



## Model F1 Residential Sprinklers for Design Density of .05 gpm/ft<sup>2</sup>

**Model F1 Res Sprinklers engineered for the lowest flows  
to meet the minimum design density of .05 gpm/ft<sup>2</sup>**

### Types:

1. F1 Res 30 Pendent
2. F1 Res 30 Recessed Pendent/F2
3. F1 Res 30 Recessed Pendent/FP
4. F1 Res 49 Pendent
5. F1 Res 49 Recessed Pendent/F1
6. F1 Res 49 Recessed Pendent/FP
7. F1 Res 58 Pendent
8. F1 Res 58 Recessed Pendent/F1
9. F1 Res 58 Recessed Pendent/FP
10. F1 Res 76 Pendent
11. F1 Res 76 Recessed Pendent/F1
12. F1 Res 76 Recessed Pendent/FP
13. F1 Res 30 CCP Pendent
14. F1 Res 49 CCP Pendent
15. F1 Res 58 CCP Pendent
16. F1 Res 76 CCP Pendent
17. F1 Res 44 HSW
18. F1 Res 44 Recessed HSW/F2
19. F1 Res 58 HSW
20. F1 Res 58 HSW Recessed HSW/F2
21. F1 Res 44 SWC

### Listings & Approvals

1. Listed by Underwriters Laboratories Inc. and  
UL Certified for Canada (cULus)
2. NYC MEA 258-93-E

**Slope Ceiling Approvals:** Refer to Bulletin 035

**Sprinklers for .10 Density:** Refer to Bulletin 176

### UL Listing Category

Residential Automatic Sprinkler

### UL Guide Number

VKKW

### Patents

US Patent No. 6,516,893 applies to the  
Model F1 Res 49 & 58 Pendent Sprinklers

### Product Description

Model F1 Res Pendent 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 Horizontal Sidewall sprinklers (Figs. 5, 6 & 7) are equally attractive when above ceiling piping cannot be used.



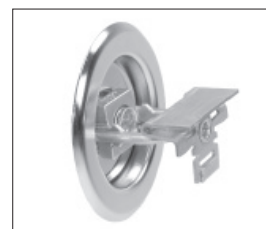
F1 Res 30, 49, 58 & 76  
Recessed Pendent / F1



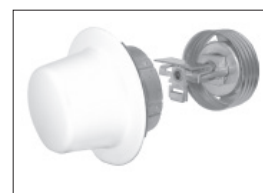
F1 Res 30, 49, 58 & 76  
Recessed Pendent / FP



F1 Res 30, 49, 58 & 76  
CCP Pendent



F1 Res 44 & 58  
Recessed HSW/F2



F1 Res 44 SWC

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

The low flow F1 Res 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 Casting
- Sprinklers' Pressure Rating : 175 psi  
Factory Hydrostatically Tested to 500 psi
- Thread Size: ½" NPT (R½)
- K-Factor: 3.0 (Actual) - F1 Res 30 Pendent Sprinkler  
4.9 (Actual) - F1 Res 49 Pendent Sprinkler  
5.8 (Actual) - F1 Res 58 Pendent & HSW Sprinkler  
7.6 (Actual) - F1 Res 76 Pendent Sprinkler  
4.4 (Actual) - F1 Res 44 HSW Sprinkler
- Density: Minimum 0.05 gpm/ft<sup>2</sup>

Application

Model F1 Res Sprinklers are used for Residential Fire Protection according to UL 1626 Standard\*. Be sure that orifice size, temperature rating, deflector style and sprinkler type are in accordance with the latest published standards of The National Fire Protection Association or the approving authority having jurisdiction.

- Model F1 Res 30, 49, 58 & 76 Pendent

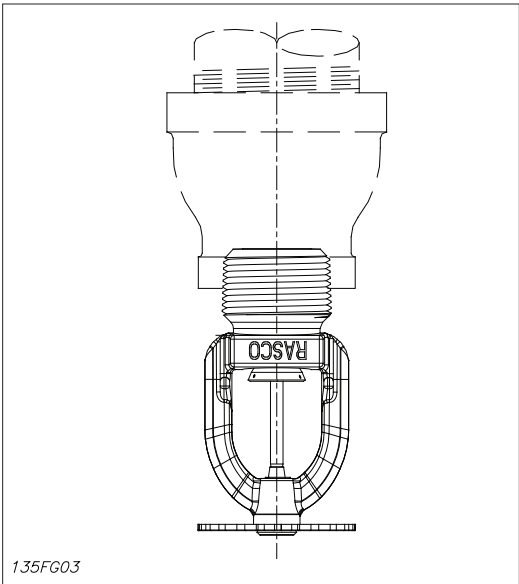


Fig. 1

Wrench; for installing Models F1 Res Recessed Pendent, CCP & SWC sprinklers use only the Model GFR2 sprinkler wrench; for installing Model F1 Res Recessed HSW sprinklers use only the Model GFR2 Sprinkler Wrench. Use of wrenches other than those specified may damage these sprinklers. Install F1 Res 44 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 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 sprinklers. Use of any other recessed escutcheon will void all approvals and warranties. For installing Model F1 Res Pendent sprinklers use only the Model D sprinkler

- Model F1 Res 30 Recessed Pendent / F2
- Model F1 Res 49, 58 & 76 Recessed Pendent / F1



F1 escutcheon, 3/4" (19mm) adjustment

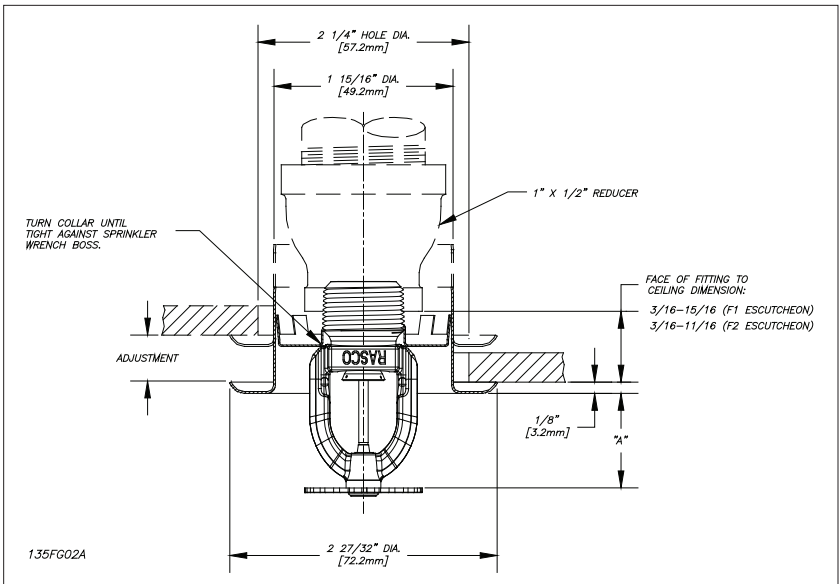


Fig. 2

Escutcheon\*, F1 or F2, Data:

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

\* Note: Escutcheons F1 or F2 may be used with Model F1 Res 49, 58 & 76 Recessed Pendent Sprinkler

### Technical Data: F1Res 30 Pendent and Recessed Pendent

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

#### Deflector - to - ceiling

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

| Max. Sprinkler Spacing ft (m) | Flow gpm (Lpm) | Pressure psi (bar) | Sprinkler Identification Number (SIN) |
|-------------------------------|----------------|--------------------|---------------------------------------|
| 12 x 12 (3,6 x 3,6)           | 8 (30.3)       | 7.0 (0,48)         | R3511                                 |
| 14 x 14 (4,3 x 4,3)           | 10 (37.8)      | 11 (0,76)          |                                       |

### Technical Data: F1Res 49 Pendent and Recessed Pendent.

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

#### Deflector - to - ceiling

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

| Max. Sprinkler Spacing ft (m) | Flow gpm (Lpm) | Pressure psi (bar) | Sprinkler Identification Number (SIN) |
|-------------------------------|----------------|--------------------|---------------------------------------|
| 12 x 12 (3,6 x 3,6)           | 13 (49)        | 7.0 (0,48)         | R3516                                 |
| 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)

| Max. Sprinkler Spacing ft (m) | Flow gpm (Lpm) | Pressure psi (bar) | Sprinkler Identification Number (SIN) |
|-------------------------------|----------------|--------------------|---------------------------------------|
| 12 x 12 (3,6 x 3,6)           | 15 (57)        | 9.4 (0,65)         | R3516                                 |
| 14 x 14 (4,3 x 4,3)           | 16 (60.5)      | 10.6 (0,73)        |                                       |
| 16 x 16 (4,9 x 4,9)           | 17 (64.3)      | 12.0 (0,83)        |                                       |
| 18 x 18 (5,5 x 5,5)           | 19 (72)        | 15.0 (1,0)         |                                       |
| 20 x 20 (6,1 x 6,1)           | 22 (83.2)      | 20.2 (1,4)         |                                       |

**\*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 7.5 ft. (2.3m) on center.

### Technical Data: F1Res 58 Pendent and Recessed Pendent.

| Thread Size | Nominal Orifice Inch (mm) | Sprinkler Temp. Rating |          | Max. Pressure psi (bar) | Max. Ambient Temp. |          | Actual K Factor | Sprinkler Length Inch (mm) |
|-------------|---------------------------|------------------------|----------|-------------------------|--------------------|----------|-----------------|----------------------------|
|             |                           | °F                     | °C       |                         | °F                 | °C       |                 |                            |
| ½" NPT (R½) | ½" (13)                   | 155<br>175             | 68<br>79 | 175 (12)                | 100<br>150         | 38<br>66 | 5.8             | 2.25 (57)                  |

| Max. Sprinkler Spacing ft (m) | Flow gpm (Lpm) | Pressure psi (bar) | Ceiling -to- Deflector Inch (mm) | Sprinkler Identification Number (SIN) |
|-------------------------------|----------------|--------------------|----------------------------------|---------------------------------------|
| 12 x 12 (3,6 x 3,6)           | 16 (61)        | 7.6 (0,53)         | 1- 4<br>(25 - 100)               | R3513                                 |
| 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: F1 Res 76 Pendent and Recessed Pendent

| Thread Size     | Nominal Orifice Inch (mm) | Sprinkler Temp. Rating |    | Max. Pressure psi (bar) | Max. Ambient Temp. |    | K Factor | Sprinkler Length Inch (mm) |
|-----------------|---------------------------|------------------------|----|-------------------------|--------------------|----|----------|----------------------------|
|                 |                           | °F                     | °C |                         | °F                 | °C |          |                            |
| 3/4" NPT (R1/2) | 17/32" (13.5)             | 155                    | 68 | 175 (12)                | 100                | 38 | 7.6      | 2.25 (57)                  |
|                 |                           | 175                    | 79 |                         | 150                | 66 |          |                            |

| Max. Sprinkler Spacing ft (m) | Flow gpm (Lpm) | Pressure psi (bar) | Sprinkler Identification Number (SIN) |
|-------------------------------|----------------|--------------------|---------------------------------------|
| 12 x 12 (3,6 x 3,6)           | 21 (79.5)      | 7.6 (0,53)         | R7618                                 |
| 14 x 14 (4,3 x 4,3)           | 21 (79.5)      | 7.6 (0,53)         |                                       |
| 16 x 16 (4,9 x 4,9)           | 21 (79.5)      | 7.6 (0,53)         |                                       |
| 18 x 18 (5,5 x 5,5)           | 21 (79.5)      | 7.6 (0,53)         |                                       |
| 20 x 20 (6,1 x 6,1)           | 23 (87.1)      | 9.2 (0,63)         |                                       |

Model F1 Res 30, 49, 58 & 76 CCP Pendent



Model F1 Res 30, 49, 58 & 76 Recessed Pendent / FP



FP push-on/thread-off escutcheon

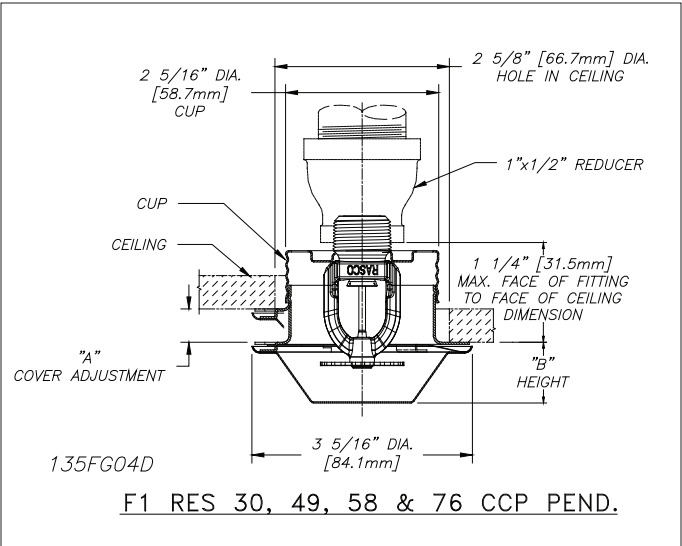


Fig. 3

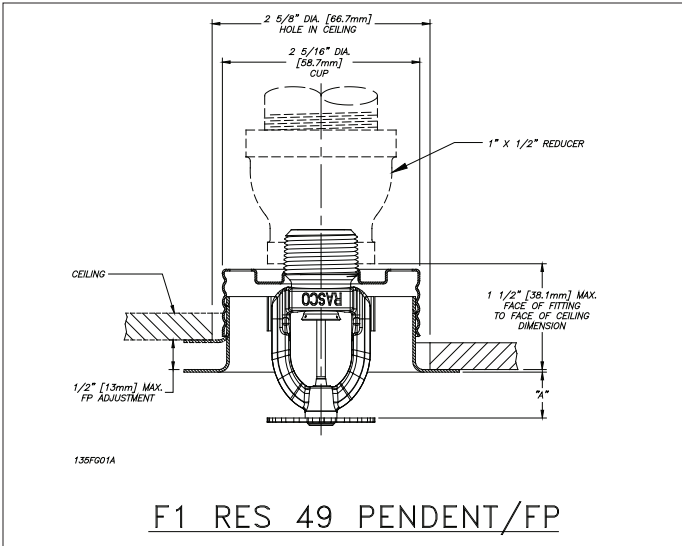


Fig. 4

**Note:** The F1 Res 76 will use a 1" x 3/4" reducer.

**Technical Data: F1Res 30 CCP Pendent and Recessed Pendent/FP**

| Thread Size | Nominal Orifice Inch (mm) | Sprinkler Temp. Rating |    | CCP Assembly Temp. Rating |    | Max. Pressure psi (bar) | Max. Ambient Temp. |    | K Factor | Sprinkler Length Inch (mm) |
|-------------|---------------------------|------------------------|----|---------------------------|----|-------------------------|--------------------|----|----------|----------------------------|
|             |                           | °F                     | °C | °F                        | °C |                         | °F                 | °C |          |                            |
| ½" NPT (R½) | 21/64" (8.2)              | 155                    | 68 | 135                       | 57 | 175 (12)                | 100                | 38 | 3.0      | 2.25 (57)                  |

| Max. Sprinkler Spacing ft (m) | Flow gpm (Lpm) | Pressure psi (bar) | Sprinkler Identification Number (SIN) |
|-------------------------------|----------------|--------------------|---------------------------------------|
| 12 x 12 (3,6 x 3,6)           | 8 (30.3)       | 7.0 (0,48)         | R3511                                 |
| 14 x 14 (4,3 x 4,3)           | 11 (41.6)      | 13.4 (0,92)        |                                       |

**Technical Data: F1Res 49 CCP Pendent and Recessed Pendent/FP**

| Thread Size | Nominal Orifice Inch (mm) | Sprinkler Temp. Rating |    | CCP Assembly Temp. Rating |    | Max. Pressure psi (bar) | Max. Ambient Temp. |    | K Factor | Sprinkler Length Inch (mm) |
|-------------|---------------------------|------------------------|----|---------------------------|----|-------------------------|--------------------|----|----------|----------------------------|
|             |                           | °F                     | °C | °F                        | °C |                         | °F                 | °C |          |                            |
| ½" NPT (R½) | 7/16" (11)                | 155                    | 68 | 135                       | 57 | 175 (12)                | 100                | 38 | 4.9      | 2.25 (57)                  |

**CCP Options Data:**

| "A" Cover Adjustment Inch (mm) | "B" CCP Height Inch (mm) |
|--------------------------------|--------------------------|
| ½ (12.7)                       | 15/16 (24)               |
| 5/16 (7.9)                     | ¾ (19)                   |

| Max. Sprinkler Spacing ft (m) | Flow gpm (Lpm) | Pressure psi (bar) | Sprinkler Identification Number (SIN) |
|-------------------------------|----------------|--------------------|---------------------------------------|
| 12 x 12 (3,6 x 3,6)           | 13 (49)        | 7.0 (0,48)         | R3516                                 |
| 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)        |                                       |

**FP Data "A":**

| FP Position   | "A" Inch (mm) |
|---------------|---------------|
| Max. Recessed | 7/16 (11)     |
| Min. Recessed | 15/16 (24)    |

**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 CCP Pendent and Recessed Pendent/FP**

| Thread Size | Nominal Orifice Inch (mm) | Sprinkler Temp. Rating |    | CCP Assembly Temp. Rating |    | Max. Pressure psi (bar) | Max. Ambient Temp. |    | K Factor | Sprinkler Length Inch (mm) |
|-------------|---------------------------|------------------------|----|---------------------------|----|-------------------------|--------------------|----|----------|----------------------------|
|             |                           | °F                     | °C | °F                        | °C |                         | °F                 | °C |          |                            |
| ½" NPT (R½) | ½" (13)                   | 155                    | 68 | 135                       | 57 | 175 (12)                | 100                | 38 | 5.8      | 2.25 (57)                  |

| Max. Sprinkler Spacing ft (m) | Flow gpm (Lpm) | Pressure psi (bar) | Sprinkler Identification Number (SIN) |
|-------------------------------|----------------|--------------------|---------------------------------------|
| 12 x 12 (3,6 x 3,6)           | 16 (61)        | 7.6 (0,53)         | R3513                                 |
| 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 76 CCP Pendent and Recessed Pendent/FP**

| Thread Size | Nominal Orifice Inch (mm) | Sprinkler Temp. Rating |          | CCP Assembly Temp. Rating |    | Max. Pressure psi (bar) | Max. Ambient Temp. |          | K Factor | Sprinkler Length Inch (mm) |
|-------------|---------------------------|------------------------|----------|---------------------------|----|-------------------------|--------------------|----------|----------|----------------------------|
|             |                           | °F                     | °C       | °F                        | °C |                         | °F                 | °C       |          |                            |
| ¾" NPT (R¾) | 17/32" (13.5)             | 155<br>175             | 68<br>79 | 135                       | 57 | 175 (12)                | 100<br>150         | 38<br>66 | 7.6      | 2.25 (57)                  |

| Max. Sprinkler Spacing ft (m) | Flow gpm (Lpm) | Pressure psi (bar) | Sprinkler Identification Number (SIN) |
|-------------------------------|----------------|--------------------|---------------------------------------|
| 12 x 12 (3,6 x 3,6)           | 21 (79.5)      | 7.6 (0,53)         | R7618                                 |
| 14 x 14 (4,3 x 4,3)           | 21 (79.5)      | 7.6 (0,53)         |                                       |
| 16 x 16 (4,9 x 4,9)           | 21 (79.5)      | 7.6 (0,53)         |                                       |
| 18 x 18 (5,5 x 5,5)           | 22 (83.3)      | 8.4 (0,58)         |                                       |
| 20 x 20 (6,1 x 6,1)           | 25 (94.6)      | 10.8 (0,74)        |                                       |

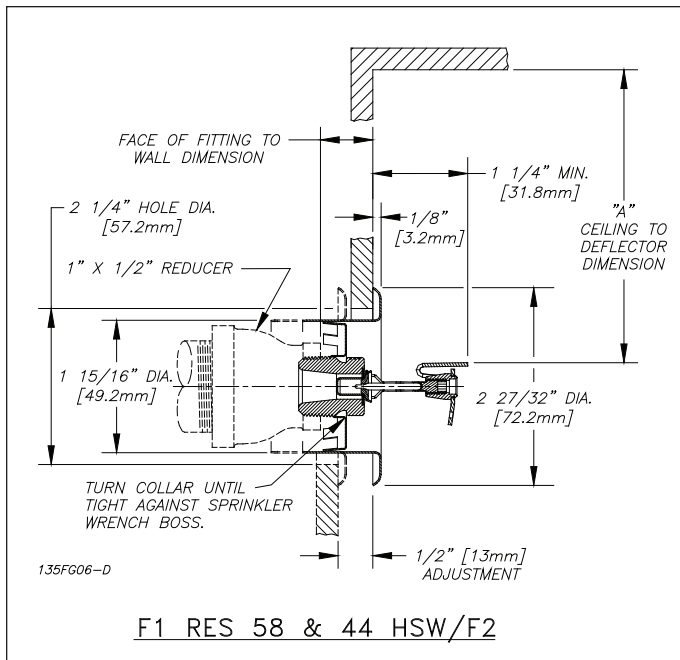
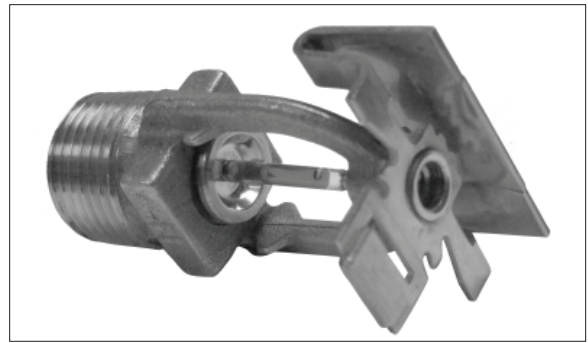


Fig. 5

• Model F1 Res 44 & 58 HSW



• Model F1 Res 44 & 58 Recessed HSW/F2



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

Technical Data: F1Res 44 HSW & HSW/F2

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

Escutcheon, F2, Data:

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

| Max. Sprinkler Spacing ft (m) | "A" Ceiling to Deflector Inch (mm) | Sprinkler Temp. Rating °F (°C) |          | Flow gpm (Lpm) | Pressure psi (bar) | Sprinkler Identification Number (SIN) |
|-------------------------------|------------------------------------|--------------------------------|----------|----------------|--------------------|---------------------------------------|
| 12 x 12 (3,6 x 3,6)           | 4 - 6 (101 - 152)                  | 155 (68)                       | 175 (79) | 12 (45,4)      | 7.5 (0,52)         | R3531                                 |
| 14 x 14 (4,3 x 4,3)           |                                    | 155 (68)                       | 175 (79) | 14 (53,0)      | 10.2 (0,71)        |                                       |
| 16 x 16 (4,9 x 4,9)           |                                    | 155 (68)                       | 175 (79) | 16 (60,6)      | 13.3 (0,92)        |                                       |
| 16 x 18 (4,9 x 5,5)           |                                    | 155 (68)                       | 175 (79) | 18 (68,1)      | 16.8 (1,16)        |                                       |
| 18 x 18 (5,5 x 5,5)           |                                    | 155 (68)                       | 175 (79) | 19 (72,0)      | 18.7 (1,29)        |                                       |
| 16 x 20 (4,9 x 6,1)           |                                    | 155 (68)                       | 175 (79) | 23 (87,1)      | 27.4 (1,89)        |                                       |
| 12 x 12 (3,6 x 3,6)           | 6 - 12 (152 - 305)                 | 155 (68)                       | 175 (79) | 14 (53,0)      | 10.2 (0,71)        |                                       |
| 14 x 14 (4,3 x 4,3)           |                                    | 155 (68)                       | 175 (79) | 16 (60,6)      | 13.3 (0,92)        |                                       |
| 16 x 16 (4,9 x 4,9)           |                                    | 155 (68)                       | 175 (79) | 17 (64,4)      | 15.0 (1,04)        |                                       |
| 16 x 18 (4,9 x 5,5)           |                                    | 155 (68)                       | 175 (79) | 20 (75,7)      | 20.7 (1,43)        |                                       |
| 16 x 20 (4,9 x 6,1)           |                                    | 155 (68)                       | 175 (79) | 23 (87,1)      | 27.4 (1,89)        |                                       |

# Technical Data: F1Res 58 HSW & HSW/F2

| Thread Size     | Nominal Orifice Inch (mm) | Sprinkler Temp. Rating |          | Max. Pressure psi (bar) | Max. Ambient Temp. |          | K Factor | Sprinkler Length Inch (mm) |
|-----------------|---------------------------|------------------------|----------|-------------------------|--------------------|----------|----------|----------------------------|
|                 |                           | °F                     | °C       |                         | °F                 | °C       |          |                            |
| 1/2" NPT (R1/2) | 1/2" (13)                 | 155<br>175             | 68<br>79 | 175 (12)                | 100<br>150         | 38<br>66 | 5.8      | 2.45 (62)                  |

# Escutcheon, F2, Data:

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

| Max. Sprinkler Spacing ft (m) | "A" Ceiling to Deflector Inch (mm) | Sprinkler Temp. Rating °F (°C) |          | Flow gpm (Lpm) | Pressure psi (bar) | Sprinkler Identification Number (SIN) |
|-------------------------------|------------------------------------|--------------------------------|----------|----------------|--------------------|---------------------------------------|
| 12 x 12 (3,6 x 3,6)           | 4 - 6 (101 - 152)                  | 155 (68)                       | 175 (79) | 16 (60,6)      | 7.6 (0,53)         | R3533                                 |
| 14 x 14 (4,3 x 4,3)           |                                    | 155 (68)                       | 175 (79) | 18 (68,2)      | 9.7 (0,67)         |                                       |
| 16 x 16 (4,9 x 4,9)           |                                    | 155 (68)                       | 175 (79) | 21 (79,5)      | 13.2 (0,91)        |                                       |
| 16 x 18 (4,9 x 5,5)           |                                    | 155 (68)                       | 175 (79) | 25 (94,7)      | 18.6 (1,28)        |                                       |
| 16 x 20 (4,9 x 6,1)           |                                    | 155 (68)                       | 175 (79) | 29 (109,8)     | 25 (1,73)          |                                       |
| 12 x 12 (3,6 x 3,6)           | 6 - 12 (152 - 305)                 | 155 (68)                       | 175 (79) | 22 (83,3)      | 14.4 (1,0)         |                                       |
| 14 x 14 (4,3 x 4,3)           |                                    | 155 (68)                       | 175 (79) | 22 (83,3)      | 14.4 (1,0)         |                                       |
| 16 x 16 (4,9 x 4,9)           |                                    | 155 (68)                       | 175 (79) | 26 (98,4)      | 20.1 (1,39)        |                                       |
| 16 x 18 (4,9 x 5,5)           |                                    | 155 (68)                       | 175 (79) | 31 (117,4)     | 28.6 (1,97)        |                                       |

## Model F1 Res 44 SWC

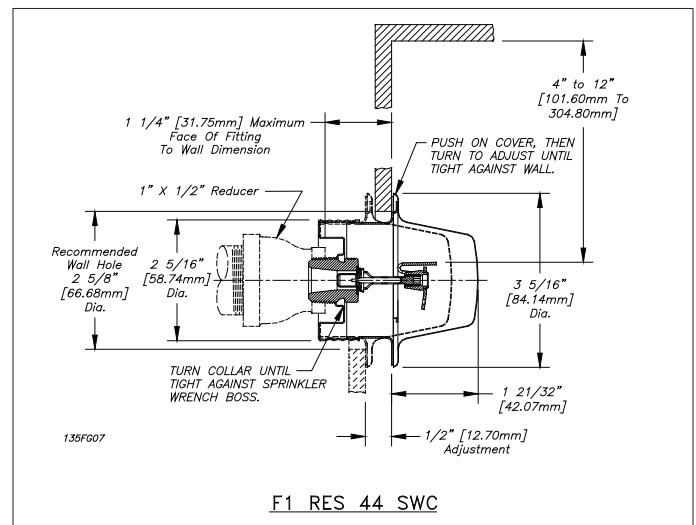
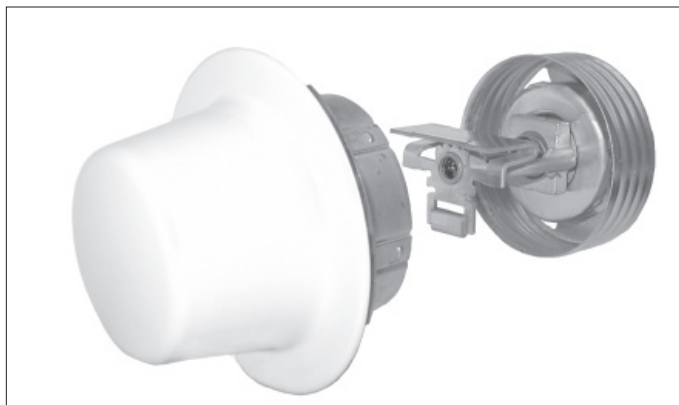


Fig. 6

# Technical Data: F1Res 44 SWC

| Thread Size     | Nominal Orifice Inch (mm) | Sprinkler Temp. Rating |    | Cover Temp. Rating °F °C | Max. Pressure psi (bar) | Max. Ambient Temp. |    | K Factor | Sprinkler Length Inch (mm) |
|-----------------|---------------------------|------------------------|----|--------------------------|-------------------------|--------------------|----|----------|----------------------------|
|                 |                           | °F                     | °C |                          |                         | °F                 | °C |          |                            |
| 1/2" NPT (R1/2) | 3/8" (10)                 | 155                    | 68 | 135 57                   | 175 (12)                | 100                | 38 | 4.4      | 2.45 (62)                  |

| Max. Sprinkler Spacing ft (m) | "A" Ceiling to Deflector Inch (mm) | Flow gpm (Lpm) | Pressure psi (bar) | Sprinkler Identification Number (SIN) |
|-------------------------------|------------------------------------|----------------|--------------------|---------------------------------------|
| 12 x 12 (3,6 x 3,6)           | 4 - 6 (101 - 152)                  | 13 (49,2)      | 8.7 (0,60)         | R3531                                 |
| 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 (1,1)         |                                       |
| 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)        |                                       |
| 12 x 12 (3,6 x 3,6)           | 6 - 12 (152 - 305)                 | 14 (52,9)      | 10.2 (0,71)        |                                       |
| 14 x 14 (4,3 x 4,3)           |                                    | 15 (56,7)      | 11.7 (0,81)        |                                       |
| 16 x 16 (4,9 x 4,9)           |                                    | 18 (68,1)      | 16.8 (1,16)        |                                       |
| 16 x 18 (4,9 x 5,5)           |                                    | 20 (75,6)      | 20.7 (1,43)        |                                       |

## Maintenance

Model F1 Res 30, 49, F1 Res 58, F1 Res 76 and F1 Res 44 Sprinklers should be inspected quarterly, 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. Remove 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, 49 & 58 Pendent Sprinkler Specifications

Sprinklers shall be [cULus Listed] [New York City MEA Approved (258-93-E)] low flow residential pendent sprinklers engineered to provide a minimum design density of 0.05 gpm/ft<sup>2</sup> 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. Where pendent residential sprinklers are installed under sloped ceilings having a pitch from [4/12] to [8/12], the sprinklers shall be listed for such use. Deflector-to-ceiling distance listing shall be 1" to 8" maximum. Sprinkler frame and deflector shall be of bronze frame construction having a 1/2" NPT thread. Water seal assembly shall consist of a Teflon-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, 49 & 58, SIN R3511, R3516 & R3513 (Bulletin 135).

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

Sprinklers shall be [cULus Listed] [New York City MEA Approved (258-93-E)] low flow residential recessed pendent sprinklers engineered to provide a minimum design density of 0.05 gpm/ft<sup>2</sup> 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. Where pendent residential sprinklers are installed under sloped ceilings having a pitch from [4/12] to [8/12], the sprinklers shall be listed for such use. Deflector-to-ceiling distance listing shall be 1" to 8" maximum. Sprinkler frame and deflector shall be of bronze frame construction having a 1/2" NPT thread. Water seal assembly shall consist of a Teflon-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, 49 & 58 Recessed Pendent/F1] [Model F1 Res 30, 49 & 58 Recessed Pendent/F2] [Model F1 Res 30, 49 & 58 Recessed Pendent/FP] SIN R3511, R3516 & R3513 (Bulletin 135).

### Model F1 Res 30, 49 & 58 CCP Pendent (Concealed)

Sprinklers shall be [cULus Listed] [New York City MEA Approved (258-93-E)] low flow residential concealed sprinklers engineered to provide a minimum design density of 0.05 gpm/ft<sup>2</sup> 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. Where pendent residential sprinklers are installed under sloped ceilings having a pitch from [4/12] to [8/12], the sprinklers shall be listed for such use. Sprinkler frame and deflector shall be of bronze frame construction having a 1/2" NPT thread. Water seal assembly shall consist of a Teflon-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 pendent sprinklers shall be Reliable Model F1 Res 30, 49 & 58 CCP, SIN R3511, R3516 & R3513 (Bulletin 135).

### Model F1 Res 44 Horizontal Sidewall Residential Sprinkler Specifications

Sprinklers shall be [cULus Listed] [New York City MEA Approved (258-93-E)] low flow residential horizontal sidewall sprinklers engineered to provide a minimum design density of 0.05 gpm/ft<sup>2</sup> 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. Where horizontal sidewall residential sprinklers are installed under sloped ceilings having a pitch from [4/12] to [8/12], the sprinklers shall be listed for such use. Sprinkler frame and deflector shall be of bronze frame construction having a 1/2" NPT thread. Water seal assembly shall consist of a Teflon-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, SIN R3531 (Bulletin 135).

**Model F1 Res 44 Recessed  
Horizontal Sidewall Sprinkler**

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 ½” 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/F2, SIN R3531 (Bulletin 135).

**Model F1 Res 76 Pendent**

Sprinklers shall be [cULus Listed] 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. Sprinkler frame and deflector shall be of bronze frame construction having a ¾” NPT thread. Water seal assembly shall consist of a Teflon-coated Belleville spring washer with machined 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 7.6. Standard finish: [Bronze] [Chrome-plated] [White Polyester] [Special finish– specify]. Residential pendent sprinklers shall be Reliable Model F1 Res 76, SIN R7618 (Bulletin 135).

**Model F1 Res 76 Recessed Pendent/F1,  
Model F1 Res 76 Recessed Pendent/F2,  
Model F1 Res 76 Recessed Pendent/FP**

Sprinklers shall be [cULus Listed] 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. Sprinkler frame and deflector shall be of bronze frame construction having a ¾” NPT thread. Water seal assembly shall consist of a Teflon-coated Belleville spring washer with machined 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 7.6. Standard finish: [Bronze] [Chrome-plated] [White Polyester] [Special finish– specify]. Recessed escutcheon assembly shall be a steel, two-piece escutcheon [with ½” adjustment (Model F2)] [with ¾” adjustment (Model F1)] [of push-on and thread off design with ½” adjustment (Model FP)]. Standard finish shall be [brass][bright chrome] [white painted]. Residential recessed pendent sprinklers shall be Reliable [Model F1 Res 76 Recessed Pendent/F1] [Model F1 Res 76 Recessed Pendent/F2] [Model F1 Res 76 Recessed Pendent/FP] SIN R7618 (Bulletin 135).

**Model F1 Res 76 CCP Pendent (Concealed)**

Sprinklers shall be [cULus Listed] 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 ¾” NPT thread. Water seal assembly shall consist of a Teflon-coated Belleville spring washer with machined 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 ½” 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 pendent sprinklers shall be Reliable Model F1 Res 76 CCP, SIN R7618 (Bulletin 135).

**Finishes <sup>(1)</sup>**

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

<sup>(1)</sup> 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

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- Deluge valves
- Detector check valves
- Check valves
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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.

Products manufactured and distributed by Reliable have been protecting life and property for over 90 years, and are installed and serviced by the most highly qualified and reputable sprinkler contractors located throughout the United States, Canada and foreign countries.

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