having the Right Sprinkler for NFPA 13 Applications Requiring .10 Densities

Spacing	Sprinkler Model			
	RES 76 .10 Density	RES 58 Better Choice	RES 49 Better Choice	RES 30 Better Choice
<80 ft. ² >				8.0 gpm / 7.1 psi
12’ x 12’	21 gpm / 7.6 psi		14.4 gpm / 8.6 psi	
14’ x 14’	21 gpm / 7.6 psi	19.6 gpm / 11.4 psi		
16’ x 16’	25.6 gpm / 11.3 psi			
18’ x 18’	32.4 gpm / 18.2 psi			
20’ x 20’	40 gpm / 27.7 psi			

Sloped Ceiling TIA #1028R

The Design Criteria for Sloped & Sloped Beamed Ceilings in NFPA 13D One and Two Family Dwellings & Manufactured Homes Has Changed.



A Tentative Interim Amendment (TIA No. 1028R) to NFPA 13D for 2010 was issued by the NFPA Standards Council on August 18, 2011.

Testing supported by The Fire Protection Research Foundation indicates that residential sprinklers listed for applications with smooth, flat ceilings can meet the stated purpose in NFPA 13D standards when installed on a sloped or sloped and beamed ceiling.

Sloped and Sloped/Beamed Ceilings, under certain conditions, can now be protected with residential sprinklers based upon a maximum two (2) sprinkler demand that has the same flow rate as the sprinklers smooth, flat ceiling listing.

The TIA No.1028R revises NFPA 13D - 2010 edition sections 8.1.2, 8.1.3, A.8.1.2, and A.8.1.3.

Please read and adhere to these sections for the complete new design criteria.

A brief recap:

The sprinklers in the design area shall be all of the sprinklers in a compartment, up to a maximum of two, which require the greatest demand for:

- Smooth, flat ceilings to a maximum 24 feet in height.
- Smooth ceilings (with no beams) sloped up to 8/12 and a maximum ceiling height of 24' above the floor.
- A ceiling with beams up to 14" deep sloped up to 8/12 and a maximum ceiling height of 24' above the floor. Pendent sprinklers shall be installed under the beams and the compartment cannot exceed 600 square feet.
- A ceiling with beams of any depth sloped up to 8/12 and a maximum ceiling height of 24' above the floor. Sidewall or pendent sprinklers shall be installed in each pocket formed by the beams and the compartment cannot exceed 600 square feet.

All Reliable residential sprinklers can be used for these applications based upon the spacing, flow, and pressure as listed for smooth and flat ceilings. (See Bulletins: 135, 006, 033 and 032).

This TIA is for NFPA 13D applications only. Changes to NFPA 13R will be contained in the 2013 Edition. Our special 10' x 10' spacing listings for sloped ceilings are still advantageous for 13R installations. (See Table 9, Bulletin 035).

Ceiling Application Matrices

Ceiling Application Matrix for Pendent Sprinklers		
Sprinkler Type	Sprinkler Model	Escutcheon Type (Adj.)
Pendent	F1RES 30	----
Recessed Pendent	F1RES 30	F2 (1/2")
Recessed Pendent	F1RES 30	FP (1/2")
Pendent	F1RES 49	----
Recessed Pendent	F1RES 49	F1 (3/4")
Recessed Pendent	F1RES 49	F2 (1/2")
Recessed Pendent	F1RES 49	FP (1/2")
Pendent	F1RES 58	----
Recessed Pendent	F1RES 58	F1 (3/4")
Recessed Pendent	F1RES 58	F2 (1/2")
Recessed Pendent	F1RES 58	FP (1/2")
Pendent	F1RES 76	----
Recessed Pendent	F1RES 76	F1 (3/4")
Recessed Pendent	F1RES 76	F2 (1/2")
Recessed Pendent	F1RES 76	FP (1/2")
Conical Concealed	F1RES 30 CCP	Concealed (1/2")
Conical Concealed	F1RES 49 CCP	Concealed (1/2")
Conical Concealed	F1RES 58 CCP	Concealed (1/2")
Conical Concealed	F1RES 76 CCP	Concealed (1/2")
Flat Concealed	RFC30	Concealed (1/2")
Flat Concealed	RFC43	Concealed (1/2")
Flat Concealed	RFC49	Concealed (1/2")
Flat Concealed	RFC56	Concealed (1/2")

F2 Escutcheon = 1/2" of Adjustment
F1 Escutcheon = 3/4" of Adjustment
FP Escutcheon = 1/2" of Adjustment

Ceiling Application Matrix for Horizontal Sprinklers		
Sprinkler Type	Sprinkler Model	Escutcheon Type (Adj.)
Horizontal Sidewall	F1RES 44	----
Recessed Horizontal Sidewall	F1RES 44	F2 (1/2")
Horizontal Sidewall Concealed	F1RES 44 SWC	Concealed (1/2")
Horizontal Sidewall	F1RES 58	----
Recessed Horizontal Sidewall	F1RES 58	F2 (1/2")

F2 Escutcheon = 1/2" of Adjustment
F1 Escutcheon = 3/4" of Adjustment
FP Escutcheon = 1/2" of Adjustment



NEW Per NFPA #13D (2010) TIA #1028R flat ceiling flow rates can now be used on sloped ceilings up to 24' in height and in rooms less than 600 sq. ft.

Pendent & Recessed Pendent SPRINKLERS

FIRES 30



SIN: R3511
Technical Bulletin: 135

Features:

- Listed for a minimum of .05 gpm/ft².
- 3 mm glass bulb.
- For use in NFPA 13D installations with limited water supplies or small water meters that limit the available gpm.
- Can reduce the size of storage tanks or be used on systems fed by wells.
- For use in NFPA 13 and NFPA 13R installations where K factor sprinklers may “over discharge” in small rooms.
- For use in residential portions of any occupancy per NFPA 13.
- Great for retrofit installations.
- For use on flat ceilings.

Style: Pendent & Recessed Pendent

K-Factor: 3.0 (43)

Temp: 155°F (68°C), 175°F (79°C)

Thread Size: 1/2" NPT (R1/2)

Escutcheon: F2 (1/2" adjustment), FP (1/2" adjustment)

Finish: White, Chrome, Brass, Black, Custom

Approvals: cULus

FIRES 30/F2



Technical Data: FIRES 30 Pendent and Recessed Pendent For Flat Ceilings & NFPA #13D Sloped Ceilings per TIA #1028R (see page 6)

Deflector - to - ceiling
Maximum 1" (25mm) to 4" (100mm)

Max. Sprinkler Spacing ft (m)	Flow gpm (Lpm)	Pressure psi (bar)
12 x 12 (3.6 x 3.6)	8 (30)	7.0 (0.48)
14 x 14 (4.3 x 4.3)	10 (38)	11.0 (0.76)

Note: The above pressures and flows utilize the model F2 Recessed Escutcheon.

FIRES 30/FP



Technical Data: FIRES 30 Recessed Pendent/FP For Flat Ceilings & NFPA #13D Sloped Ceilings per TIA #1028R (see page 6)

Max. Sprinkler Spacing ft (m)	Flow gpm (Lpm)	Pressure psi (bar)
12 x 12 (3.6 x 3.6)	8 (30)	7.0 (0.48)
14 x 14 (4.3 x 4.3)	10 (38)	11.0 (0.76)

Note: The above pressures and flows utilize the model FP Recessed Escutcheon. The Model FP Escutcheon is not suitable for installation in ceilings which have positive pressure in the space above.

Required Sprinkler Wrench:

Pendent: Model D

F2 & FP: Model GFR2

Pendent & Recessed Pendent SPRINKLERS cont.

FIRES 49



SIN: R3516
Technical Bulletins: 135 & 176

Features:

- Listed for a minimum of .05 gpm/ft².
- 3 mm glass bulb.
- For use in wet pipe systems in accordance with NFPA 13D and 13R, and for use in the residential portions of any occupancy per NFPA 13.
- Listed with deflector positioned up to 8 inches below the ceiling.
- Available with 3/4" & 1/2" adjustable two-piece escutcheons and 1/2" adjustable low profile, Push-on/Thread-off escutcheon.
- Can be used for flat and sloped ceilings.

Style: Pendent & Recessed Pendent

K-Factor: 4.9 (70.6)

Temp: 155°F (68°C), 175°F (79°C)

Thread Size: 1/2" NPT (R1/2)

Escutcheon: F1 (3/4" adjustment), F2 (1/2" adjustment), FP (1/2" adjustment)

Finish: White, Chrome, Brass, Black, Custom

Approvals: cULus

FIRES 49/F1/F2



FIRES 49/FP



Technical Data: FIRES 49 Pendent and Recessed Pendent**

For Flat Ceilings & NFPA #13D Sloped Ceilings per TIA #1028R (see page 6)

Deflector - to - ceiling

Maximum 1" (25mm) to 4" (100mm)

Max. Sprinkler Spacing ft (m)	Flow gpm (Lpm)	Pressure psi (bar)
12 x 12 (3.6 x 3.6)	13 (49)	7.0 (0.48)
14 x 14 (4.3 x 4.3)	13 (49)	7.0 (0.48)
16 x 16 (4.9 x 4.9)	13 (49)	7.0 (0.48)
18 x 18 (5.5 x 5.5)	17 (64.3)	12.0 (0.83)
20 x 20 (6.1 x 6.1)	20 (75.7)	16.7 (1.14)

*Deflector - to - ceiling

Maximum 4" (100mm) to 8" (203mm)

Flow gpm (Lpm)	Pressure psi (bar)
15 (57.0)	9.4 (0.65)
16 (60.5)	10.6 (0.73)
17 (64.3)	12.0 (0.83)
19 (72.0)	15.0 (1.00)
22 (83.2)	20.2 (1.40)

***Note:** The F1 Res 49 pendent and recessed pendent residential sprinklers can be installed per NFPA 13 in beamed ceilings meeting the following criteria:

1. Maximum beam depth = 7" (178mm)
2. Beam spacing at or greater than 7' 6" (2.3m) on center
3. Refer to Bulletin 035 for additional details

****Note:** The above pressures and flows utilize the Model F1 and F2 Recessed Escutcheons

Technical Data: FIRES 49 Recessed Pendent/FP

For Flat Ceilings & NFPA #13D Sloped Ceilings per TIA #1028R (see page 6)

Max. Sprinkler Spacing ft (m)	Flow gpm (Lpm)	Pressure psi (bar)
12 x 12 (3.6 x 3.6)	13 (49)	7.0 (0.48)
14 x 14 (4.3 x 4.3)	13 (49)	7.0 (0.48)
16 x 16 (4.9 x 4.9)	13 (49)	7.0 (0.48)
18 x 18 (5.5 x 5.5)	17 (64.3)	12.0 (0.83)
20 x 20 (6.1 x 6.1)	20 (75.7)	16.7 (1.14)

Note: The above pressures and flows utilize the Model FP Recessed Escutcheon.

The Model FP Escutcheon is not suitable for installation in ceilings which have positive pressure in the space above.

Pendent & Recessed Pendent SPRINKLERS cont.

F1RES 49/F2



Technical Data: F1RES 49 Pendent & F1RES 49 Recessed Pendent/F2 For NFPA #13R Sloped Ceilings & NFPA #13D Sloped Ceilings per TIA #1028R (see page 6)

Max. Sprinkler Spacing along Slope (W)Width x (L)Length ft(m)	Max. Slope of 8/12 (33.7°) Pitch				Max. Slope of 4/12 (18.4°) Pitch	
	Min. Flow Per Sprinkler Head gpm (Lpm)		Pressure psi (bar)		Sprinkler Temp. Rating °F (°C) 155 (68) & 175 (79)	
	155°F (68°C)	175°F (79°C)	155°F (68°C)	175°F (79°C)	Min. Flow gpm (Lpm)	Pressure psi (bar)
10 x 10 (3 x 3)	13 (49)	---	7.0 (0.48)	---	---	---
12 x 12 (3.6 x 3.6)	13 (49)	13 (49)	7.0 (0.48)	7.0 (0.48)	13 (49)	7.0 (0.48)
14 x 14 (4.3 x 4.3)	13 (49)	13 (49)	7.0 (0.48)	7.0 (0.48)	13 (49)	7.0 (0.48)
16 x 16 (4.9 x 4.9)	13 (49)	13 (49)	7.0 (0.48)	7.0 (0.48)	13 (49)	7.0 (0.48)
18 x 18 (5.5 x 5.5)	17 (64.3)	18 (68.2)	12 (0.83)	13.5 (0.93)	17 (64.3)	12 (0.83)
20 x 20 (6.1 x 6.1)	20 (75.7)	21 (79.5)	16.7 (1.15)	18.4 (1.28)	20 (75.7)	16.7 (1.15)

Note: The above pressures and flows utilize the Model F2 Recessed Escutcheon

F1RES 58/F2



Technical Data: F1RES 58 Pendent & F1RES 58 Recessed Pendent/F2 For NFPA #13R Sloped Ceilings & NFPA #13D Sloped Ceilings per TIA #1028R (see page 6)

Max. Sprinkler Spacing along Slope (W)Width x (L)Length ft(m)	Max. Slope of 8/12 (33.7°) Pitch				Max. Slope of 4/12 (18.4°) Pitch	
	Min. Flow Per Sprinkler Head gpm (Lpm)		Pressure psi (bar)		Min. Flow gpm (Lpm)	Pressure psi (bar)
	155°F (68°C)	175°F (79°C)	155°F (68°C)	175°F (79°C)	155°F (68°C)	
12 x 12 (3.6 x 3.6)	21 (79.5)	23 (87)	13.1 (0.9)	15.7 (1.1)	----	----
14 x 14 (4.3 x 4.3)	21 (79.5)	23 (87)	13.1 (0.9)	15.7 (1.1)	----	----
16 x 16 (4.9 x 4.9)	21 (79.5)	23 (87)	13.1 (0.9)	15.7 (1.1)	----	----
18 x 18 (5.5 x 5.5)	23 (87)	----	15.7 (1.1)	----	20 (75.7)	12 (0.83)
20 x 20 (6.1 x 6.1)	23 (87)	----	15.7 (1.1)	----	20 (75.7)	12 (0.83)

Note: The above pressures and flows utilize the Model F2 Recessed Escutcheon

Required Sprinkler Wrench:

Pendent: Model D

F1 & F2: Model GFR2

FP Recessed: Model GFR2

Pendent & Recessed Pendent SPRINKLERS cont.

F1RES 58



SIN: R3513
Technical Bulletins: 135 & 176

Features:

- Listed for a minimum of .05 gpm/ft².
- 3 mm glass bulb.
- For use in wet pipe systems in accordance with NFPA 13D and 13R, and for use in the residential portions of any occupancy per NFPA13.
- Larger K-Factor provides lower pressure demands for 0.10 densities for NFPA 13 applications.
- Available with 3/4" & 1/2" adjustable two-piece escutcheon and 1/2" adjustable low profile Push-on/Thread-off escutcheon.
- Can be used for flat and sloped ceilings.

Style: Pendent & Recessed Pendent

K-Factor: 5.8 (83.5)

Temp: 155°F (68°C), 175°F (79°C)

Thread Size: 1/2" NPT (R1/2)

Escutcheon: F1 (3/4" adjustment), F2 (1/2" adjustment), FP (1/2" adjustment)

Finish: White, Chrome, Brass, Black, Custom

Approvals: cULus

F1RES 58/F1/F2



F1RES 58/FP



Technical Data: F1RES 58 Pendent and Recessed Pendent For Flat Ceilings & NFPA #13D Sloped Ceilings per TIA #1028R (see page 6)

Deflector - to - ceiling
Maximum 1" (25mm) to 4" (100mm)

Max. Sprinkler Spacing ft (m)	Flow gpm (Lpm)	Pressure psi (bar)
12 x 12 (3.6 x 3.6)	16 (61)	7.6 (0.53)
14 x 14 (4.3 x 4.3)	16 (61)	7.6 (0.53)
16 x 16 (4.9 x 4.9)	16 (61)	7.6 (0.53)
18 x 18 (5.5 x 5.5)	19 (72)	10.8 (0.75)
20 x 20 (6.1 x 6.1)	22 (83.3)	14.4 (1.00)

Note: The above pressures and flows utilize the Model F1 and F2 Recessed Escutcheon

Technical Data: F1RES 58 Recessed Pendent/FP For Flat Ceilings

Max. Sprinkler Spacing ft (m)	Flow gpm (Lpm)	Pressure psi (bar)
12 x 12 (3.6 x 3.6)	16 (61)	7.6 (0.53)
14 x 14 (4.3 x 4.3)	16 (61)	7.6 (0.53)
16 x 16 (4.9 x 4.9)	16 (61)	7.6 (0.53)
18 x 18 (5.5 x 5.5)	19 (72)	10.8 (0.75)
20 x 20 (6.1 x 6.1)	22 (83.3)	14.4 (1.00)

Note: The above pressures and flows utilize the Model FP Recessed Escutcheon. The Model FP Escutcheon is not suitable for installations in ceilings which have positive pressure in the space above.

Pendent & Recessed Pendent SPRINKLERS cont.

F1RES 76



SIN: R7618

Technical Bulletins: 135 & 176

Features:

- Listed to provide a minimum density to .05 gpm/ft².
- 3 mm glass bulb.
- For use in wet wet pipe systems in accordance with NFPA 13D and 13R, and for use in the residential portions of any occupancy per NFPA 13.
- Largest K-Factor on the market today for NFPA 13 Residential Applications.
- Available with 3/4" & 1/2" adjustable two-piece escutcheon and 1/2" adjustable low profile Push-on/Thread-off escutcheon.
- For use on flat ceilings.

Style: Pendent & Recessed Pendent

K-Factor: 7.6 (108.5)

Temp: Sprinkler: 155°F (68°C), 175°F (79°C)

Thread Size: 3/4" NPT (R3/4)

Escutcheon: F1 (3/4" adjustment), F2 (1/2" adjustment), FP (1/2" adjustment)

Finish: White, Chrome, Brass, Black, Custom

Approvals: cULus

Technical Data: F1RES 76 Pendent and Recessed Pendent For Flat Ceilings & NFPA #13D Sloped Ceilings per TIA #1028R (see page 6)

Deflector - to - ceiling
Maximum 1" (25mm) to 4" (100mm)

Max. Sprinkler Spacing ft (m)	Flow gpm (Lpm)	Pressure psi (bar)
12 x 12 (3.6 x 3.6)	21	7.6 (0.53)
14 x 14 (4.3 x 4.3)	21	7.6 (0.53)
16 x 16 (4.9 x 4.9)	21	7.6 (0.53)
18 x 18 (5.5 x 5.5)	21	7.6 (0.53)
20 x 20 (6.1 x 6.1)	23	9.2 (0.63)

Note: The above pressures and flows utilize the Model F1 and F2 Recessed Escutcheons

Technical Data: F1RES 76 Recessed Pendent/FP For Flat Ceilings & NFPA #13D Sloped Ceilings per TIA #1028R (see page 6)

Max. Sprinkler Spacing ft (m)	Flow gpm (Lpm)	Pressure psi (bar)
12 x 12 (3.6 x 3.6)	21	7.6 (0.53)
14 x 14 (4.3 x 4.3)	21	7.6 (0.53)
16 x 16 (4.9 x 4.9)	21	7.6 (0.53)
18 x 18 (5.5 x 5.5)	22	8.4 (0.58)
20 x 20 (6.1 x 6.1)	25	10.8 (0.74)

Note: The above pressures and flows utilize the Model FP Recessed Escutcheon. The Model FP Escutcheon is not suitable for installations in ceilings which have positive pressure in the space above.

Required Sprinkler Wrench:

Pendent: Model D

F1 & F2: Model GFR2

FP Recessed: Model GFR2

F1RES 76/F1/F2

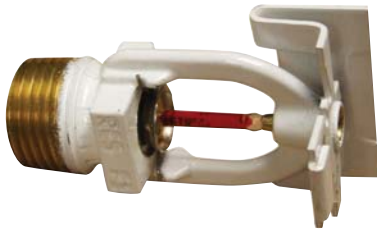


F1RES 76/FP



HSW & Recessed HSW SPRINKLERS

F1RES 44 HSW



Features:

- Listed for a minimum of .05 gpm/ft².
- 3 mm glass bulb.
- Available with 1/2" (13 mm) adjustable two-piece escutcheon.
- For use in wet pipe systems in accordance with NFPA 13D and 13R, and for use in the residential portions of any occupancy per NFPA 13.
- Can be used for flat and sloped ceilings, specifically for discharging down and across the slope.

Style:	HSW & Recessed HSW
K-Factor:	4.4 (63.4)
Temp:	Sprinkler: 155°F (68°C), 175°F (79°C)
Thread Size:	1/2" NPT (R1/2)
Escutcheon:	F2 (1/2" adjustment)
Finish:	White, Chrome, Brass, Black, Custom
Approvals:	cULus

SIN: R3531

Technical Bulletins: 135 & 176

F1RES 44 HSW/F2



Technical Data: F1RES 44 HSW and HSW/F2

For Flat Ceilings & NFPA #13D Sloped Ceilings per TIA #1028R (see page 6)

Deflector - to - ceiling

Maximum 4" (100mm) to 6" (150mm)

Max. Sprinkler Spacing ft (m)	Flow gpm (Lpm)	Pressure psi (bar)
12 x 12 (3.6 x 3.6)	12 (45.4)	7.5 (0.52)
14 x 14 (4.3 x 4.3)	14 (53.0)	10.2 (0.71)
16 x 16 (4.9 x 4.9)	16 (60.6)	13.3 (0.92)
16 x 18 (4.9 x 5.5)	18 (68.1)	16.8 (1.16)
18 x 18 (5.5 x 5.5)	19 (72.0)	18.7 (1.29)
16 x 20 (4.9 x 6.1)	23 (87.1)	27.4 (1.89)

Deflector - to - ceiling

Maximum 6" (150mm) to 12" (305mm)

Flow gpm (Lpm)	Pressure psi (bar)
14 (53.0)	10.2 (0.71)
16 (60.6)	13.3 (0.92)
17 (64.4)	15.0 (1.04)
20 (75.7)	20.7 (1.43)
----	----
23 (87.1)	27.4 (1.89)

Note: The above pressures and flows utilize the Model F2 Recessed Escutcheon

Technical Data: F1RES 44 HSW & F1RES 44 HSW Recessed HSW/F2

For NFPA #13R Sloped Ceilings & NFPA #13D Sloped Ceilings per TIA #1028R (see page 6)

Max. Sprinkler Spacing along Slope (W)Width x (L)Length ft(m)	Max. Slope of 4/12 (18.4°) Pitch			
	Discharge Directed Across the slope 4" to 6" Deflector to Ceiling		Discharge Directed Across the slope 6" to 12" Deflector to Ceiling	
	⁽¹⁾ Min. Flow gpm (Lpm)	Pressure psi (bar)	⁽¹⁾ Min. Flow gpm (Lpm)	Pressure psi (bar)
12 x 12 (3.6 x 3.6)	16 (60.5)	13.3 (0.92)	17 (64.3)	15 (1.04)
14 x 14 (4.3 x 4.3)	16 (60.5)	13.3 (0.92)	17 (64.3)	15 (1.04)
16 x 16 (4.9 x 4.9)	16 (60.5)	13.3 (0.92)	17 (64.3)	15 (1.04)
16 x 18 (4.9 x 5.5)	18 (68.1)	16.8 (1.16)	20 (75.6)	20.7 (1.43)
16 x 20 (4.9 x 6.1)	23 (72.0)	27.4 (1.89)	23 (68.1)	27.4 (1.89)

Note: The above pressures and flows utilize the Model F2 Recessed Escutcheon

HSW & Recessed HSW SPRINKLERS cont.

F1RES 44 HSW/F2



Technical Data: F1RES 44 HSW & F1RES 44 Recessed HSW/F2

For NFPA #13R Sloped Ceilings & NFPA #13D Sloped Ceilings per TIA #1028R (see page 6)

Max. Sprinkler Spacing along Slope (W)Width x (L)Length ft(m)	Max. Slope of 8/12 (33.7°) Pitch					
	Discharge Directed Down the Slope 4" to 6" Deflector to Ceiling		Discharge Directed Down the Slope 6" to 12" Deflector to Ceiling		⁽²⁾⁽³⁾ Discharge Directed Down the Slope 4" to 12" Deflector to Ceiling	
	⁽¹⁾ Min. Flow gpm (Lpm)	Pressure psi (bar)	⁽¹⁾ Min. Flow gpm (Lpm)	Pressure psi (bar)	⁽¹⁾⁽³⁾ Min. Flow gpm (Lpm)	Pressure psi (bar)
12 x 12 (3.6 x 3.6)	12 (45.4)	7.5 (0.52)	14 (53.0)	10.2 (0.71)	16 (60.6)	13.3 (0.92)
14 x 14 (4.3 x 4.3)	14 (53.0)	10.2 (0.71)	16 (60.6)	13.3 (0.92)	16 (60.6)	13.3 (0.92)
16 x 16 (4.9 x 4.9)	16 (60.6)	13.3 (0.92)	17 (64.4)	15.0 (1.04)	16 (60.6)	13.3 (0.92)
16 x 18 (4.9 x 5.5)	18 (68.1)	16.8 (1.16)	20 (75.7)	20.7 (1.43)	----	----
20 x 20 (6.1 x 6.1)	23 (72.0)	27.4 (1.89)	23 (87.1)	27.4 (1.89)	----	----

⁽¹⁾ Minimum flow per sprinkler gpm (Lpm)

⁽²⁾ Minimum 3 head design in a compartment

⁽³⁾ 155°F

Note: Refer to Bulletin 035 - Residential Sprinklers for Sloped Ceilings for Additional Information. The above pressures and flows utilize the model F2 Recessed Escutcheon.

Required Sprinkler Wrench:

HSW:

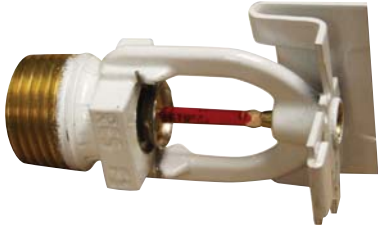
Model D

F2:

Model GFR2

HSW & Recessed HSW SPRINKLERS cont.

F1RES 58 HSW



SIN: R3533
Technical Bulletins: 135 & 176

Features:

- Listed for a minimum of .05 gpm/ft².
- 3 mm glass bulb.
- For use in wet pipe systems in accordance with NFPA 13D and 13R, and for use in the residential portions of any occupancy per NFPA 13.
- Larger K-Factor provides lower pressure demands for .10 densities for NFPA 13 applications.
- Available with 1/2" (13 mm) adjustable two-piece escutcheon.
- Can be used for flat and sloped ceilings.

Style: Horizontal Sidewall, Recessed Horizontal Sidewall

K-Factor: 5.8 (83.5)

Temp: 155°F (68°C), 175°F (79°C)

Thread Size: 1/2" NPT (R1/2)

Escutcheon: F2 (1/2" adjustment)

Finish: White, Chrome, Brass, Black, Custom

Approvals: cULus

F1RES 58 HSW/F2



Technical Data: F1RES 58 HSW and HSW/F2

For Flat Ceilings & NFPA #13D Sloped Ceilings per TIA #1028R (see page 6)

Deflector - to - ceiling

Maximum 4" (100mm) to 6" (150mm)

Max. Sprinkler Spacing ft (m)	Flow gpm (Lpm)	Pressure psi (bar)
12 x 12 (3.6 x 3.6)	16 (60.6)	7.6 (0.53)
14 x 14 (4.3 x 4.3)	18 (68.2)	9.7 (0.67)
16 x 16 (4.9 x 4.9)	21 (79.5)	13.2 (0.91)
16 x 18 (4.9 x 5.5)	25 (94.7)	18.6 (1.28)
16 x 20 (4.9 x 6.1)	29 (109.8)	25 (1.73)

Deflector - to - ceiling

Maximum 6" (150mm) to 12" (305mm)

Flow gpm (Lpm)	Pressure psi (bar)
22 (83.3)	14.4 (1.0)
22 (83.3)	14.4 (1.0)
26 (98.4)	20.1 (1.39)
31 (117.4)	28.6 (1.97)
----	----

Note: The above pressures and flows utilize the Model F2 Recessed Escutcheon.

Required Sprinkler Wrenches:

F1RES 58 HSW: Model D

F1RES 58 Rec. HSW: Model GFR2

Concealed HSW (SWC) SPRINKLERS

FIRES 44 SWC



SIN: R3531
 Technical Bulletins: 135 & 176

Features:

- Listed for a minimum of .05 gpm/ft²
- 3 mm glass bulb.
- For use in wet pipe systems in accordance with NFPA 13D and 13R, and for use in the residential portions of any occupancy per NFPA 13.
- Available with 1/2" (13 mm) adjustable escutcheon.
- Can be used for flat ceilings.

Style: Sidewall Concealed

K-Factor: 4.4 (63.4)

Temp: Sprinkler: 155°F (68°C) Cover Plate: 135°F (57°C)

Thread Size: 1/2" NPT (R1/2)

Escutcheon: SWC Concealed (1/2" adjustment)

Finish: Sprinkler: Bronze, Cover Plate: White, Custom

Approvals: cULus

Technical Data: FIRES 44 SWC

For Flat Ceilings & NFPA #13D Sloped Ceilings per TIA #1028R (see page 6)

Deflector - to - ceiling Maximum 4" (100mm) to 6" (150mm)

Max. Sprinkler Spacing ft (m)	Flow gpm (Lpm)	Pressure psi (bar)
12 x 12 (3.6 x 3.6)	13 (49.2)	8.7 (0.60)
14 x 14 (4.3 x 4.3)	14 (53.0)	10.2 (0.71)
16 x 16 (4.9 x 4.9)	17 (64.3)	15.0 (1.10)
16 x 18 (4.9 x 5.5)	19 (71.8)	18.7 (1.13)
16 x 20 (4.9 x 6.1)	23 (87.1)	27.4 (1.89)

Deflector - to - ceiling Maximum 6" (150mm) to 12" (305mm)

Flow gpm (Lpm)	Pressure psi (bar)
14 (52.9)	10.2 (0.71)
15 (56.7)	11.7 (0.81)
18 (68.1)	16.8 (1.16)
20 (75.6)	20.7 (1.43)
----	----

Required Sprinkler Wrench: [Model GFR2](#)

Conical Concealed (CCP) SPRINKLERS

F1RES 30 CCP



SIN: R3511
Technical Bulletin: 135

Features:

- Listed for a minimum of .05 gpm/ft².
- 3 mm glass bulb.
- For use in NFPA 13D installations with limited water supplies or small water meters that limit the available gpm.
- Can reduce the size of storage tanks or be used on systems fed by wells.
- For use in NFPA 13 and NFPA 13R installations where larger K factor sprinklers over discharge in small rooms.
- Great for retrofit installations.
- For use on flat ceilings.

Style: Conical Concealed Pendent (CCP)

K-Factor: 3.0 (43)

Temp: Sprinkler: 155°F (68°C) CCP Coverplate: 135°F (57°C)

Thread Size: 1/2" NPT (R1/2)

Escutcheon: CCP (1/2" & 5/16") Adjustment escutcheons available)

Finish: White, Custom

Approvals: cULus

Technical Data: F1RES 30 Conical Concealed Pendent (CCP) For Flat Ceilings & NFPA #13D Sloped Ceilings per TIA #1028R (see page 6)

Max. Sprinkler Spacing ft (m)	Flow gpm (Lpm)	Pressure psi (bar)
12 x 12 (3.6 x 3.6)	8 (30.3)	7.0 (0.48)
14 x 14 (4.3 x 4.3)	11 (41.6)	13.4 (0.92)

Note: The F1RES 30 Conical Concealed (CCP) Sprinkler is not suitable for installations in ceilings which have positive pressure in the space above.

Required Sprinkler Wrench: [Model GFR2](#)

Conical Concealed (CCP) SPRINKLERS cont.

F1RES 49 CCP



SIN: R3516
Technical Bulletins: 135 & 176

Features:

- Listed for a minimum of .05 gpm/ft².
- 3 mm glass bulb.
- For use in wet pipe systems in accordance with NFPA 13D and 13R, and for use in the residential portions of any occupancy per NFPA 13.
- Larger K-Factor provides lower pressure demands for .10 densities for NFPA 13 applications.
- Available with 1/2" & 5/16" adjustable two-piece escutcheon.
- Can be used for flat and sloped ceilings.

Style: Conical Concealed Pendant (CCP)

K-Factor: 4.9 (70.6)

Temp: Sprinkler: 155°F (68°C) CCP Cover Plate: 135°F (57°C)

Thread Size: 1/2" NPT (R1/2)

Escutcheon: CCP (1/2" & 5/16") adjustment escutcheons available)

Finish: White, Chrome, Custom

Approvals: cULus

Technical Data: F1RES 49 Conical Concealed Pendant (CCP)

For Flat Ceilings & NFPA #13D Sloped Ceilings per TIA #1028R (see page 6)

Max. Sprinkler Spacing ft (m)	Flow gpm (Lpm)	Pressure psi (bar)
12 x 12 (3.6 x 3.6)	13 (49)	7.0 (0.48)
14 x 14 (4.3 x 4.3)	13 (49)	7.0 (0.48)
16 x 16 (4.9 x 4.9)	14 (53)	8.2 (0.56)
18 x 18 (5.5 x 5.5)	18 (68.1)	13.5 (0.93)
20 x 20 (6.1 x 6.1)	20 (75.7)	16.7 (1.14)

Technical Data: F1RES 49 Conical Concealed Pendant (CCP)

For NFPA #13R Sloped Ceilings & NFPA #13D Sloped Ceilings per TIA #1028R (see page 6)

Max. Sprinkler Spacing along Slope (W)Width x (L)Length ft(m)	Max. Slope of 8/12 (33.7°) Pitch		Max. Slope of 4/12 (18.4°) Pitch	
	Min. Flow Per Sprinkler Head gpm (Lpm)	Pressure psi (bar)	Min Flow Per Sprinkler Head gpm (Lpm)	Pressure psi (bar)
10 x 10 (3 x 3)	13 (49)	7.0 (0.49)	----	----
12 x 12 (3.6 x 3.6)	14 (53)	8.2 (0.57)	13 (49)	7.0 (0.48)
14 x 14 (4.3 x 4.3)	14 (53)	8.2 (0.57)	13 (49)	7.0 (0.48)
16 x 16 (4.9 x 4.9)	14 (53)	8.2 (0.57)	14 (53)	8.2 (0.56)
18 x 18 (5.5 x 5.5)	23 (87)	22 (1.52)	20 (75.6)	18.4 (1.27)
20 x 20 (6.1 x 6.1)	23 (87)	22 (1.52)	21 (79.4)	17 (1.17)

Note: The F1RES 49 Conical Concealed (CCP) Sprinkler is not suitable for installations in ceilings which have positive pressure in the space above.

Required Sprinkler Wrench: [Model GFR2](#)

Conical Concealed (CCP) SPRINKLERS cont.

F1RES 58 CCP



SIN: R3513
 Technical Bulletins: 135 & 176

Features:

- Listed for a minimum of .05 gpm/ft².
- 3 mm glass bulb.
- For use in wet pipe systems in accordance with NFPA 13D and 13R, and for use in the residential portions of any occupancy per NFPA 13.
- Larger K-Factor provides lower pressure demands for .10 densities for NFPA 13 applications.
- Available with 1/2" & 5/16" adjustable two-piece escutcheons.
- Can be used for flat ceilings.

Style: Conical Concealed Pendant (CCP)

K-Factor: 5.8 (83.5)

Temp: Sprinkler: 155°F (68°C) CCP Coverplate: 135°F (57°C)

Thread Size: 1/2" NPT (R1/2)

Escutcheon: CCP (1/2" & 5/16") adjustment escutcheons available

Finish: White, Custom

Approvals: cULus

Technical Data: F1RES 58 Conical Concealed Pendant (CCP)

For Flat Ceilings & NFPA #13D Sloped Ceilings per TIA #1028R (see page 6)

Max. Sprinkler Spacing ft (m)	Flow gpm (Lpm)	Pressure psi (bar)
12 x 12 (3.6 x 3.6)	16 (61)	7.6 (0.53)
14 x 14 (4.3 x 4.3)	16 (61)	7.6 (0.53)
16 x 16 (4.9 x 4.9)	16 (61)	7.6 (0.53)
18 x 18 (5.5 x 5.5)	19 (72)	10.8 (0.75)
20 x 20 (6.1 x 6.1)	22 (83.3)	14.4 (1.0)

Technical Data: F1RES 58 Conical Concealed Pendant (CCP)

For NFPA #13R Sloped Ceilings & NFPA #13D Sloped Ceilings per TIA #1028R (see page 6)

Max. Sprinkler Spacing ft (m)	Max. Slope of 4/12 (18.4°) Pitch	
	Min. Flow Per Sprinkler Head gpm (Lpm)	Pressure psi (bar)
18 x 18 (5.5 x 5.5)	20 (75.7)	12 (0.83)
20 x 20 (6.1 x 6.1)	20 (75.7)	12 (0.83)

Note: The F1RES 58 Conical Concealed (CCP) Sprinkler is not suitable for installations in ceilings which have positive pressure in the space above.

Required Sprinkler Wrench: Model GFR2

Conical Concealed (CCP) SPRINKLERS cont.

F1RES 76 CCP



SIN: R7618
Technical Bulletins: 135 & 176

Features:

- Listed for a minimum of .05 gpm/ft².
- 3 mm glass bulb.
- For use in wet pipe systems in accordance with NFPA 13D and 13R, and for use in the residential portions of any occupancy per NFPA 13.
- Larger K-Factor provides lower pressure demands for .10 densities for NFPA 13 applications.
- Available with 1/2" & 5/16" adjustable two-piece escutcheons.
- Can be used for flat and sloped ceilings.

Style: Conical Concealed Pendant (CCP)

K-Factor: 7.6 (108.5)

Temp: Sprinkler: 155°F (68°C), 175°F (79°C), CCP Coverplate: 135°F (57°C)

Thread Size: 3/4" NPT (R3/4)

Escutcheon: CCP (1/2" & 5/16") adjustment escutcheon available)

Finish: White, Custom

Approvals: cULus

Technical Data: F1RES 76 Conical Concealed Pendant (CCP) For Flat Ceilings & NFPA #13D Sloped Ceilings per TIA #1028R (see page 6)

Max. Sprinkler Spacing ft (m)	Flow gpm (Lpm)	Pressure psi (bar)
12 x 12 (3.6 x 3.6)	21	7.6 (0.53)
14 x 14 (4.3 x 4.3)	21	7.6 (0.53)
16 x 16 (4.9 x 4.9)	21	7.6 (0.53)
18 x 18 (5.5 x 5.5)	22	8.4 (0.58)
20 x 20 (6.1 x 6.1)	25	10.8 (0.74)

Note: The F1RES 76 Conical Concealed (CCP) Sprinkler is not suitable for installations in ceilings which have positive pressure in the space above.

Required Sprinkler Wrench: [Model GFR2](#)

Flat Concealed SPRINKLERS

RFC49



SIN: RA0616
Technical Bulletin: 006

Features:

- Listed for a minimum of .05 gpm/ft².
- Solder fusible link.
- Smooth, aesthetic ceiling profile.
- For use in wet pipe systems in accordance with NFPA 13D and 13R, and for use in the residential portions of any occupancy per NFPA 13.
- Push-on/Thread-off cover plate provides 1/2" (13 mm) of adjustment.
- For use on flat and sloped ceilings.

Style: Flat Concealed

K-Factor: 4.9 (70.6)

Temp: Sprinkler: 165°F (74°C), Cover Plate: 135°F (57°C)

Thread Size: 1/2" NPT (R1/2)

Cover Plate: Flat Concealed (1/2" adjustment)

Finish: White, Chrome, Custom

Approvals: cULus

Technical Data: RFC49

For Flat Ceilings & NFPA #13D Sloped Ceilings per TIA #1028R (see page 6)

Sprinkler Spacing ft(m)	Min. Required Sprinkler Discharge	
	Flow gpm (Lpm)	Pressure psi (bar)
12 x 12 (3.6 x 3.6)	12 (45)	7.0 (0.48)
14 x 14 (4.3 x 4.3)	13 (49)	7.0 (0.48)
16 x 16 (4.9 x 4.9)	13 (49)	7.0 (0.48)
18 x 18 (5.5 x 5.5)	17 (64.3)	12.0 (0.83)
20 x 20 (6.1 x 6.1)	20 (75.7)	16.7 (1.14)

Technical Data: RFC49

For NFPA #13R Sloped Ceilings & NFPA #13D Sloped Ceilings per TIA #1028R (see page 6)

Max. Sprinkler Spacing along Slope (W)Width x (L)Length ft(m)	Max. Slope of 8/12 (33.7°) Pitch		Max. Slope of 4/12 (18.4°) Pitch	
	Min. Flow Per Sprinkler Head gpm (Lpm)	Pressure psi (bar)	Min. Flow Per Sprinkler Head gpm (Lpm)	Pressure psi (bar)
10 x 10 (3 x 3)	14 (53)	8.2 (0.57)	----	----
16 x 16 (4.9 x 4.9)	28 (106)	23 (19.3)	----	----
18 x 18 (5.5 x 5.5)	29 (109.8)	29 (20.0)	18 (68)	13.5 (0.93)
20 x 20 (6.1 x 6.1)	30 (113.6)	30 (30.0)	23 (87)	22 (1.52)

Required Sprinkler Wrench: Model FC

Flat Concealed SPRINKLERS cont.

RFC43



SIN: RA0612
Technical Bulletin: 006

Features:

- Listed for a minimum of .05 gpm/ft².
- Solder fusible link.
- Smooth, aesthetic ceiling profile.
- For use in wet pipe systems in accordance with NFPA 13D and 13R, and for use in the residential portions of any occupancy per NFPA 13.
- Push-on/Thread-off cover plate provides 1/2" (13 mm) of adjustment.
- Can be used for flat and sloped ceilings.

Style: Flat Concealed

K-Factor: 4.3 (62)

Temp: Sprinkler: 165°F (74°C), Cover Plate: 135°F (57°C)

Thread Size: 1/2" NPT (R1/2)

Cover Plate: Flat Concealed (1/2" adjustment)

Finish: White, Chrome, Custom

Approvals: cULus

Technical Data: RFC43

For Flat Ceilings & NFPA #13D Sloped Ceilings per TIA #1028R (see page 6)

Sprinkler Spacing ft(m)	Min. Required Sprinkler Discharge	
	Min. Flow Per Sprinkler Head gpm (Lpm)	Pressure psi (bar)
12 x 12 (3.6 x 3.6)	12 (45)	7.8 (0.54)
14 x 14 (4.3 x 4.3)	13 (49)	9.1 (0.63)
16 x 16 (4.9 x 4.9)	13 (49)	9.1 (0.63)
18 x 18 (5.5 x 5.5)	18 (68)	17.5 (1.21)
20 x 20 (6.1 x 6.1)	21 (79)	23.8 (1.64)

Technical Data: RFC43

For NFPA #13R Sloped Ceilings & NFPA #13D Sloped Ceilings per TIA #1028R (see page 6)

Max. Sprinkler Spacing along Slope (W)Width x (L)Length ft(m)	Max. Slope of 8/12 (33.7°) Pitch		Max. Slope of 4/12 (18.4°) Pitch	
	Min. Flow Per Sprinkler Head gpm (Lpm)	Pressure psi (bar)	Min. Flow Per Sprinkler Head gpm (Lpm)	Pressure psi (bar)
10 x 10 (3 x 3)	18 (68)	17.5 (1.21)	----	----
12 x 12 (3.6 x 3.6)	18 (68)	17.5 (1.21)	13 (49)	9.1 (0.63)
14 x 14 (4.3 x 4.3)	18 (68)	17.5 (1.21)	13 (49)	9.1 (0.63)
16 x 16 (4.9 x 4.9)	18 (68)	17.5 (1.21)	13 (49)	9.1 (0.63)
18 x 18 (5.5 x 5.5)	24 (91)	31 (2.14)	18 (68)	17.5 (1.21)
20 x 20 (6.1 x 6.1)	24 (91)	31 (2.14)	21 (79)	23.8 (1.64)

Required Sprinkler Wrench: Model FC

Flat Concealed SPRINKLERS cont.

RFC30



SIN: RA0611
Technical Bulletin: 006

Features:

- Very low water flow and pressure requirements
- 1/2" (13mm) total cover plate adjustment
- Flat cover plate with smooth aesthetic ceiling profile
- cULus Listed

Style: Flat Concealed

K-Factor: 3.0 (43)

Temp: Sprinkler: 165°F (74°C), Cover Plate: 135°F (57°C)

Thread Size: 1/2" NPT (R1/2)

Cover Plate: Flat Concealed RFC

Finish: White, Chrome, Custom

Approvals: cULus

Technical Data: RFC30

For Flat Ceilings & NFPA #13D Sloped Ceilings per TIA #1028R (see page 6)

Sprinkler Spacing ft. (m)	Minimum Required Sprinkler Discharge	
	Flow gpm (Lpm)	Press psi (bar)
12 x 12 (3.6 x 3.6)	9 (34.1)	9.0 (0.62)
14 x 14 (4.3 x 4.3)	10 (37.8)	11 (0.76)

Required Sprinkler Wrench: [Model FC](#)

RFC56



SIN: RA0914
Technical Bulletin: 009

Features:

- Listed for a minimum of .05 gpm/ft².
- Larger K-Factor provides lower pressure demands for .10 densities for NFPA 13 applications.
- Solder fusible link.
- Smooth, aesthetic ceiling profile.
- Cover plate provides 1/2" (13 mm) of adjustment.
- For use on flat ceilings.

Style: Flat Concealed

K-Factor: 5.6 (80)

Temp: Sprinkler: 165°F (74°C), Cover Plate: 135°F (57°C)

Thread Size: 1/2" NPT (R1/2)

Cover Plate: Flat Concealed (1/2" adjustment)

Finish: White, Chrome, Custom

Approvals: cULus

Technical Data: RFC56

For Flat Ceilings & NFPA #13D Sloped Ceilings per TIA #1028R (see page 6)

Sprinkler Spacing ft(m)	Min. Required Sprinkler Discharge	
	Flow gpm (Lpm)	Pressure psi (bar)
12 x 12 (3.6 x 3.6)	26 (98)	21.6 (1.49)
14 x 14 (4.3 x 4.3)	26 (98)	21.6 (1.49)
16 x 16 (4.9 x 4.9)	26 (98)	21.6 (1.49)

Note: 1 bar = 100 Kpa

Required Sprinkler Wrench: [Model G4](#)

Cover Plate Finishes

Reliable cover plates are available in three standard finishes



Bronze



Bright Chrome



White Paint

And in five special application finishes



Bright Brass



Black Plating



Black Paint

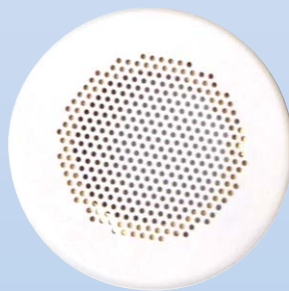


Off White

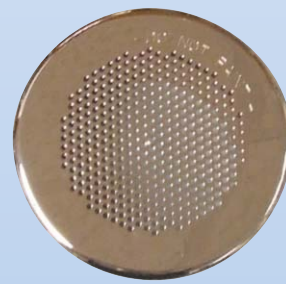


Satin Chrome

Two perforated cover plates
Coming Soon!



White



Chrome



**Custom colors can also be provided.
Please allow additional time.
All custom finishes must be done by Reliable.**

Due to variation in printing, we cannot guarantee the colors shown here with actual products. Please check with your local Reliable sales office.

Accessories

Cabinets



Technical Bulletin: 204

Features:

Sprinkler Emergency Cabinets carry an emergency supply of sprinklers and a sprinkler wrench.

- Two Models:
 - (1) Model A4 - 3, 6 or 12 capacity
 - (2) Model A3 - 6, 12 capacity
- Provides storage for spare sprinklers and sprinkler wrench

Escutcheons



Technical Bulletin: 204

Features:

Escutcheon enhance the appearance of installations by covering exposed fittings of automatic sprinklers that are visible beyond finished ceilings and walls.

- Model A - One Piece
Diameter: 3"; Depth including lips: 13/16"; 1/2" NPT
- Model B - One Piece
Diameter: 2-7/8"; Depth: 11/16"; 1/2" NPT
- Model C - One Piece
Diameter: 2-7/8"; Depth: 1/8"; 1/2" NPT
- Model HB - Two Piece
Diameter: 3-1/2"; Depth: 2"; Min: 3"; Max: 1/2" and 3/4" NPT

Installation and Service Wrenches



Technical Bulletin: 205

Features:

Different wrench models available for our sprinklers and valves.

Please refer to the individual Sprinkler's Technical Bulletin for the correct wrench.

Sprinkler Wrenches:

- Model G4
- Model GFR2
- Model RC1
- Model G3R/C
- Model ZX Pendent
- Model XLO EC
- Model XLO
- Model XLO2
- Model ZX Horizontal Sidewall
- Model FC Flat Concealed
- Model D
- Model H
- Model G3
- Model N
- Model J1
- Model RJ
- Model H1

Accessories cont.

Inspectors Test Connections, Pressure Gauges



Technical Bulletins: 206

Inspectors Test Connections

- Model A - Blind Test Connection
- Model B - Sight Test Connection

Pressure Gauges

- Model UA - Water Pressure Gauge
- Model UA - Air Pressure Gauge

Reliable Residential Riser



Technical Bulletin: 416

Features:

- Stainless steel body constructions.
- All brass trim.
- Factory assembled.
- Available with either 175 psi or 250 psi pressure ratings.
- Choice of trim: Basic trim, Basic trim with TestAnDrain valve trim, Basic trim with pressure relief valve trim.
- Choice of mounting options: Supply/system lines support, Support bracket (to stud), Recessed or flush mount (to wood panel).
- NPT (female x female) or tapered metric (female x female) connections.
- Slim design allows for easy installation within 2" x 4" on 16" centerswood frame construction.
- Dedicated UL Listed water flow detector assures optimum sensitivity.

Available Sizes: 1" (25mm), 1-1/2" (40mm), & 2" (50mm)

MP (Multipurpose) Residential Riser



Technical Bulletin: 414

Features:

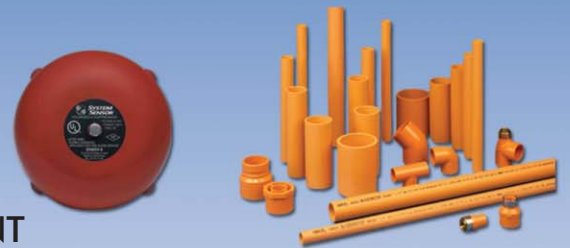
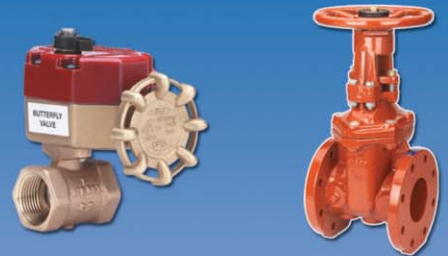
- Designed to alarm on single fire sprinkler operation and not during normal household water usage.
- Potable-water safe.
- Water flow detector is preset to operate at 12 gpm +/- 1gpm (45.4 Lpm +/- 3.8 Lpm), and is factory installed with a weather-proof metal cover.
- Dedicated UL Listed water-flow detector assures optimum sensitivity with the adjustable delay device minimizes false alarms caused by pressure surges or short periods of water usage above 12 gpm.
- Switch can be wired for 24 VDC or 125/260 VAC operation.
- Stainless steel 1" (25mm) manifold with NPT or Metric Inlet and Outlet Threads.
- Factory assembled and tested.
- Rated working pressure not to exceed 175 psi.
- UL Listed Flow Test Assembly. UL Certified for Health Effects to NSF/ANSI Standard 61 Annex G.
- To be used in systems where the most remote sprinkler will flow a minimum of 11 gpm (41.6 Lpm).

Available Sizes: 1" (25mm)

Sprinklers are just one part of the residential fire sprinkler system.

RELIABLE HAS A COMPLETE LINE OF SPRINKLER ACCESSORIES TO FILL YOUR RESIDENTIAL NEEDS.

- CPVC PIPE & FITTINGS
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- ELECTRIC BELLS
- VALVES
 - GLOBE VALVES
 - BALL VALVES
 - CHECK VALVES
 - BACK FLOW PREVENTION VALVES
- RISER ASSEMBLIES
- TEFLON TAPE
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- HANGERS
- FIRE DEPARTMENT CONNECTIONS





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