

Reliable®

Model F1 RES LL Residential Sprinklers

Specifically Listed for use in Multipurpose Systems that serve both domestic water and fire protection.

Types:

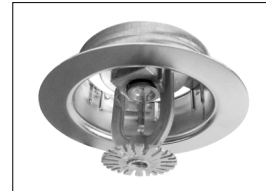
1. F1 Res 30 LL Pendant
2. F1 Res 30 LL Recessed Pendant/F2
3. F1 Res 30 LL Recessed Pendant/FP
4. F1 Res 49 LL Pendant
5. F1 Res 49 LL Recessed Pendant/F1
6. F1 Res 49 LL Recessed Pendant/FP
7. F1 Res 58 LL Pendant
8. F1 Res 58 LL Recessed Pendant/F1
9. F1 Res 58 LL Recessed Pendant/FP
10. F1 Res 30 LL CCP Pendant
11. F1 Res 49 LL CCP Pendant
12. F1 Res 58 LL CCP Pendant
13. F1 Res 44 LL HSW
14. F1 Res 44 LL Recessed HSW/F2
15. F1 Res 58 LL HSW
16. F1 Res 58 LL HSW Recessed HSW/F2
17. F1 Res 44 LL SWC



F1 Res 30 LL, 49 LL & 58 LL
Pendant



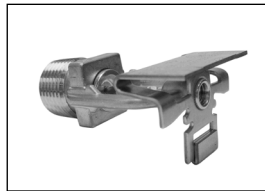
F1 Res 49 LL & 58 LL Recessed
Pendant /F1, F1 Res 30 LL
Recessed Pendant/F2



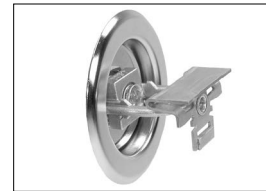
F1 Res 30 LL, 49 LL, & 58
LL Recessed Pendant/FP



F1 Res 30 LL, 49 LL & 58 LL
CCP Pendant



F1 Res 44 LL & 58 LL
HSW



F1 Res 44 LL & 58 LL
Recessed HSW/F2



F1 Res 44 LL
SWC

Listings & Approvals

1. cULus Listed for Safety to ANSI/UL199 (formerly UL1626).
2. cULus Certified for Health Effects to NSF/ANSI/CAN 600.
3. cULus Certified less than 0.25% Lead Content to NSF/ANSI 372 Annex G.
4. WaterMark Certified, certificate number 23347.

Additional Bulletins applicable to all

F1RES LL Sprinklers

- Wall Wetting - Bulletin 007
- Design and Installation - Bulletin 140

UL Listing Category

Residential Automatic Sprinkler

UL Guide Number

VKKW

Patents

US Patent No. 6,516,893 applies to the Model F1 Res 49 LL & 58 LL Pendant Sprinklers
Other patents pending.

Product Description

Model F1 Res LL Pendant sprinklers (Figs. 1, 2, 3, & 4) are fast response sprinklers combining excellent durability, high sensitivity glass-bulb and low profile decorative design. The F1 Res LL Horizontal Sidewall sprinklers (Figs. 5, & 6) are equally attractive when above ceiling piping cannot be used.

The 3mm glass-bulb pendant sprinklers permit the efficient use of residential water supplies for sprinkler coverage in residential fire protection design.

The low flow F1 Res LL sprinklers are specially engineered for fast thermal response to meet the sensitive fire protection application needs of the latest residential market standards (UL 1626 Standard). Upon fire conditions, rising heat causes a sprinkler's heat-sensitive glass-bulb to shatter, releasing the waterway for water flow onto the deflector, evenly distributing the discharged water to control a fire.

Technical Data:

- Thermal Sensor: Nominal 3mm glass-bulb
- Sprinkler Frame : Brass
- Sensitivity: Fast-Response
- Sprinklers' Pressure Rating : 175 psi
Factory Hydrostatically Tested to 500 psi
- Thread Size: ½" NPT (R½)
- K-Factor: 3.0 (Actual) - F1 Res 30 LL Pendant Sprinkler
4.9 (Actual) - F1 Res 49 LL Pendant Sprinkler
5.8 (Actual) - F1 Res 58 LL Pendant & HSW Sprinkler
4.4 (Actual) - F1 Res 44 LL HSW Sprinkler

Application

Model F1 Res LL sprinklers are cULus Listed in accordance with UL 199 (formerly 1626) for installation in accordance with NFPA 13, NFPA 13R, and NFPA 13D. Sprinkler systems using Model F1 Res LL sprinklers must be hydraulically designed to provide at least the flow identified in the Technical Data tables in this bulletin. For NFPA 13 installations, the flow per sprinkler must be the greater of: (1) the flow listed in the applicable Technical Data table and (2) the flow required to achieve a minimum design density of 0.1 gpm/sq ft over the design area of the sprinkler. For coverage area dimensions less than those listed in the Technical Data tables, use the minimum required flow for the next larger max. coverage area listed.

- **Model F1 Res 30 LL, 49 LL & 58 LL Pendant**

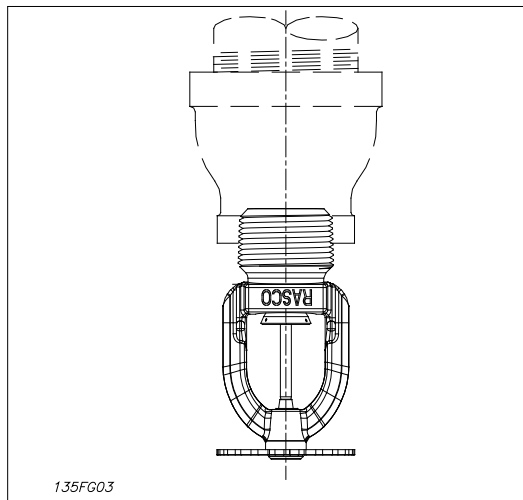


Fig. 1

Pendant sprinklers use only the Model W2 sprinkler Wrench; for installing Models F1 Res LL Recessed Pendant, CCP & SWC sprinklers use only the Model W4 sprinkler wrench; for installing Model F1 LL Res Recessed HSW sprinklers use only the Model W4 Sprinkler Wrench. Use of wrenches other than those specified may damage these sprinklers. Install F1 Res 44 LL with a ceiling to deflector distance of 4" - 12". Flow arrow on deflector must point away from near wall and "Top" marking must face ceiling.

Installation

Models F1 Res LL sprinklers are to be installed as shown. Model F1, F2 and FP Escutcheons, illustrated herewith, are the only recessed escutcheons to be used with Model F1 Res LL sprinklers. Use of any other recessed escutcheon will void all approvals and warranties. For installing Model F1 Res LL

- **Model F1 Res 30 LL Recessed Pendant / F2**
- **Model F1 Res 49 LL & 58 LL Recessed Pendant / F1**

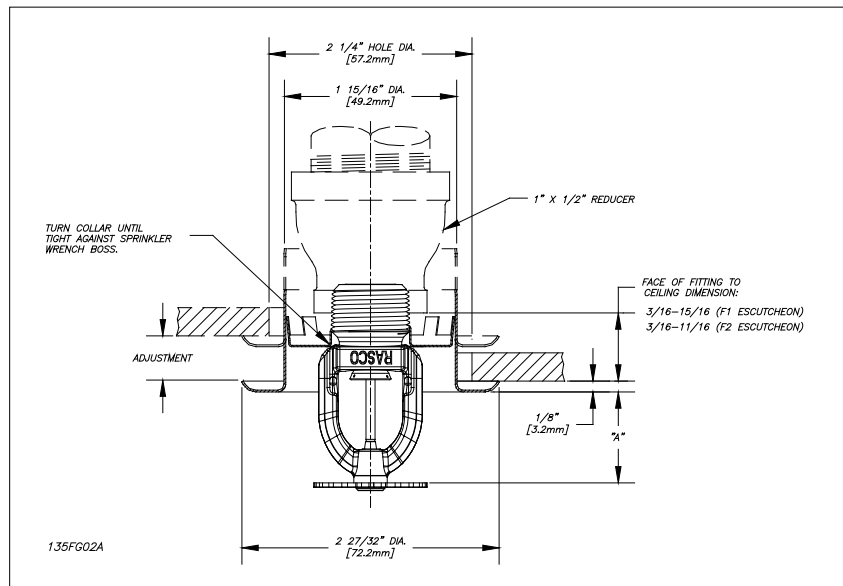


Fig. 2

Escutcheon*, F1 or F2, Data:

Type	Adjustment Inch (mm)	"A" Inch (mm)	Face of fitting to ceiling Inch (mm)
F1	3/4 (19.0)	Min.=3/4" (19.1) Max.=1 1/2" (38.1)	3/16 - 15/16 (4.7 - 24.0)
F2	1/2 (12.7)	Min.=15/16" (23.8) Max.=1 1/2" (38.1)	3/16 - 11/16 (4.7 - 17.4)

* **Note:** Escutcheons F1 or F2 may be used with Model F1 Res 49 LL & 58 LL Recessed Pendant Sprinkler

Technical Data: F1Res 30 LL Pendant and Recessed Pendant (SIN RA3311)

Thread Size	Nominal Orifice Inch (mm)	Max. Pressure psi (bar)	Sprinkler Temp. Rating		Max. Ambient Temp.		Actual K Factor	Sprinkler Length Inch (mm)
			°F	°C	°F	°C		
½" NPT (R½)	21/64" (8.2)	175 (12)	155 175	68 79	100	38	3.0 (43.2)	2.25 (57)

Max. Coverage area Ft x Ft (m x m)	Max. Spacing Ft (m)	Ordinary Temp. Rating (155°F/68°C)		Intermediate Temp. Rating (175°F/79°C)		Top of Deflector to Ceiling Inch (mm)	Minimum Spacing Ft (m)
		Flow GPM (L/min)	Pressure PSI (bar)	Flow GPM (L/min)	Pressure PSI (bar)		
12 x 12 (3.6 x 3.6)	12 (3.6)	8 (30.3)	7.0 (0.48)	8 (30.3)	7.0 (0.48)	Smooth Ceilings 1" to 4" (25mm to 100mm) Beamed Ceilings per NFPA 13, 13D, or 13R	8 (2.4)
14 x 14 (4.3 x 4.3)	14 (4.3)	10 (37.8)	11 (0.76)	10 (37.8)	11 (0.76)		
16 x 16 (4.9 x 4.9)	16 (4.9)	13 (49)	18.8 (1.3)	13 (49)	18.8 (1.3)		

Technical Data: F1Res 49 LL Pendant and Recessed Pendant (SIN RA3316)

Thread Size	Nominal Orifice Inch (mm)	Max. Pressure psi (bar)	Sprinkler Temp. Rating		Max. Ambient Temp.		Actual K Factor	Sprinkler Length Inch (mm)
			°F	°C	°F	°C		
½" NPT (R½)	7/16" (11)	175 (12)	155 175	68 79	100 150	38 66	4.9 (70.6)	2.25 (57)

Max. Coverage area Ft x Ft (m x m)	Max. Spacing Ft (m)	Ordinary Temp. Rating (155°F/68°C)		Intermediate Temp. Rating (175°F/79°C)		Top of Deflector to Ceiling Inch (mm)	Minimum Spacing Ft (m)
		Flow GPM (L/min)	Pressure PSI (bar)	Flow GPM (L/min)	Pressure PSI (bar)		
12 x 12 (3.6 x 3.6)	12 (3.6)	13 (49)	7.0 (0.48)	13 (49)	7.0 (0.48)	Smooth Ceilings 1" to 4" (25mm to 100mm) Beamed Ceilings per NFPA 13, 13D, or 13R	8 (2.4)
14 x 14 (4.3 x 4.3)	14 (4.3)	13 (49)	7.0 (0.48)	13 (49)	7.0 (0.48)		
16 x 16 (4.9 x 4.9)	16 (4.9)	13 (49)	7.0 (0.48)	13 (49)	7.0 (0.48)		
18 x 18 (5.5 x 5.5)	18 (5.5)	17 (64.3)	12 (0.83)	17 (64.3)	12 (0.83)		
20 x 20 (6.1 x 6.1)	20 (6.1)	20 (75.7)	16.7 (1.14)	20 (75.7)	16.7 (114)		

Max. Coverage area Ft x Ft (m x m)	Max. Spacing Ft (m)	Ordinary Temp. Rating (155°F/68°C)		Intermediate Temp. Rating (175°F/79°C)		Top of Deflector to Ceiling Inch (mm)	Minimum Spacing Ft (m)
		Flow GPM (L/min)	Pressure PSI (bar)	Flow GPM (L/min)	Pressure PSI (bar)		
12 x 12 (3.6 x 3.6)	12 (3.6)	15 (57)	9.4 (0.65)	15 (57)	9.4 (0.65)	Smooth Ceilings 4" to 8" (100mm to 200mm)	8 (2.4)
14 x 14 (4.3 x 4.3)	14 (4.3)	16 (60.5)	10.6 (0.73)	16 (60.5)	10.6 (0.73)		
16 x 16 (4.9 x 4.9)	16 (4.9)	17 (64.3)	12.0 (0.83)	17 (64.3)	12.0 (0.83)		
18 x 18 (5.5 x 5.5)	18 (5.5)	19 (72)	15.0 (1.0)	19 (72)	15.0 (1.0)		
20 x 20 (6.1 x 6.1)	20 (6.1)	22 (83.2)	20.2 (1.4)	22 (83.2)	20.2 (1.4)		

Technical Data: F1Res 58 LL Pendant and Recessed Pendant (SIN RA3313)

Thread Size	Nominal Orifice Inch (mm)	Max. Pressure psi (bar)	Sprinkler Temp. Rating		Max. Ambient Temp.		Actual K Factor	Sprinkler Length Inch (mm)
			°F	°C	°F	°C		
1/2" NPT (R1/2)	1/2" (13)	175 (12)	155 175	68 79	100 150	38 66	5.8 (83.5)	2.25 (57)

Max. Coverage area Ft x Ft (m x m)	Max. Spacing Ft (m)	Ordinary Temp. Rating (155°F/68°C)		Intermediate Temp. Rating (175°F/79°C)		Top of Deflector to Ceiling Inch (mm)	Minimum Spacing Ft (m)
		Flow GPM (L/min)	Pressure PSI (bar)	Flow GPM (L/min)	Pressure PSI (bar)		
12 x 12 (3.6 x 3.6)	12 (3.6)	16 (61)	7.6 (0.53)	16 (61)	7.6 (0.53)	Smooth Ceilings 1" to 4" (25mm to 100mm) Beamed Ceilings per NFPA 13, 13D, or 13R	8 (2.4)
14 x 14 (4.3 x 4.3)	14 (4.3)	16 (61)	7.6 (0.53)	16 (61)	7.6 (0.53)		
16 x 16 (4.9 x 4.9)	16 (4.9)	16 (61)	7.6 (0.53)	16 (61)	7.6 (0.53)		
18 x 18 (5.5 x 5.5)	18 (5.5)	19 (72)	10.8 (0.75)	19 (72)	10.8 (0.75)		
20 x 20 (6.1 x 6.1)	20 (6.1)	22 (83.3)	14.4 (1.0)	22 (83.3)	14.4 (1.0)		

• **Model F1 Res 30 LL, 49 LL & 58 LL CCP Pendant**



• **Model F1 Res 30 LL, 49 LL & 58 LL Recessed Pendant / FP**



FP push-on/thread-off escutcheon

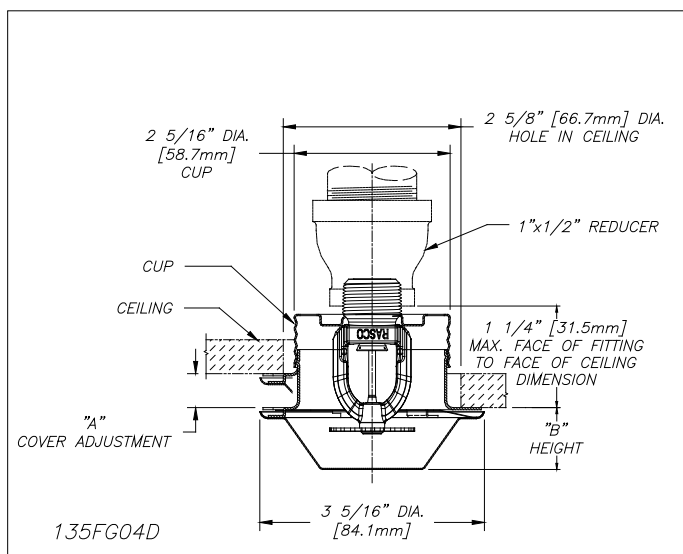


Fig. 3

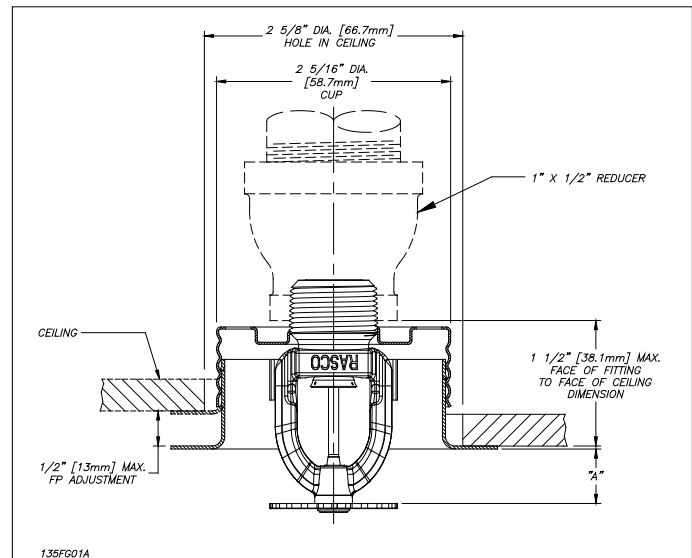


Fig. 4

Technical Data: F1Res 30 LL CCP Pendent and Recessed Pendent/FP (SIN RA3311)

Thread Size	Nominal Orifice Inch (mm)	Max. Pressure psi (bar)	CCP Assembly Temp. Rating		Max. Ambient Temp.		K Factor	Sprinkler Length Inch (mm)
			°F	°C	°F	°C		
½" NPT (R½)	21/64" (8.2)	175 (12)	135	57	100	38	3.0 (43.2)	2.25 (57)

Max. Coverage area Ft x Ft (m x m)	Max. Spacing Ft (m)	Ordinary Temp. Rating (155°F/68°C)		Top of Deflector to Ceiling Inch (mm)	Minimum Spacing Ft (m)
		Flow GPM (L/min)	Pressure PSI (bar)		
12 x 12 (3.6 x 3.6)	12 (3.6)	8 (30.3)	7.0 (0.48)	Smooth Ceilings 1/2" to 1" (13mm to 25mm) using CCP or FP escutcheon Beamed Ceilings per NFPA 13, 13D, or 13R	8 (2.4)
14 x 14 (4.3 x 4.3)	14 (4.3)	11 (37.8)	13.4 (0.92)		

Technical Data: F1Res 49 LL CCP Pendent and Recessed Pendent/FP (SIN RA3316)

Thread Size	Nominal Orifice Inch (mm)	Max. Pressure psi (bar)	CCP Assembly Temp. Rating		Max. Ambient Temp.		K Factor	Sprinkler Length Inch (mm)
			°F	°C	°F	°C		
½" NPT (R½)	7/16" (11)	175 (12)	135	57	100	38	4.9 (70.6)	2.25 (57)

Max. Coverage area Ft x Ft (m x m)	Max. Spacing Ft (m)	Ordinary Temp. Rating (155°F/68°C)		Top of Deflector to Ceiling Inch (mm)	Minimum Spacing Ft (m)
		Flow GPM (L/min)	Pressure PSI (bar)		
12 x 12 (3.6 x 3.6)	12 (3.6)	13 (49)	7.0 (0.48)	Smooth Ceilings 1/2" to 1" (13mm to 25mm) using CCP or FP escutcheon Beamed Ceilings per NFPA 13, 13D, or 13R	8 (2.4)
14 x 14 (4.3 x 4.3)	14 (4.3)	13 (49)	7.0 (0.48)		
16 x 16 (4.9 x 4.9)	16 (4.9)	14 (53)	8.2 (0.56)		
18 x 18 (5.5 x 5.5)	18 (5.5)	18 (68.1)	13.5 (0.93)		
20 x 20 (6.1 x 6.1)	20 (6.1)	20 (75.7)	16.7 (1.14)		

Note: Sprinklers shown in Fig. 3 and Fig. 4 are not suitable for installation in ceilings which have positive pressure in the space above.

Technical Data: F1Res 58 LL CCP Pendent and Recessed Pendent/FP (SIN RA3313)

Thread Size	Nominal Orifice Inch (mm)	Max. Pressure psi (bar)	CCP Assembly Temp. Rating		Max. Ambient Temp.		K Factor	Sprinkler Length Inch (mm)
			°F	°C	°F	°C		
½" NPT (R½)	½" (13)	175 (12)	135	57	100	38	5.8 (83.5)	2.25 (57)

Max. Coverage area Ft x Ft (m x m)	Max. Spacing Ft (m)	Ordinary Temp. Rating (155°F/68°C)		Top of Deflector to Ceiling Inch (mm)	Minimum Spacing Ft (m)
		Flow GPM (L/min)	Pressure PSI (bar)		
12 x 12 (3.6 x 3.6)	12 (3.6)	16 (61)	7.6 (0.53)	Smooth Ceilings 1/2" to 1" (13mm to 25mm) using CCP or FP escutcheon Beamed Ceilings per NFPA 13, 13D, or 13R	8 (2.4)
14 x 14 (4.3 x 4.3)	14 (4.3)	16 (61)	7.6 (0.53)		
16 x 16 (4.9 x 4.9)	16 (4.9)	16 (61)	7.6 (0.53)		
18 x 18 (5.5 x 5.5)	18 (5.5)	19 (72)	10.8 (0.75)		
20 x 20 (6.1 x 6.1)	20 (6.1)	22 (83.3)	14.4 (1.0)		

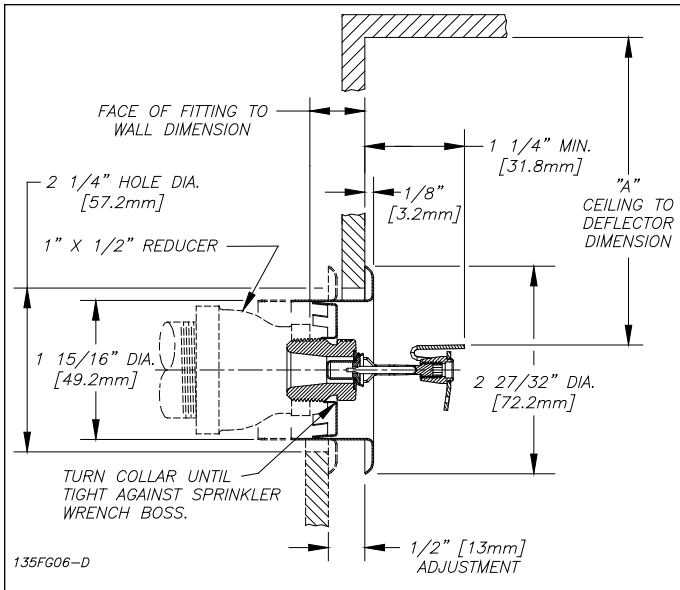
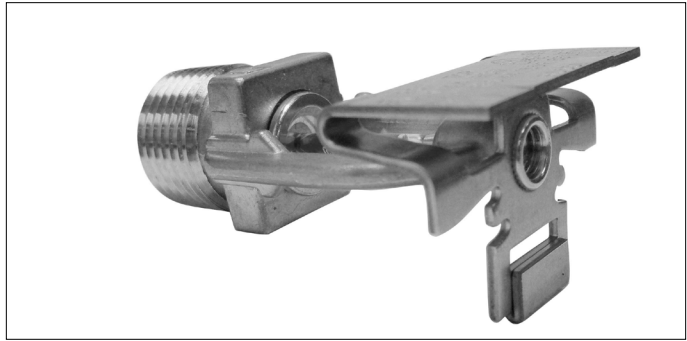


Fig. 5

• **Model F1 Res 44 LL & 58 LL HSW**



• **Model F1 Res 44 LL & 58 LL Recessed HSW/F2**



F2 escutcheon, 1/2" (13mm) adjustment

Technical Data: F1Res 44 LL HSW & HSW/F2 (SIN RA3331)

Thread Size	Nominal Orifice Inch (mm)	Max. Pressure psi (bar)	Sprinkler Temp. Rating		Max. Ambient Temp.		K Factor	Sprinkler Length Inch (mm)
			°F	°C	°F	°C		
1/2" NPT (R1/2)	3/8" (10)	175 (12)	155	68	100	38	4.4 (63)	2.45 (62)
			175	79	150	66		

Type	Adjustment Inch (mm)	Face of Fitting to wall Inch (mm)
F2	1/2 (13)	3/16 - 11/16 (4.7 - 17.4)

Escutcheon, F2, Data:

Max. Coverage area Ft x Ft (m x m)	Max. Spacing Ft (m)	Ordinary Temp. Rating (155°F/68°C)		Intermediate Temp. Rating (175°F/79°C)		Top of Deflector to Ceiling Inch (mm)	Minimum Spacing Ft (m)
		Flow GPM (L/min)	Pressure PSI (bar)	Flow GPM (L/min)	Pressure PSI (bar)		
12 x 12 (3.6 x 3.6)	12 (3.6)	12 (45.4)	7.5 (0.52)	12 (45.4)	7.5 (0.52)	4 to 6 (100 to 152)	8 (2.4)
14 x 14 (4.3 x 4.3)	14 (4.3)	14 (53.0)	10.2 (0.71)	14 (53.0)	10.2 (0.71)		
16 x 16 (4.9 x 4.9)	16 (4.9)	16 (60.6)	13.3 (0.92)	16 (60.6)	13.3 (0.92)		
16 x 18 (4.9 x 5.5)	16 (4.9)	18 (68.1)	16.8 (0.53)	18 (68.1)	16.8 (0.53)		
18 x 18 (5.5 x 5.5)	18 (5.5)	19 (72.0)	18.7 (1.29)	19 (72.0)	18.7 (1.29)		
16 x 20 (4.9 x 6.1)	16 (4.9)	23 (87.1)	27.4 (1.89)	23 (87.1)	27.4 (1.89)	6 to 12 (152 to 305)	
12 x 12 (3.6 x 3.6)	12 (3.6)	14 (53.0)	10.2 (0.71)	14 (53.0)	10.2 (0.71)		
14 x 14 (4.3 x 4.3)	14 (4.3)	16 (60.6)	13.3 (0.92)	16 (60.6)	13.3 (0.92)		
16 x 16 (4.9 x 4.9)	16 (4.9)	17 (64.4)	15.0 (1.04)	17 (64.4)	15.0 (1.04)		
16 x 18 (4.9 x 5.5)	16 (4.9)	20 (75.7)	20.7 (1.43)	20 (75.7)	20.7 (1.43)		
16 x 20 (4.9 x 6.1)	16 (4.9)	23 (87.1)	27.4 (1.89)	23 (87.1)	27.4 (1.89)		

Technical Data: F1Res 58 LL HSW & HSW/F2 (SIN RA3333)

Thread Size	Nominal Orifice Inch (mm)	Max. Pressure psi (bar)	Sprinkler Temp. Rating		Max. Ambient Temp.		K Factor	Sprinkler Length Inch (mm)
			°F	°C	°F	°C		
½" NPT (R½)	½" (13)	175 (12)	155 175	68 79	100 150	38 66	5.8 (83.5)	2.45 (62)

Max. Coverage area Ft x Ft (m x m)	Max. Spacing Ft (m)	Ordinary Temp. Rating (155°F/68°C)		Intermediate Temp. Rating (175°F/79°C)		Top of Deflector to Ceiling Inch (mm)	Minimum Spacing Ft (m)
		Flow GPM (L/min)	Pressure PSI (bar)	Flow GPM (L/min)	Pressure PSI (bar)		
12 x 12 (3.6 x 3.6)	12 (3.6)	16 (60.6)	7.6 (0.53)	16 (60.6)	7.6 (0.53)	4 to 6 (100 to 152)	8 (2.4)
14 x 14 (4.3 x 4.3)	14 (4.3)	18 (68.2)	9.7 (0.69)	18 (68.2)	9.7 (0.69)		
16 x 16 (4.9 x 4.9)	16 (4.9)	21 (79.5)	13.2 (0.91)	21 (79.5)	13.2 (0.91)		
16 x 18 (4.9 x 5.5)	16 (4.9)	25 (94.7)	18.6 (1.28)	25 (94.7)	18.6 (1.28)		
16 x 20 (4.9 x 6.1)	16 (4.9)	29 (109.8)	25.0 (1.73)	29 (109.8)	25.0 (1.73)		
12 x 12 (3.6 x 3.6)	12 (3.6)	22 (83.3)	14.4 (1.0)	22 (83.3)	14.4 (1.0)	6 to 12 (152 to 305)	
14 x 14 (4.3 x 4.3)	14 (4.3)	22 (83.3)	14.4 (1.0)	22 (83.3)	14.4 (1.0)		
16 x 16 (4.9 x 4.9)	16 (4.9)	26 (98.4)	20.1 (1.39)	26 (98.4)	20.1 (1.39)		
16 x 18 (4.9 x 5.5)	16 (4.9)	31 (117.4)	28.6 (1.97)	31 (117.4)	28.6 (1.97)		

• **Model F1 Res 44 LL SWC**

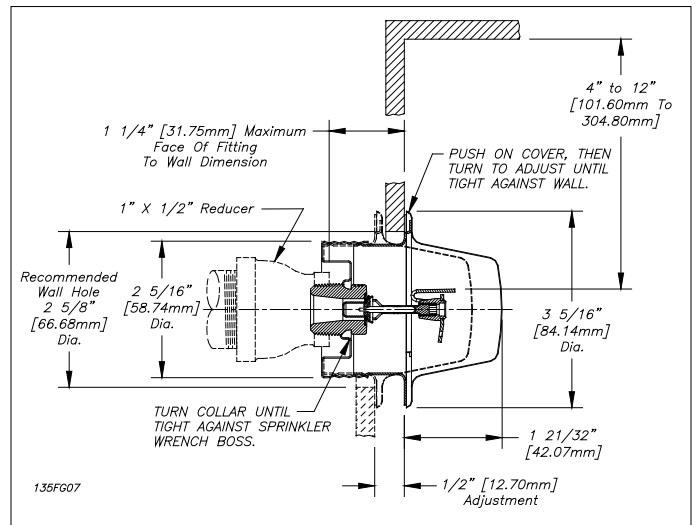
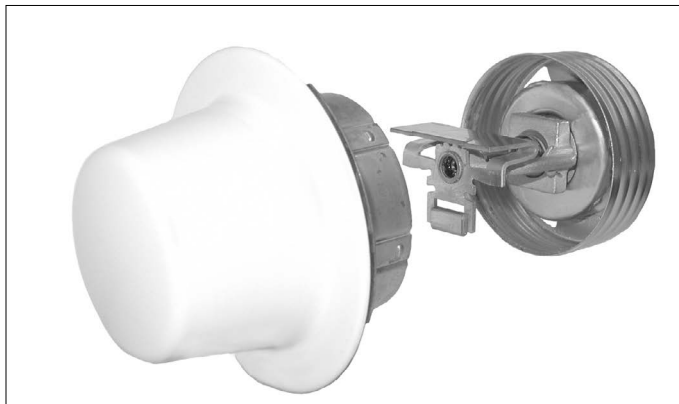


Fig. 6

Technical Data: F1Res 44 LL SWC (SIN RA3331)

Thread Size	Nominal Orifice Inch (mm)	Max. Pressure psi (bar)	Cover Temp. Rating		Max. Ambient Temp.		K Factor	Sprinkler Length Inch (mm)
			°F	°C	°F	°C		
½" NPT (R½)	¾" (10)	175 (12)	135	57	100	38	4.4 (63)	2.45 (62)

Technical Data: F1Res 44 LL SWC (SIN RA3331) continued

Max. Coverage area Ft x Ft (m x m)	Max. Spacing Ft (m)	Ordinary Temp. Rating (155°F/68°C)		Top of Deflector to Ceiling Inch (mm)	Minimum Spacing Ft (m)
		Flow GPM (L/min)	Pressure PSI (bar)		
12 x 12 (3.6 x 3.6)	12 (3.6)	13 (49.2)	8.7 (0.60)	4 to 6 (100 to 152)	8 (2.4)
14 x 14 (4.3 x 4.3)	14 (4.3)	14 (53.0)	10.2 (0.71)		
16 x 16 (4.9 x 4.9)	16 (4.9)	17 (64.3)	15.0 (1.1)		
16 x 18 (4.9 x 5.5)	16 (4.9)	19 (71.8)	18.7 (1.13)		
16 x 20 (4.9 x 6.1)	16 (4.9)	23 (87.1)	27.4 (1.89)		
12 x 12 (3.6 x 3.6)	12 (3.6)	14 (52.9)	10.2 (0.71)	6 to 12 (152 to 305)	
14 x 14 (4.3 x 4.3)	14 (4.3)	15 (56.7)	11.7 (0.81)		
16 x 16 (4.9 x 4.9)	16 (4.9)	18 (68.1)	16.8 (1.16)		
16 x 18 (4.9 x 5.5)	16 (4.9)	20 (75.6)	20.7 (1.43)		

Maintenance

Model F1 Res 30 LL, 49 LL, F1 Res 58 LL and F1 Res 44 LL Sprinklers should be inspected and the sprinkler system maintained in accordance with NFPA 25, 13, 13D, and 13R. Do not clean sprinkler with soap and water, Ammonia or any other cleaning fluids. Remove dust by using a soft brush or gentle vacuuming. Replace any sprinkler which has been painted (other than factory applied) or damaged in any way. A stock of spare sprinklers should be maintained to allow quick replacement of damaged or operated sprinklers. Prior to installation, sprinklers should remain in the original cartons and packaging until used. This will minimize the potential for damage to sprinklers that could cause improper operation or non-operation.

Model F1 Res 30 LL, 49 LL & 58 LL Pendent Sprinkler Specifications

Sprinklers shall be [cULus Listed] [WaterMark Certified WMCS] low flow residential pendent sprinklers engineered to provide a minimum design density of 0.05 gpm/ft² over the listed coverage area. Listed flows as specified by the manufacturer's technical data sheets are to be used. Residential sprinklers shall be installed in conformance with the manufacturer's installation guidelines and the applicable installation standard. Deflector-to-ceiling distance listing shall be 1" to 4" maximum, unless specifically listed otherwise. Sprinkler frame and deflector shall be of bronze frame construction having a 1/2" NPT thread. Water seal assembly shall consist of a PTFE-coated Belleville spring washer with top-loaded extruded or cold head cup with 3 mm glass bulb containing no plastic parts, and having a temperature rating of [155°F (68°C)] [175°F (79°C)]. Sprinklers shall have a nominal K-factor of 3.0, 4.9 and 5.8. Standard finish: [Bronze] [Chrome-plated] [White Polyester] [Special finish— specify]. Residential pendent sprinklers shall be Reliable Model F1 Res 30 LL, 49 LL & 58 LL, SIN RA3311, RA3316 & RA3313 (Bulletin 033).

Model F1 Res 49 LL & 58 LL Recessed Pendent/F1 Model F1 Res 30 LL, 49 LL & 58 LL Recessed Pendent/F2

Model F1 Res 30 LL, 49 LL & 58 LL Recessed Pendent/FP Specifications

Sprinklers shall be [cULus Listed] [WaterMark Certified WMCS] low flow residential recessed pendent sprinklers engineered to provide a minimum design density of 0.05 gpm/ft² over the listed coverage area. Listed flows as specified by the manufacturer's technical data sheets are to be used. Residential sprinklers shall be installed in conformance with the manufacturer's installation guidelines and the applicable installation standard. Deflector-to-ceiling distance listing shall be 1" to 4" maximum, unless specifically listed otherwise. Sprinkler frame and deflector shall be of bronze frame construction having a 1/2" NPT thread. Water seal assembly shall consist of a PTFE-coated Belleville spring washer with top-loaded extruded or cold head cup with 3 mm glass bulb containing no plastic parts, and having a temperature rating of [155°F (68°C)] [175°F (79°C)]. Sprinklers shall have a nominal K-factor of 3.0, 4.9 & 5.8. Standard finish: [Bronze] [Chrome-plated] [White Polyester] [Special finish— specify]. Recessed escutcheon assembly shall be a steel, two-piece escutcheon [with 1/2" adjustment (Model F2)] [with 3/4" adjustment (Model F1)] [of push-on and thread off design with 1/2" adjustment (Model FP)]. Standard finish shall be [brass] [bright chrome] [white painted]. Residential recessed pendent sprinklers shall be Reliable [Model F1 Res 30 LL, 49 LL & 58 LL Recessed Pendent/F1] [Model F1 Res 30 LL, 49 LL & 58 LL Recessed Pendent/F2] [Model F1 Res 30 LL, 49 LL & 58 LL Recessed Pendent/FP] SIN RA3311, RA3316 & RA3313 (Bulletin 033).

Model F1 Res 30 LL, 49 LL & 58 LL CCP Pendant (Concealed) Specifications

Sprinklers shall be [cULus Listed] [WaterMark Certified WMCS] low flow residential concealed sprinklers engineered to provide a minimum design density of 0.05 gpm/ft² over the listed coverage area. Listed flows as specified by the manufacturer's technical data sheets are to be used. Residential sprinklers shall be installed in conformance with the manufacturer's installation guidelines and the applicable installation standard. Sprinkler frame and deflector shall be of bronze frame construction having a 1/2" NPT thread. Water seal assembly shall consist of a PTFE-coated Belleville spring washer with top-loaded extruded or cold head cup with 3 mm glass bulb containing no plastic parts, and having a temperature rating of 155°F (68°C). Cover plate assembly shall consist of a brass cover plate and copper alloy retainer flange. Method of attaching the cover plate to the sprinkler cup shall be a push-on and thread-off design allowing a 1/2" cover plate adjustment. Cover plate temperature rating shall be 135°F (57°C). A plastic protective cap shall be provided and factory installed inside the sprinkler cup to protect the sprinkler from damage, which could occur during construction before the cover plate is installed. Standard cover plate finish: [White] [Custom Color— specify]. Concealed pendant sprinklers shall be Reliable Model F1 Res 30 LL, 49 LL & 58 LL CCP, SIN RA3311, RA3316 & RA3313 (Bulletin 033).

Model F1 Res 44 LL Horizontal Sidewall Residential Sprinkler Specifications

Sprinklers shall be [cULus Listed] [WaterMark Certified WMCS] low flow residential horizontal sidewall sprinklers engineered to provide a minimum design density of 0.05 gpm/ft² over the listed coverage area. Listed flows as specified by the manufacturer's technical data sheets are to be used. Residential sprinklers shall be installed in conformance with the manufacturer's installation guidelines and the applicable installation standard. Sprinkler frame and deflector shall be of bronze frame construction having a 1/2" NPT thread. Water seal assembly shall consist of a PTFE-coated Belleville spring washer with top-loaded extruded or cold head cup with 3 mm glass bulb containing no plastic parts, and having a temperature rating of [155°F (68°C)] [175°F (79°C)]. Sprinklers shall have a nominal K-factor of 4.4 (62.8). Standard finish: [Bronze] [Chrome-plated] [White Polyester] [Special finish—specify]. Residential horizontal sidewall sprinklers shall be Reliable Model F1 Res 44 LL, SIN RA3331 (Bulletin 033).

Model F1 Res 44 LL Recessed Horizontal Sidewall Sprinkler Specifications

Use description for the Model F1 Res 44 horizontal sidewall sprinkler with the following modifications: Replace "horizontal sidewall sprinkler" with "recessed horizontal sprinkler." Add: Recessed escutcheon assembly shall be a steel, two-piece escutcheon with 1/2" adjustment (Model F2). Standard finish shall be [brass][bright chrome] [white painted] [Special finish—specify]. Residential recessed horizontal sidewall sprinklers shall be Reliable Model F1 Res 44 LL/F2, SIN RA3331 (Bulletin 033).

Standard Finishes		
Sprinkler	F1, F2, FP Escutcheons	Cover Plates
Bronze Chrome Plated White and Black Polyester Coated	Brass Bright Chrome Plated White Painted	White Painted Chrome
Special Application Finishes		
Sprinkler	F1, F2, Escutcheons	Cover Plates
Bright Brass Black Paint Off White Satin Chrome	Bright Brass Black Paint Off White Satin Chrome	Bright Brass Black Paint Off White Satin Chrome

⁽¹⁾ Other finishes and colors are available on special order. Consult factory for details.

Note: Paint or any other coating applied over the factory finish will void all approvals and warranties.

Ordering Information

Specify:

1. Sprinkler Model
2. Sprinkler Type
3. Temperature Rating
4. Sprinkler Finish
5. Escutcheon Finish
6. Cover Plate Finish

The equipment presented in this bulletin is to be installed in accordance with the latest published Standards of the National Fire Protection Association, Factory Mutual Research Corporation, or other similar organizations and also with the provisions of governmental codes or ordinances whenever applicable.

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