

# Reliable®

## Models F1 Series Standard Response Sprinklers

### 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
5. EC Certificate: 0786-CPD-40237 (RA1314)  
0786-CPD-40253 (RA1325)  
0786-CPD-40254 (RA1375)

### 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.

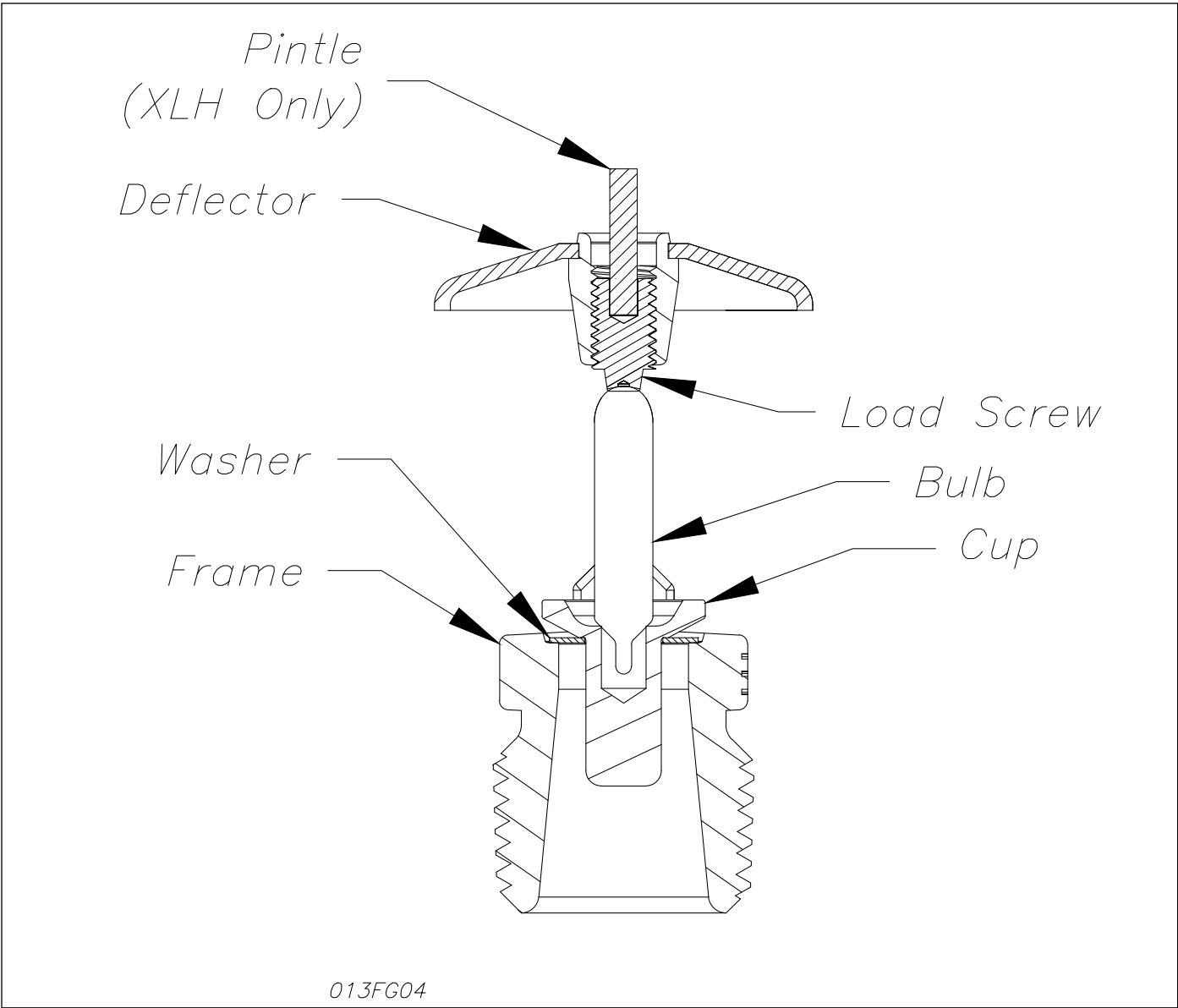
The recessed escutcheon of the Models F156, F142, F1XLH & F128 are highly adjustable. The two piece construction makes field installation a very easy and rapid task. This also allows ceiling panels to later be removed without shutting down the fire protection system, thus facilitating maintenance of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



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	Nominal K-Factor	Response	Thread Size	Max. Working Pressure	Min. Working Pressure	Temperature Rating	Finish
<b>F156</b>	5.6 (80 Metric)	Standard	½" NPT (R½)	250 PSI*	7 PSI	See "Temperature Ratings" Table	See "Finish Table"
<b>F142</b> <b>F1XLH</b>	4.2 (60 Metric)			175 PSI			
<b>F128</b>	2.8 (40 Metric)						

**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

**\*Note:** Model F156 upright, pendent, and recessed pendent sprinklers (SIN RA1325 and RA1314) are cULus Listed for 250 psi (17 bar).

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

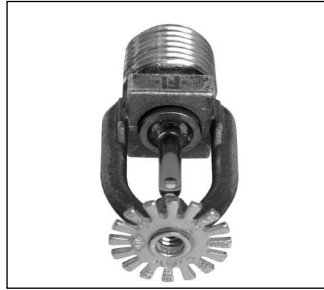
**Installation Wrench:** Model D Sprinkler Wrench or Model W2 Sprinkler Wrench  
**Installation Data:**

Nominal Orifice	Thread Size	Nominal K-Factor		Sprinkler Height	Approval Organization	Sprinkler Identification Number (SIN)	
		US	Metric			Upright	Pendent
<b>Standard-Upright (SSU) and pendent Deflectors Marked to Indicate Position</b>							
1/2" (15mm) <sup>(1)</sup>	1/2" NPT (R1/2)	5.6	80	2.25" (57mm)	1, 2, 3, 4, 5	RA1325 <sup>(2)(3)(5)(6)</sup>	RA1314 <sup>(2)(3)(5)(6)</sup>
7/16" (10mm)	1/2" NPT (R1/2)	4.2	60	2.25" (57mm)	1	RA1323 <sup>(2)(6)</sup>	RA1313 <sup>(6)</sup>
3/8" (10mm)	1/2" NPT (R1/2)	2.8	40	2.25" (57mm)	1	RA1321 <sup>(2)(6)</sup>	RA1311 <sup>(6)</sup>
<b>Conventional-Install in Upright or Pendent Position</b>							
15mm <sup>(1)</sup>	1/2" NPT (R1/2)	5.6	80	57mm	3, 4, 5	RA1375 <sup>(5)</sup>	

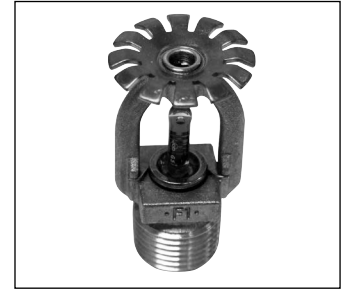
- (1) Refer to Bulletin 024 for Special Response Sprinklers (F1S5-56)
- (2) cULus Listed corrosion resistant (Polyester coated) sprinkler.
- (3) Polyester coated FM Approved sprinkler.
- (4) -----
- (5) Polyester coated LPCB & VdS approved sprinkler RA1325, RA1314 & RA1375.
- (6) Electroless Nickel PTFE Plated - UL listed Corrosion Resistant



Upright



Pendent



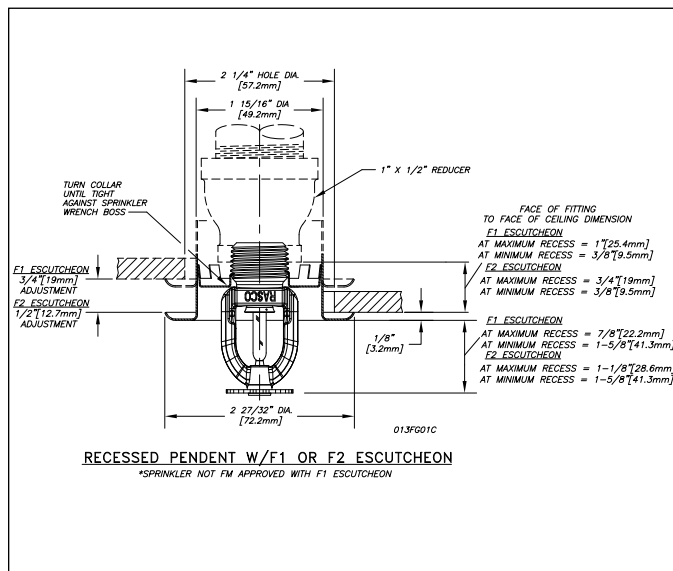
Conventional

**Model F156, F142, F1XLH & F128 Recessed Pendent Sprinklers<sup>(1)</sup>**

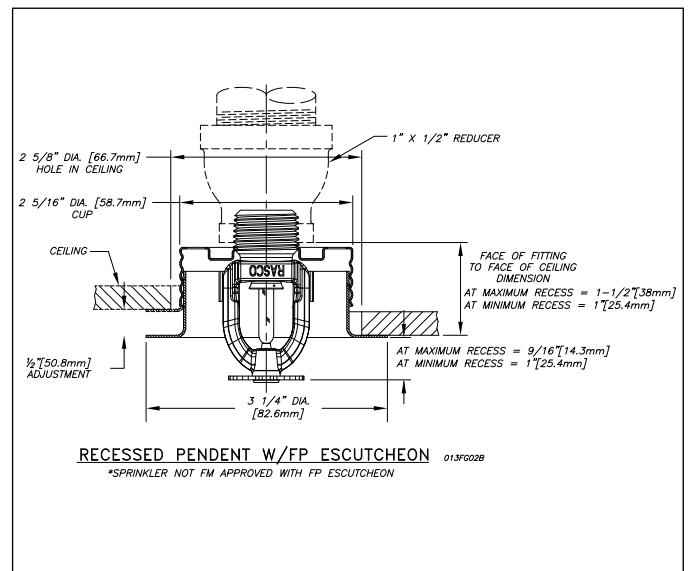
**Installation Wrench:** Model GFR2 Sprinkler Wrench  
**Installation Data:**

Nominal Orifice	Thread Size	Nominal 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 <sup>(2)</sup>
7/16" (10mm)	1/2" NPT (R1/2)	4.2	60	2.25" (57mm)	RA1313 <sup>(2)</sup>
3/8" (10mm)	1/2" NPT (R1/2)	2.8	40	2.25" (57mm)	RA1311 <sup>(2)</sup>

- (1) Refer to escutcheon data table for approvals & dimensions
- (2) Electroless Nickel PTFE Plated - cULus listed Corrosion Resistant



Model F156, F142, F1XLH & F128 F1 or F2



Model F156, F142, F1XLH & F128 FP

## Model F156 Vertical Sidewall Sprinkler

**Installation Wrench:** Model W2 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)	Sprinkler Identification Numbers (SIN)
		US	Metric			
1/2" (15mm)	1/2" NPT (R1/2)	5.6	80	2.25" (57mm)	1, 2, 3	RA1385(1)(2)(3)(4)

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

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

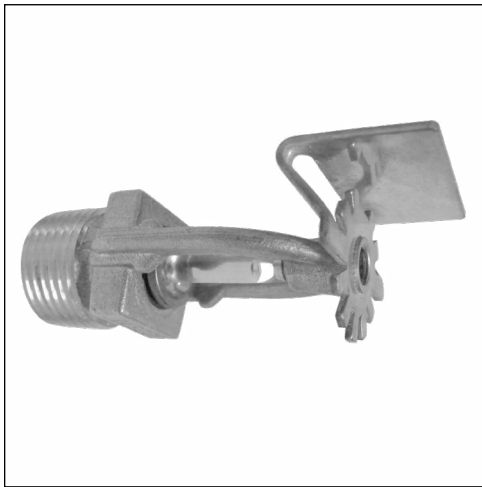
(3) cULus Listed & FM Approved corrosion resistant for lead, wax and wax over lead.

(4) Electroless Nickel PTFE Plated - cULus listed Corrosion Resistant

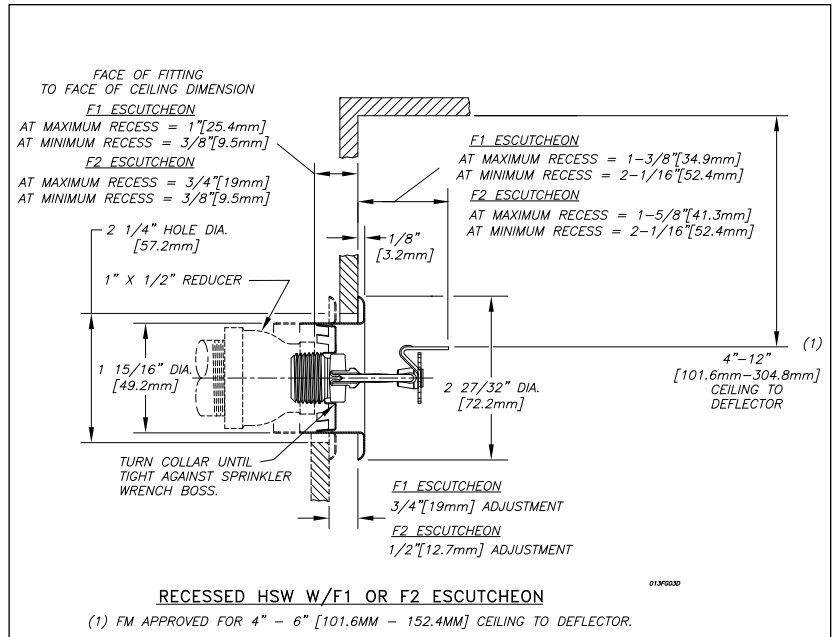
## Model F156 Horizontal Sidewall Sprinkler

**Deflector:** HSW

**Installation Wrench:** Model W2 Sprinkler Wrench



Horizontal Sidewall



**Note:** For Recessed HSW Sprinklers use installation wrench GFR2. FM and cULus permits use with F1 or F2 escutcheons for "Light Hazard" only.

### 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	80	2.63" (67mm)	1, 2	1	RA1335(1)(2)(3)(4)

(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.

(4) Electroless Nickel PTFE Plated - cULus listed Corrosion Resistant

## 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 W2 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 (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.

## Ordering Information

Specify:

1. Sprinkler Model
2. Sprinkler Type
3. Nominal K-Factor
4. Temperature Rating
5. Sprinkler Finish
6. Thread Type: [1/2" NPT] [ISO 7-1R1/2]
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 <sup>(1)</sup>

<sup>(1)</sup> 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 and the sprinkler system maintained in accordance with NFPA 25. Do not clean sprinklers with soap and water, ammonia or any other cleaning fluid. 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 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 <sup>(1)</sup>	141	286	225°F (107°C)	Blue
Extra High <sup>(1)</sup>	182	360	300°F (149°C)	Mauve
Ultra High <sup>(1)(2)</sup>	260	500	475°F (246°C)	Black

<sup>(1)</sup> Not available for recessed Sprinklers.

<sup>(2)</sup> cULus listed for SIN RA1325 and RA1314 only.

## Maximum Working Pressure

175 psi (12 bar)

SIN RA1325 & RA1314 cULus listed for 250 psi (17 bar)

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

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

Standard Finishes	
Sprinkler	Escutcheon
Bronze	Brass
Chrome	Chrome
Polyester Coated <sup>(6)(7)(9)</sup>	White Painted
Special Application Finishes	
Sprinkler	Escutcheon
Electroless Nickel PTFE <sup>(3)(10)</sup>	Electroless Nickel PTFE
Bright Brass <sup>(2)</sup>	Bright Brass
Black Plated	Black Plated
Black Paint <sup>(3)(9)</sup>	Black Paint
Off White <sup>(3)(9)</sup>	Off White
Chrome Dull	Chrome Dull
Lead Plated <sup>(3)(4)(8)</sup>	
Wax Coated <sup>(3)(4)(5)(6)</sup>	
Wax Over Lead <sup>(3)(4)(5)(8)</sup>	

<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 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> 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.

<sup>(7)</sup> FM Approved finish as "Polyester Coated" applies to SIN number RA1314, RA1335 & RA1325 in standard black or white.

<sup>(8)</sup> FM Approved finish applies only to SIN number RA1335 & RA1385.

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

<sup>(10)</sup> cULus listed Corrosion Resistant applies to SIN RA1325 ,RA1314 ,RA1323, RA1313 ,RA1321, RA1311, RA1385 and RA1335

# 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.

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Manufactured by



**Reliable Automatic Sprinkler Co., Inc.**

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