



## Model F1 LO K 8.0 (115 metric) Standard Response Sprinklers

### Model F1 LO Sprinkler

Standard Spray Upright  
Standard Spray Pendent  
Extended Coverage Pendent  
Conventional

### Model F1 LO Recessed Sprinkler

Recessed Standard Spray Pendent  
Recessed Extended Coverage Pendent

For Model F1 1/2" K 5.6 (80), 4.2 (60) and 2.8 (40) Sprinkler Types refer to Bulletin 013, 024 or 027 for technical specifications and approvals.

### Approval Organizations

1. Underwriters Laboratories Inc. (UL)
2. Underwriters' Laboratories of Canada (ULC)
3. Factory Mutual Approvals (FM)
4. Loss Prevention Council (LPCB, UK)
5. VdS Schadenverhütung GmbH
6. EC Certificate: 1438-CPD-0041 (R1712)  
1438-CPD-0040 (R1722)

### UL Listing Category

Sprinklers, Automatic and Open (VNIV)

### Product Description

Model F1 LO series sprinklers are K8.0 (115) standard-response sprinklers with a glass bulb operating element. The sprinklers use a compact frame for a low-profile, decorative appearance. Model F1 LO series sprinklers are available in a variety of finishes as indicated in the Finishes table in this Bulletin.

Standard spray Model F1 LO sprinklers are available in pendent, recessed pendent, and upright configurations. Extended coverage pendent and recessed pendent Model F1 LO sprinklers are available for modifications or additions to existing light hazard sprinkler systems with standard-response sprinklers as well as for replacement of individual standard-response sprinklers in existing light hazard sprinkler systems. A conventional (old-style) Model F1 LO sprinkler is also available. Refer to the Installation Data in this Bulletin for additional information on each specific Model F1 LO sprinkler.



Upright



Pendent



Conventional



Recessed Pendent

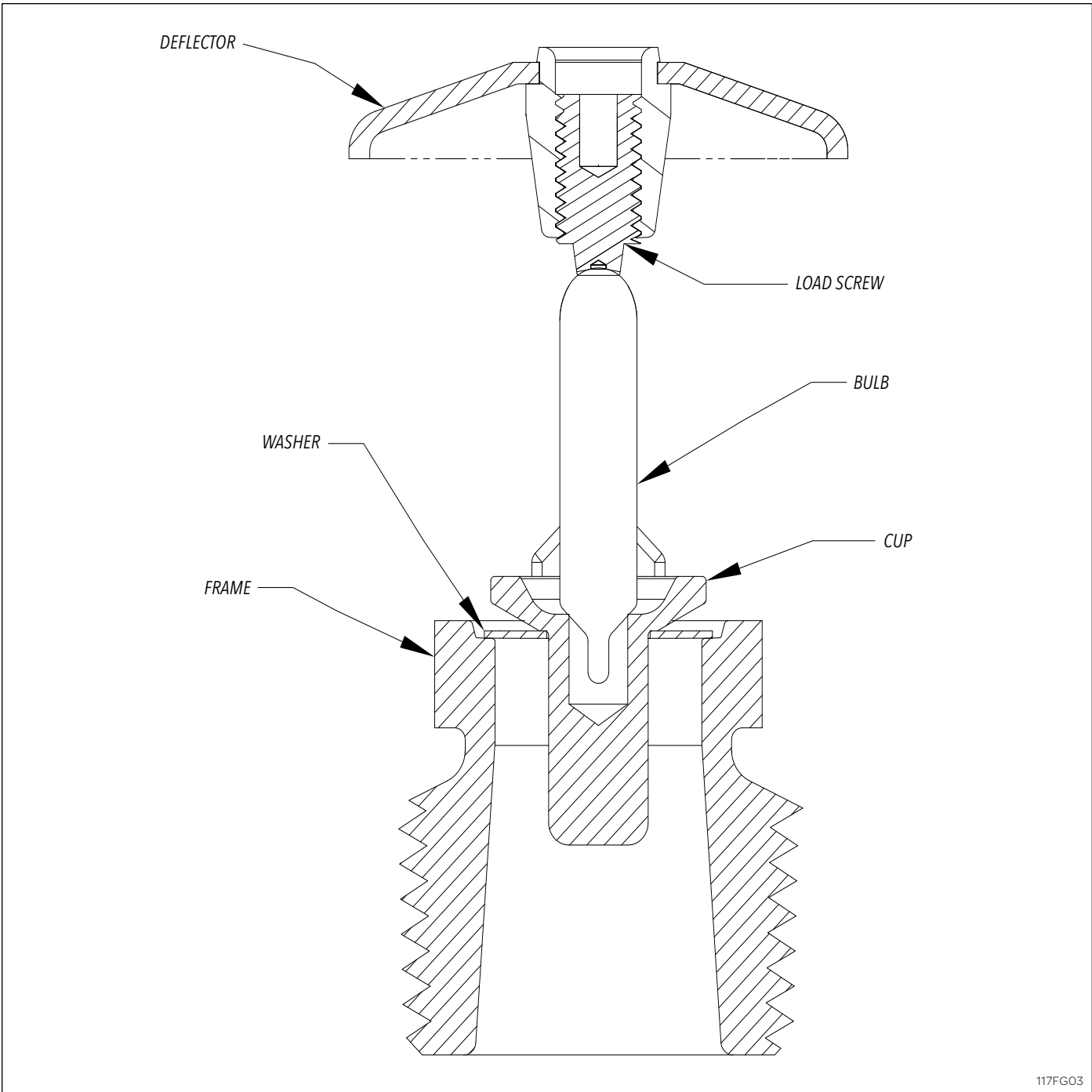


Extended Coverage Pendent



Recessed Extended Coverage Pendent

Model F1 LO sprinklers are available in a range of temperature ratings as indicated in the Temperature Ratings table in this Bulletin, which may be modified by the Installation Data for each specific model.



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**Technical data**

| Models | Response | Deflector Orientation              | Nominal K-factor      | Thread Size                | Max. Working Pressure  | Min. Working Pressure | Temperature Rating              | Finish             |
|--------|----------|------------------------------------|-----------------------|----------------------------|------------------------|-----------------------|---------------------------------|--------------------|
| F1 LO  | Standard | Upright<br>Pendent<br>Conventional | K 8.0<br>(115 metric) | 3/4" NPT<br>or ISO 7-1R3/4 | 175 psi <sup>(1)</sup> | 7 psi                 | See "Temperature Ratings" Table | See "Finish Table" |

**Material Data**

| Frame                 | Deflector     | Load Screw   | Cup                                  | Washer  | Bulb  |
|-----------------------|---------------|--|--------------------------------------|---|-------|
| DZR Brass<br>QM Brass | CDA Alloy 510 | CDA Alloy 210, 220, 314, 316, 360<br>or<br>CDA Alloy 544 | CDA Alloy 314<br>or<br>CDA Alloy 353 | Nickel Alloy 440 or Alloy 360 coated<br>with PTFE Adhesive Tape | Glass |

See "Installation Data" table and from page for more details.

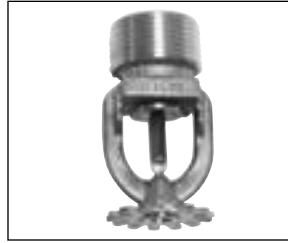
<sup>(1)</sup> Model F1 LO Pendent, Recessed Pendent, Extended Coverage Pendent, Extended Coverage Recessed Pendent, and Upright sprinklers (SIN R1712, R1722, R1742) are cULus Listed for 250 psi (17 bar).

## Model F1 LO Upright, Pendent and Conventional Sprinklers

Installation Wrench: Model D Sprinkler Wrench



Upright



Pendent



Conventional

### Installation Data:

| Nominal Orifice  | Thread Size     | Nominal K-factor |        | Sprinkler Height | Approval Organization     | Sprinkler Identification Numbers (SIN) |                         |
|--|-----------------|------------------|--------|------------------|---------------------------|--|-------------------------|
|  |                 | US               | Metric |                  |                           | Upright                                | Pendent                 |
| <b>Standard-Upright (SSU) and pendent Deflectors Marked to Indicate Position</b> |                 |                  |        |                  |                           |  |                         |
| 17/32" (20 mm)   | 3/4" NPT (R3/4) | 8.0              | 115    | 2.3" (58 mm)     | 1, 2, 3, 4 <sup>(1)</sup> | R1722 <sup>(3)(4)(5)</sup>             | R1712 <sup>(5)(6)</sup> |
| <b>Conventional-Install in Upright or Pendent Position</b>                       |                 |                  |        |                  |                           |  |                         |
| 20 mm  | 3/4" NPT (R3/4) | 8.0              | 115    | 58.1 mm          | 4                         | R1772                                  |                         |

<sup>(1)</sup> LPCB Approval up to 286 °F (141 °C)

<sup>(2)</sup> FM Approval for SSU up to and including 200 °F (93 °C).

<sup>(3)</sup> Polycoated upright UL and ULC listed corrosion resistant R1722.

<sup>(4)</sup> FM Approved for polycoated sprinklers R1722, R1712.

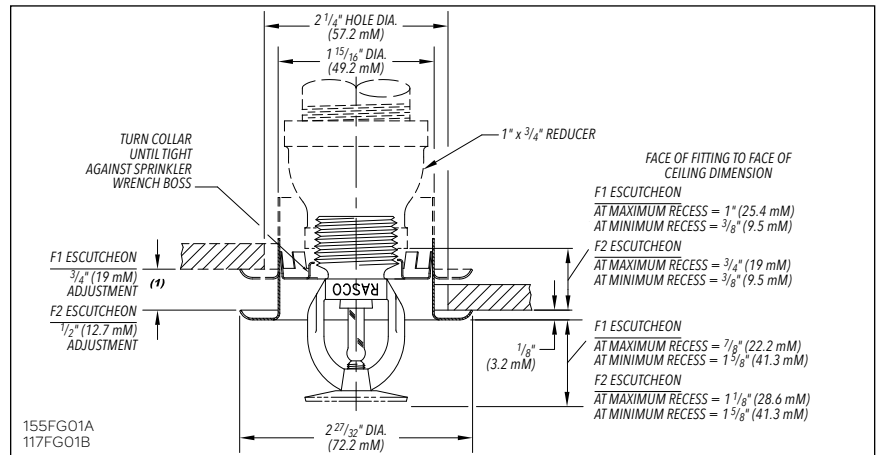
<sup>(5)</sup> Electroless Nickel PTFE Plated - cULus listed Corrosion Resistant.

## Model F1 LO Recessed Pendent Sprinkler

Installation Wrench: Model GFR2 Sprinkler Wrench



Recessed Pendent



<sup>(1)</sup> When installed directly into a tee, the escutcheon dimension's adjustment will be reduced.

### Installation Data:

| Nominal Orifice | Thread Size     | Nominal K-factor |        | Sprinkler Height | Approval Organization | Sprinkler Identification Numbers (SIN) |
|-----------------|-----------------|------------------|--------|------------------|-----------------------|--|
|                 |                 | US               | Metric |                  |                       |  |
| 17/32" (20 mm)  | 3/4" NPT (R3/4) | 8.0              | 115    | 2.3" (58 mm)     | 1, 2, 3, 4, 8         | R1712 <sup>(1)(3)</sup>                |

<sup>(1)</sup> LPCB Approval is for 57 °C through 93 °C ratings.

<sup>(2)</sup> Electroless Nickel PTFE Plated - cULus listed Corrosion Resistant.

## Model F1 LO Extended Coverage Pendent Sprinkler

**Deflector:** EC Pendent

**Installation Wrench:** Model D Sprinkler Wrench

**Approval Type:** Extended Coverage – Light Hazard Occupancy



Extended Coverage Pendent

| Coverage Area |       |                                 |     |                             |         |
|---------------|-------|---------------------------------|-----|-----------------------------|---------|
| Flow Rate     |       | Pressure Nominal<br>K=8.0 (115) |     | Max. Area<br>Width x Length |         |
| gpm           | L/min | psi                             | bar | ft x ft                     | m x m   |
| 26            | 98.4  | 10.6                            | 0.7 | 16x16                       | 4.9x4.9 |
| 33            | 125.0 | 17.0                            | 1.2 | 18x18                       | 5.5x5.5 |
| 40            | 151.4 | 25.0                            | 1.7 | 20x20                       | 6.0x6.0 |

### Installation Data:

| Nominal Orifice   | Thread Size         | Nominal K-factor |        | Sprinkler Height | Approval Organization | Temperature Rating |        | Sprinkler Identification Numbers (SIN) |
|-------------------|---------------------|------------------|--------|------------------|-----------------------|--------------------|--------|--|
|                   |                     | US               | Metric |                  |                       | °F                 | °C     |  |
| 17/32"<br>(20 mm) | 3/4" NPT<br>(R 3/4) | 8.0              | 115    | 2.2" (56 mm)     | 1, 2                  | 135, 155           | 57, 68 | R1742 <sup>(1)</sup>                   |

<sup>(1)</sup> Electroless Nickel PTFE Plated - cULus listed Corrosion Resistant.

## Model F1 LO Recessed Extended Coverage Pendent Sprinkler

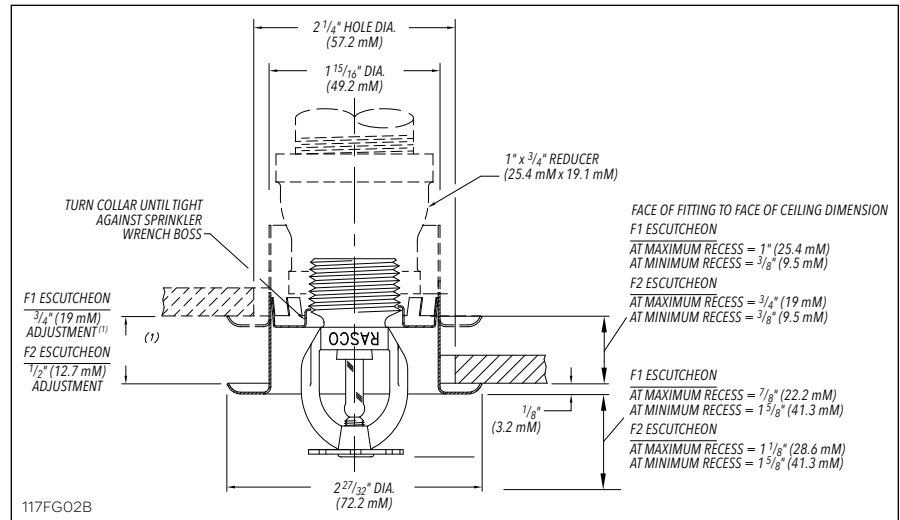
**Deflector:** EC Pendent

**Installation Wrench:** Model GFR2 Sprinkler Wrench

**Approval Type:** Extended Coverage – Light Hazard Occupancy



Recessed Pendent



<sup>(1)</sup> When installed directly into a tee, the escutcheon dimension's adjustment will be reduced.

| Coverage Area |       |                                 |     |                             |         |
|---------------|-------|---------------------------------|-----|-----------------------------|---------|
| Flow Rate     |       | Pressure Nominal<br>K=8.0 (115) |     | Max. Area<br>Width x Length |         |
| gpm           | L/min | psi                             | bar | ft x ft                     | m x m   |
| 26            | 98.4  | 10.6                            | 0.7 | 16x16                       | 4.9x4.9 |
| 33            | 125.0 | 17.0                            | 1.2 | 18x18                       | 5.5x5.5 |
| 40            | 151.4 | 25.0                            | 1.7 | 20x20                       | 6.0x6.0 |

### Installation Data:

| Nominal Orifice   | Thread Size         | Nominal K-factor |        | Sprinkler Height | Approval Organization | Temperature Rating |        | Sprinkler Identification Numbers (SIN) |
|-------------------|---------------------|------------------|--------|------------------|-----------------------|--------------------|--------|--|
|                   |                     | US               | Metric |                  |                       | °F                 | °C     |  |
| 17/32"<br>(20 mm) | 3/4" NPT<br>(R 3/4) | 8.0              | 115    | 2.2" (56 mm)     | 1, 2                  | 135, 155           | 57, 68 | R1742 <sup>(1)</sup>                   |

<sup>(1)</sup> Electroless Nickel PTFE Plated - cULus listed Corrosion Resistant.

## Model F1 LO and F1 LO Recessed Sprinklers

### Application

Model F1 LO and F1 LO Recessed sprinklers are used in fixed fire protection systems: Wet, Dry, Deluge or Preaction. Care must be exercised that the 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.

### Installation

Model F1 LO sprinklers are standard response sprinklers intended for installation as specified in NFPA 13. They must also be installed with the Model D Sprinkler Wrench specifically designed by Reliable for use with these sprinklers.

The Model F1 LO Recessed Sprinklers are to be installed with a maximum recess of 3/4" (19 mm). The Model F1 Escutcheon illustrated is the only recessed escutcheon to be used with the Model F1 LO Pendent and EC Sprinklers. The use of any other recessed escutcheon will void all approvals and negate all warranties. When installing Model F1 LO Recessed Pendent and EC Pendent Sprinklers, use the Model GFR2 Sprinkler Wrench. Any other type of wrench may damage these sprinklers.

**Note:** A leak tight 1/2" NPT (R 1/2) sprinkler joint can be obtained with a torque of 8 - 18 ft-lb (11 - 24 N-m). Do not tighten sprinklers over maximum recommended torque. It may cause leakage or impairment of the sprinklers.

Glass bulb sprinklers have orange covers to protect the bulb during the installation process. REMOVE THIS PROTECTION ONLY AFTER THE SYSTEM HAS BEEN HYDROSTATICALLY TESTED AND, WHEN APPLICABLE, THE ESCUTCHEONS HAVE BEEN INSTALLED. RASCO wrenches are designed to install sprinklers when covers are in place.

### Maintenance

The Models F1 LO and F1 LO Recessed Sprinklers should be inspected and the sprinkler system maintained in accordance with NFPA 25. Do not clean sprinklers with soap and water, ammonia or any other cleaning fluid. 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 be maintained in the original cartons and packaging until used to minimize the potential for damage to sprinklers that would cause improper operation or non-operation.

## Ordering Information

### Specify:

1. Sprinkler Model: F1 LO
2. Sprinkler Type
3. Temperature Rating
4. Sprinkler Finish
5. Thread Type: [3/4" NPT] [ISO 7-1R3/4]
6. Escutcheon Finish (where applicable)

## Temperature Ratings

| Classification            | Sprinkler Temperature |     | Maximum Ambient Temperature |     | Bulb Color |
|---------------------------|-----------------------|-----|-----------------------------|-----|------------|
|                           | °F                    | °C  | °F                          | °C  |            |
| Ordinary                  | 135                   | 57  | 100                         | 38  | Orange     |
| Ordinary                  | 155                   | 68  | 100                         | 38  | Red        |
| Intermediate              | 175                   | 79  | 150                         | 66  | Yellow     |
| Intermediate              | 200                   | 93  | 150                         | 66  | Green      |
| High <sup>(1)</sup>       | 286                   | 141 | 225                         | 107 | Blue       |
| Extra High <sup>(1)</sup> | 360                   | 182 | 300                         | 149 | Mauve      |

<sup>(1)</sup> Not Available for F1 LO Recessed

## Maximum Working Pressure

175 psi (12 bar)

SIN R1712, R1722 & R1742 cULus listed for 250 psi (17 bar)

100% Factory tested hydrostatically to 500 psi (34.5 bar)

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

| Standard Finishes  |  |
|--|--|
| Sprinkler  | Escutcheon   |
| Bronze<br>Chrome<br>Polyester Coated <sup>(6)(7)</sup>   | Brass<br>Chrome<br>White Painted   |
| Special Application Finishes   |  |
| Sprinkler  | Escutcheon   |
| Electroless Nickel PTFE <sup>(6)</sup><br>Bright Brass <sup>(2)</sup><br>Black Plated<br>Black Paint <sup>(3)(4)</sup><br>Off White <sup>(3)</sup><br>Chrome Dull<br>Lead Plated <sup>(3)(4)</sup><br>Wax Coated <sup>(3)(4)(5)</sup><br>Wax Over Lead <sup>(3)(4)</sup> | Electroless Nickel PTFE<br>Bright Brass<br>Black Plated<br>Black Paint<br>Off White<br>Chrome Dull |

<sup>(1)</sup> Other colors and finishes are available on special order. Consult factory for details. Custom color painted sprinklers may not retain their UL Corrosion resistance listing.

<sup>(2)</sup> 200 °F (93 °C) maximum.

<sup>(3)</sup> UL and ULC listed, and NYC approved only.

<sup>(4)</sup> 155 °F to 200 °F (68 °C to 93 °C) ratings only.

<sup>(5)</sup> 286 °F (141 °C) sprinklers may be coated for ambient conditions not exceeding 150 °F (66 °C).

<sup>(6)</sup> UL listed corrosion resistant SIN number: R1722 in standard Black or White. Corrosion resistance in other polyester colors is available upon request.

<sup>(7)</sup> FM Approved for SIN R1722, R1712.

<sup>(8)</sup> cULus listed Corrosion Resistant SIN R1722, R1712 and R1742 in Electroless Nickel PTFE Plated.

# Reliable... For Complete Protection

Reliable offers a wide selection of sprinkler components. Following are some of the many precision-made Reliable products that guard life and property from fire around the clock.

- Automatic sprinklers
- Flush automatic sprinklers
- Recessed automatic sprinklers
- Concealed automatic sprinklers
- Adjustable automatic sprinklers
- Dry automatic sprinklers
- Intermediate level sprinklers
- Open sprinklers
- Spray nozzles
- Alarm valves
- Retarding chambers
- Dry pipe valves
- Accelerators for dry pipe valves
- Mechanical sprinkler alarms
- Electrical sprinkler alarm switches
- Water flow detectors
- Deluge valves
- Detector check valves
- Check valves
- Electrical system
- Sprinkler emergency cabinets
- Sprinkler wrenches
- Sprinkler escutcheons and guards
- Inspectors test connections
- Sight drains
- Ball drips and drum drips
- Control valve seals
- Air maintenance devices
- Air compressors
- Pressure gauges
- Identification signs
- Fire department connection

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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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Manufactured by

**Reliable**<sup>®</sup>

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