

Reliable®

Models F1 Series Standard Response Standard Spray

Model F156 Sprinkler Types

Standard Upright
Standard Pendent
Conventional
Vertical Sidewall
Horizontal Sidewall

Model F156 Recessed Sprinkler Types

Pendent/F1/F2/FP
Horizontal Sidewall

Model F142, F1XLH & F128 Sprinkler Types

Standard Upright
Standard Pendent

Model F142, F1XLH & F128 Recessed Sprinkler Types

Pendent/F1/F2/FP

Approval Organizations

1. Underwriters Laboratories Inc. and certified for Canada (cULus)
2. Factory Mutual Approvals (FM)
3. Loss Prevention Council (LPCB, UK)
4. VdS Schadenverhütung GmbH

UL Listing Category

Sprinklers, Automatic & Open (VNIV)

Product Description

The F156, F142, F1XLH & F128 Series Glass Bulb Sprinkler combines the durability of a standard sprinkler with the attractive low profile of a decorative sprinkler. Whether installed on exposed piping or in an office ceiling, it is functional and attractive.

Beautifully versatile is the description for the Reliable Models F156, F142, F1XLH & F128 Series Recessed glass bulb sprinkler. Recessing the F156, F142, F1XLH & F128 Series enhances its already low profile decorative appearance, and facilitates a rapid and perfect installation.

The recessed escutcheon of the Models F156, F142, F1XLH & F128 are highly adjustable. The two piece construction makes field installation a very easy and rapid task. This also allows ceiling panels to later be removed without shutting down the fire protection system, thus facilitating maintenance of above ceiling services.



Upright

Pendent

Conventional



Vertical Sidewall

Horizontal Sidewall

Recessed
Pendent/F1/F2Recessed
Horizontal SidewallRecessed
Pendent/FP

XLH Upright



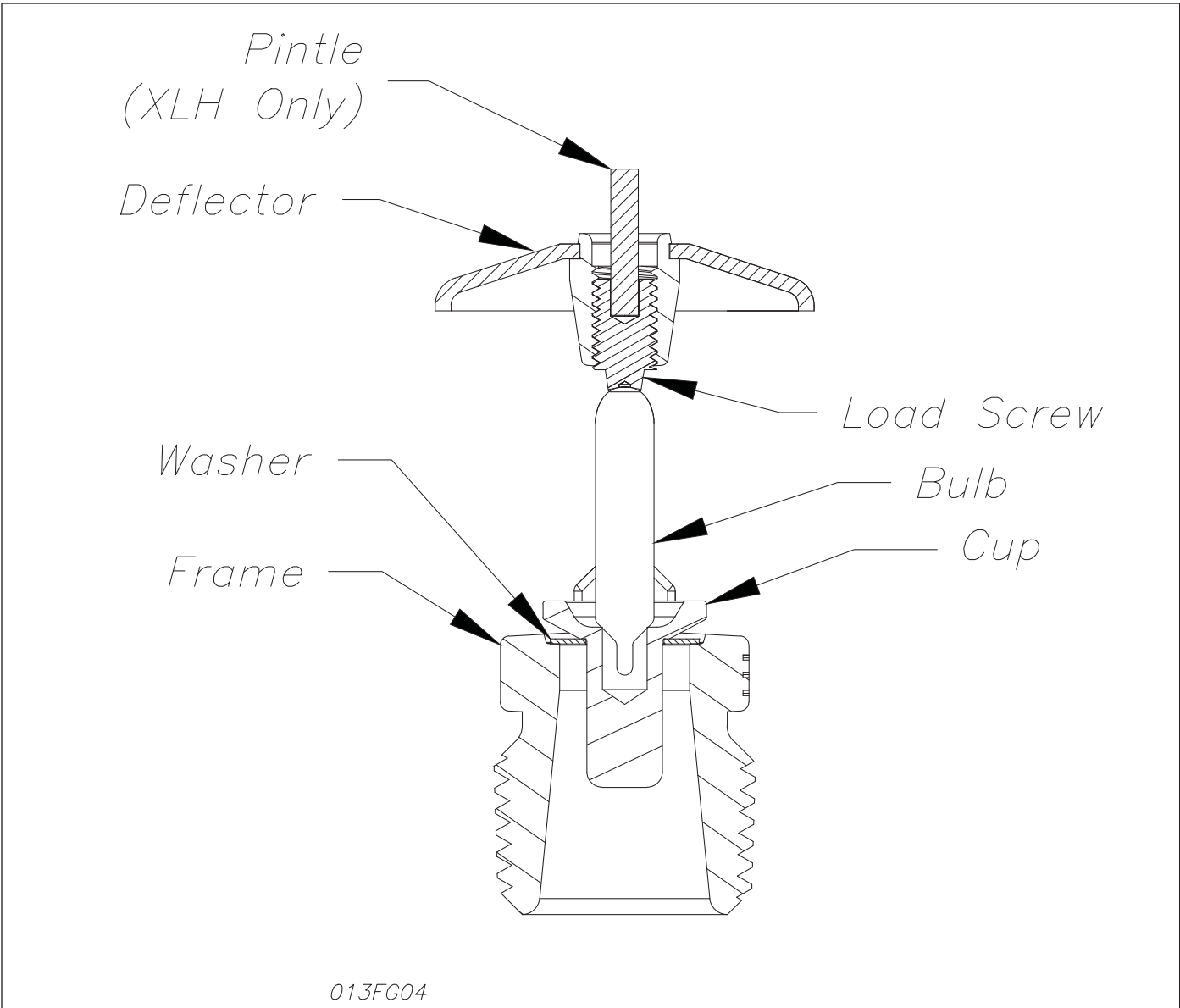
XLH Pendent

XLH Recessed
Pendent F1/F2XLH Recessed
Pendent FP

The F156, F142, F1XLH & F128 Series Automatic Sprinkler utilizes a 5.0 mm frangible glass bulb. The glass bulb consists of an accurately controlled amount of special fluid hermetically sealed inside a precisely manufactured glass capsule. This glass bulb is specially constructed to provide fast thermal response.

At normal temperatures, the glass bulb contains the fluid in both the liquid phase and in the vapor phase. The vapor phase can be seen as a small bubble. As heat is applied, the liquid expands forcing the bubble smaller and smaller as the liquid pressure increases. Continued heating forces the liquid to push out against the bulb, causing the glass to shatter, opening the waterway and allowing the deflector to distribute the discharging water.

The F156, F142, F1XLH & F128 Series Sprinkler temperature rating is identified by the color of the glass bulb capsule as well as frame color where applicable.



Model F142, F1XLH Upright

Technical data:

| Models | Discharge Coefficient | Response | Thread Size | Max. Working Pressure | Min. Working Pressure | Temperature Rating | Finish |
|---------------|-----------------------|----------|-----------------|-----------------------|-----------------------|---------------------------------|--------------------|
| F156 | K 5.6 | Standard | 1/2" NPT (R1/2) | 175 PSI | 7 PSI | See "Temperature Ratings" Table | See "Finish Table" |
| F142 F1XLH | K 4.2 | | | | | | |
| F128 | K 2.8 | | | | | | |

Material Data:

| Frame | Deflector | Load Screw | Pintle | Cup | Washer | Bulb |
|-----------------------|--|--------------------------------------|--------------------------------------|--------------------------------------|--|-------|
| DZR Brass QM Brass | CDA Alloy 260, CDA Alloy 220 or CDA Alloy 510 | CDA Alloy 360 or CDA Alloy 544 | CDA Alloy 360 or CDA Alloy 544 | CDA Alloy 651 or CDA Alloy 693 | Nickel Alloy 440 or Alloy 360 coated with PTFE Adhesive Tape | Glass |

Model F156, Upright, Pendent & Conventional Sprinklers Model F142, F1XLH & F128 Upright & Pendent Sprinklers

Installation Wrench: Model D Sprinkler Wrench

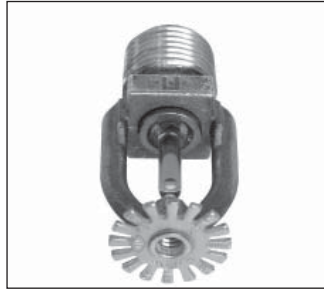
Installation Data:

| Nominal Orifice | Thread Size | Nominal K Factor | | Sprinkler Height | Approval Organization | Sprinkler Identification Number (SIN) | |
|--|-----------------|------------------|--------|------------------|-----------------------|---------------------------------------|-----------------------------|
| | | US | Metric | | | Upright | Pendent |
| Standard-Upright (SSU) and pendent Deflectors Marked to Indicate Position | | | | | | | |
| 1/2" (15mm) ⁽¹⁾ | 1/2" NPT (R1/2) | 5.6 | 80 | 2.25" (57mm) | 1,2,3,4 | RA1325 ⁽²⁾⁽³⁾⁽⁵⁾ | RA1314 ⁽²⁾⁽³⁾⁽⁵⁾ |
| 7/16" (10mm) | 1/2" NPT (R1/2) | 4.2 | 60 | 2.25" (57mm) | 1 | RA1323 ⁽²⁾ | RA1313 |
| 3/8" (10mm) | 1/2" NPT (R1/2) | 2.8 | 40 | 2.25" (57mm) | 1,2 | RA1321 ⁽²⁾⁽³⁾⁽⁴⁾ | RA1311 |
| Conventional-Install in Upright or Pendent Position | | | | | | | |
| 15mm ⁽¹⁾ | 1/2" NPT (R1/2) | 5.6 | 80 | 57mm | 3, 4 | RA1375 ⁽⁵⁾ | |

- (1) Refer to Bulletin 024 for Special Response Sprinklers (F1S5-56)
- (2) cULus Listed corrosion resistant (Polyester coated) sprinkler.
- (3) Polyester coated FM Approved sprinkler.
- (4) FM Approved for SSU up to and including 200°F (93°C).
- (5) Polyester coated LPCB & VdS approved sprinkler RA1325, RA1314 & RA1375.



Upright



Pendent



Conventional

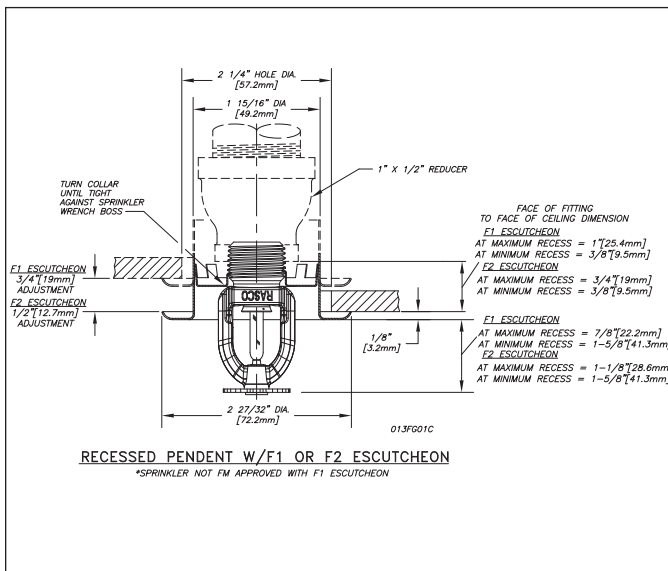
Model F156, F142, F1XLH & F128 Recessed Pendent Sprinklers⁽¹⁾

Installation Wrench: Model GFR2 Sprinkler Wrench

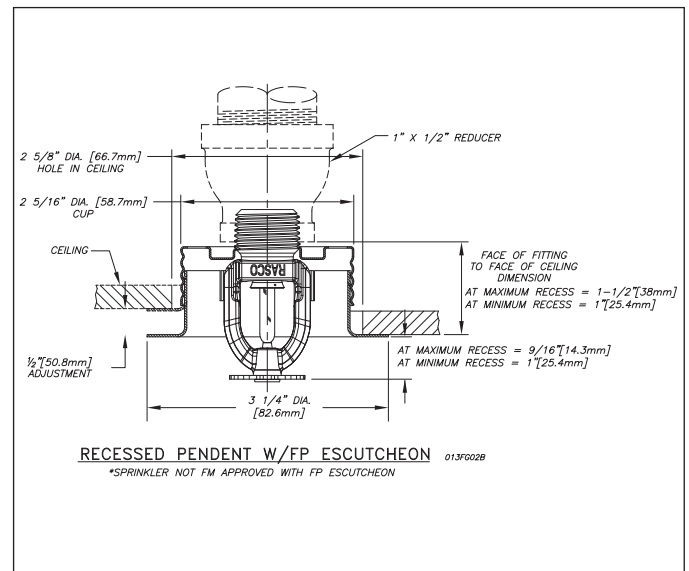
Installation Data:

| Nominal Orifice | Thread Size | K Factor | | Sprinkler Height | Sprinkler Identification Number (SIN) |
|-----------------|-----------------|----------|--------|------------------|---------------------------------------|
| | | US | Metric | | |
| 1/2" (15mm) | 1/2" NPT (R1/2) | 5.6 | 80 | 2.25" (57mm) | RA1314 |
| 7/16" (10mm) | 1/2" NPT (R1/2) | 4.2 | 60 | 2.25" (57mm) | RA1313 |
| 3/8" (10mm) | 1/2" NPT (R1/2) | 2.8 | 40 | 2.25" (57mm) | RA1311 |

- (1) Refer to escutcheon data table for approvals & dimensions



Model F156, F142, F1XLH & F128 F1 or F2



Model F156, F142, F1XLH & F128 FP

Model F156 Vertical Sidewall Sprinkler

Installation Wrench: Model D Sprinkler Wrench

Installation Position: Upright or Pendent

Approval Type: Light Hazard Occupancy

U.S. Patent No. 6,374,920

| Sprinkler Type | Deflector to Ceiling Distance (Min. - Max.) |
|----------------|--|
| Upright | 4" (102mm) - 12" (305mm) |
| Pendent | 4" (102mm) - 12" (305mm) |



Vertical Sidewall

Installation Data:

| Nominal Orifice | Thread Size | Nominal K Factor | | Sprinkler Height | Approval (1) Organizations | Sprinkler Identification Numbers (SIN) |
|-----------------|-----------------|------------------|--------|------------------|-------------------------------|--|
| | | US | Metric | | | |
| 1/2" (15mm) | 1/2" NPT (R1/2) | 5.6 | 8.0 | 2.25" (57mm) | 1,2,3 | RA1385 ⁽¹⁾⁽²⁾⁽³⁾ |

⁽¹⁾ LPC Approval is pendent only, 57°C through 141°C ratings.

⁽²⁾ cULus Listed corrosion resistant (Polyester coated) sprinkler.

⁽³⁾ cULus Listed & FM Approved corrosion resistant for lead, wax and wax over lead.

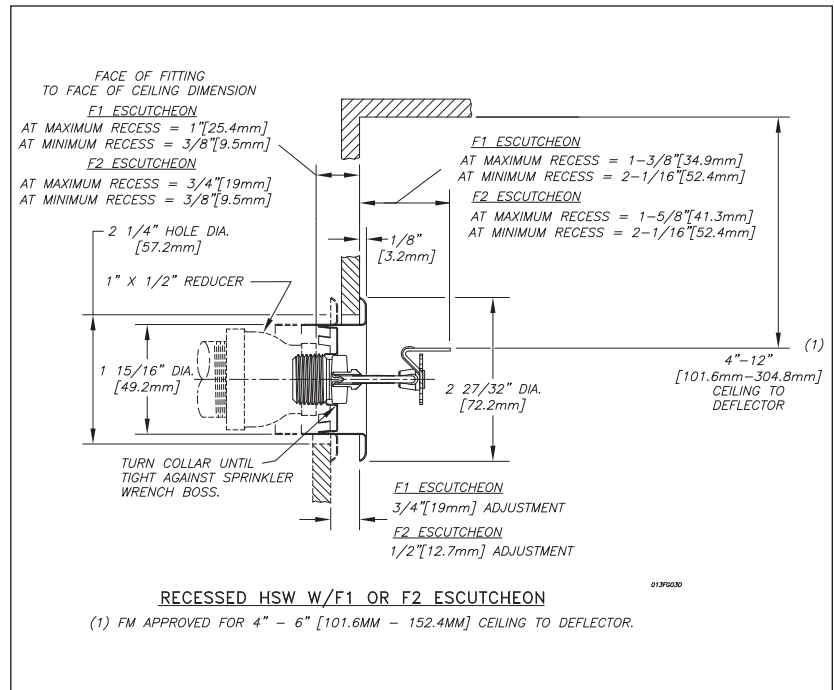
Model F156 Horizontal Sidewall Sprinkler

Deflector: HSW

Installation Wrench: Model D Sprinkler Wrench



Horizontal Sidewall



Note: For Recessed HSW Sprinklers use installation wrench GFR2.

Installation Data: Horizontal Sidewall

| Nominal Orifice | Thread Size | Nominal K Factor | | Sprinkler Height | Approval Organizations | | Sprinkler Identification Numbers (SIN) |
|-----------------|-----------------|------------------|--------|------------------|------------------------|-----------------|--|
| | | US | Metric | | Light Hazard | Ordinary Hazard | |
| 1/2" (15mm) | 1/2" NPT (R1/2) | 5.6 | 8.0 | 2.63" (67mm) | 1,2 | 1 | RA1335 ⁽¹⁾⁽²⁾⁽³⁾ |

⁽¹⁾ cULus Listed corrosion resistant (Polyester coated) sprinkler.

⁽²⁾ cULus Listed & FM Approved corrosion resistant for lead, wax and wax over lead.

⁽³⁾ Polyester coated FM approved sprinkler.

Application

Model F156, F142, F1XLH, F128 & Model F156, F142, F1XLH & F128 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.

Installation

Model F156, F142, F1XLH & F128 Series 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 F156, F142, F1XLH & F128 Recessed Sprinklers are to be installed with a maximum recess of 3/4 inch (19mm). The Model F1, F2, and FP Escutcheon illustrated are the only recessed escutcheon to be used with the Model F156, F142, F1XLH & F128 Recessed Sprinklers. The use of any other recessed escutcheon will void all approvals and negate all warranties. When installing Model F156, F142, F1XLH & F128 Recessed Sprinklers use the Model GFR2 Sprinkler Wrench. Any other type of wrench may damage these sprinklers.

Note: A leak tight 1/2" NPT (R1/2) sprinkler joint can be obtained with a torque of 8-18 ft-lbs (10,8 - 24,4 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.

Ordering Information

Specify:

1. Sprinkler Model
2. Sprinkler Type
3. Orifice Size
4. Deflector Type
5. Temperature Rating:
 - Specify when ordering
 - Model F156 Pendent Sprinkler
6. Sprinkler Finish
7. Escutcheon Finish (where applicable)

Note: When Models F156, F142, F1XLH & F128 Recessed Sprinklers are ordered, the sprinklers and escutcheons are packaged separately.

Escutcheon Data ⁽¹⁾

⁽¹⁾ SIN: RA1335 - cULus and FM permits use with F1 or F2 escutcheons for light hazard only.

Maintenance

The Model F156, F142, F1XLH & Model F156, F142, F1XLH & F128 Recessed Sprinklers should be inspected quarterly 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.

Temperature Ratings

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

⁽¹⁾ Not available for recessed Sprinklers.

Maximum Working Pressure

175 psi (12 bar)

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

Finish⁽¹⁾

| Standard Finishes | |
|---------------------------------------|---------------|
| Sprinkler | Escutcheon |
| Bronze | Brass |
| Chrome | Chrome |
| Polyester Coated ⁽⁶⁾⁽⁷⁾⁽⁹⁾ | White Painted |
| Special Application Finishes | |
| Sprinkler | Escutcheon |
| Bright Brass ⁽²⁾ | Bright Brass |
| Black Plated | Black Plated |
| Black Paint ⁽³⁾⁽⁹⁾ | Black Paint |
| Off White ⁽³⁾⁽⁹⁾ | Off White |
| Satin Chrome | Satin Chrome |
| Lead Plated ⁽³⁾⁽⁴⁾⁽⁸⁾ | |
| Wax Coated ⁽³⁾⁽⁴⁾⁽⁵⁾⁽⁸⁾ | |
| Wax Over Lead ⁽³⁾⁽⁴⁾⁽⁵⁾⁽⁸⁾ | |

⁽¹⁾ 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.

⁽²⁾ 200°F (93°C) maximum.

⁽³⁾ UL and ULC listed only.

⁽⁴⁾ 155°F to 200°F (68°C to 93°C) ratings only.

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

⁽⁶⁾ cULus listed "corrosion resistant" applies to SIN Number RA1325 (Upright) RA1323 (upright), RA1321(Upright), RA1335 (HSW), RA1385(VSW) and RA1314 (Pendent) in standard black or white. Corrosion resistance in other polyester colors is available upon request.

⁽⁷⁾ FM Approved finish as "Polyester Coated" applies only to SIN number RA1314 & RA1321 (Pendent) in standard black or white.

⁽⁸⁾ FM Approved finish applies only to SIN number RA1335 & RA1385.

⁽⁹⁾ LPCB and VdS Approved finish applies only to RA1325, RA1314 and RA1375.

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

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.

Manufactured by

Reliable[®]

The Reliable Automatic Sprinkler Co., Inc.

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EG. Printed in U.S.A. 07/12 P/N 9999970299