

**BRISTOL**



# **AUTOMATIC SPRINKLERS**

UPRIGHT, PENDENT, HORIZONTAL SIDEWALL & CONCEALED PENDENT

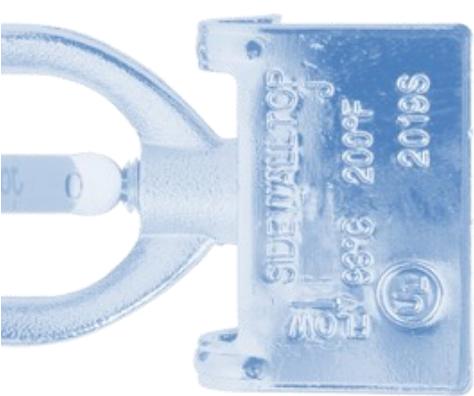




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## HORIZONTAL SIDEWALL SPRINKLER

MODEL: BF007 / BF008 STANDARD SPRAY, STANDARD / QUICK RESPONSE, 5/3mm BULB TYPE, K5.6, 1/2" CONNECTING THREAD

### Description

Horizontal sidewall sprinklers are generally used in lieu of pendent and upright sprinklers because of building construction or installation economy considerations. They are designed for installation along a wall or the side of a beam and just beneath a smooth ceiling. Installed with their centerline of waterway horizontal, these sprinklers produce a quarter-spherical water discharge pattern that is predominately directed downward and outward from the deflector; however, a portion of the spray is also directed towards the back wall.

Model BF007/BF008, Standard / Quick Response Horizontal Sidewall Sprinklers (Ref. Figure A), are automatic sprinklers of the frangible bulb type, and standard spray, 1/2" orifice, 5 / 3 mm bulb. They are "standard / quick response - standard orifice sidewall sprinklers" intended for use in fire sprinkler systems designed in accordance with the standard installation rules recognized by the applicable Listing or Approval agency (e.g., UL Listing is based on NFPA 13 requirements)

### Sprinkler Operation

During a fire conditions, the thermal-sensitive liquid in the glass bulb expands, causing the bulb to shatter, releasing the button and spring seal assembly. Water flowing through the sprinkler orifice strikes the sprinkler deflector, forming a uniform spray pattern to extinguish or control the fire.

### Coverage

For coverage area and sprinkler placement, refer to NFPA13 standards.

### Sprinkler Materials

Frame .....	Brass Casting DZR
Deflector.....	Brass UNS-28000
Glass Bulb.....	Glass with Glycerin Solution
	JOB® G5 for BF007
	JOB® F3 for BF008
Set Screw.....	Brass UNS-28000
Button.....	Brass UNS-62300
Spring.....	Stainless Steel
Seal.....	Teflon Tape
Standard Escutcheon.....	Cold Rolled Steel



### Technical Specifications:



Model & Sprinkler I.D. No.	BF007	BF008
Style	Horizontal Sidewall	
Bulb Nominal Dia. & Response	Ø5mm, Standard Response	Ø3mm, Quick Response
Thread Size	NPT 1/2"	
Nominal Orifice Size	1/2 Inch	
Nominal K-factor	5.6 (U.S.) / 80 (metric)	
Max. Working Pressure	175 psig / 1.2 MPa (12 bar)	
Factory Hydrostatic Test	100% @ 500 psig (3.4 MPa)	
Min. Operating Pressure	7 psig / 0.048 MPa (0.48 bar)	
Sprinkler Finish	Chrome Plated	
Listings and Approvals	UL	

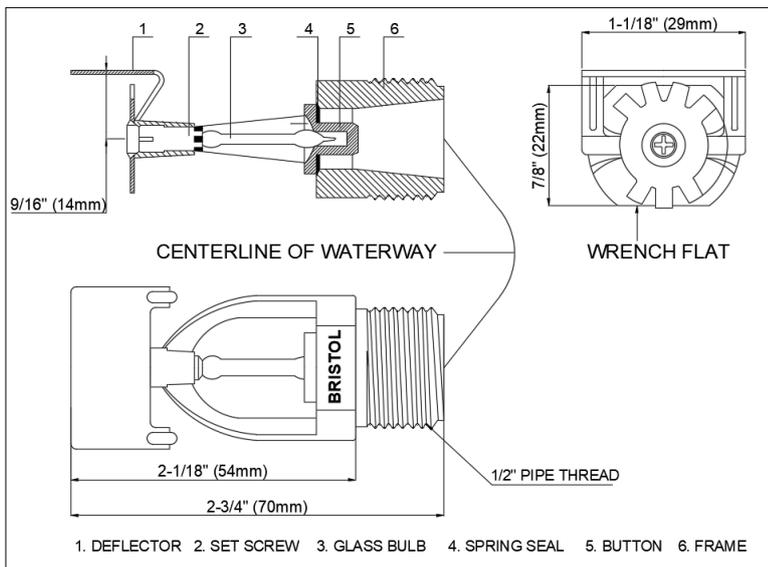


FIGURE A: MODEL BF007 / BF008 HORIZONTAL SIDEWALL SPRINKLERS



## CONCEALED PENDENT SPRINKLER

MODEL: BF007 / BF008 STANDARD SPRAY, STANDARD / QUICK RESPONSE, 5/3mm BULB TYPE, K5.6, 1/2" CONNECTING THREAD



### Description

The BF003/BF006 Standard/Quick Response Concealed Pendent Sprinklers (Ref. Figure A) are automatic sprinklers of the frangible bulb type. They are "standard/quick response – standard orifice spray sprinkler" intended for use in fire sprinkler systems designed in accordance with the standard installation rules recognized by the applicable Listing or Approval agency (e.g., UL Listing is based on NFPA 13 requirements). The Concealed Pendent Sprinklers all produce a hemispherical water distribution pattern below the deflector.

This model sprinkler includes a Cover Plate Assembly that conceals the sprinkler operating components above the ceiling. The Cover Plate Assembly, which installs onto the Sprinkler/ Mounting Cup Assembly, consists of a Cover Plate that is soldered to an Enclosure at three equidistant locations around their peripheries. The Ejection Spring is located between the flange of the Enclosure and the Cover Plate, to ensure separation of the two pieces when the solder melts.

A Label located on the Cover Plate Assembly indicates the nominal temperature of the sprinkler and the nominal diameter of the Glass Bulb.

The small Cover Plate is flat with a low profile that blends in with the ceiling for an aesthetically pleasing appearance. Standard finishes for the Cover Plate are satin chrome plated and painted white. Other factory applied painted finishes for the Cover Plate is available on special order

The separable two-piece design of the Cover Plate and Mounting Cup Assemblies allows installation of the sprinklers and pressure testing of the fire protection system prior to installation of a suspended ceiling or application of the finish coating to a fixed ceiling. The separable design also permits removal of suspended ceiling panels for access to building service equipment, without having to first shut down the fire protection system and remove sprinklers.

Also, the separable two piece design of the BF003 / BF006 Concealed Sprinkler provides for 1/6 inch (4.2mm) of vertical adjustment, to reduce the accuracy to which the length of fixed pipe drops to the sprinklers must be cut

### Coverage

For coverage area and sprinkler placement, refer to NFPA13 standards.

### Sprinkler Operation

During a fire conditions, the thermal-sensitive liquid in the glass bulb expands, causing the bulb to shatter, releasing the button and spring seal assembly. Water flowing through the sprinkler orifice strikes the sprinkler deflector, forming a uniform spray pattern to extinguish or control the fire.

### Sprinkler Materials

Frame .....	Brass Forging UNS-C87400
Deflector.....	Brass UNS-28000
Glass Bulb.....	Glass with Glycerin Solution
	JOB@ G5 for BF003
	JOB@ F3 for BF006
Set Screw.....	Brass UNS-28000
Button.....	Brass UNS-62300
Mounting Cup.....	Low Carbon Sheet Steel UNS-G10080
Enclosure.....	Brass UNS-C2800
Ejection Spring.....	Stainless Steel UNS-s30452
Spring.....	Stainless Steel
Seal.....	Teflon Tape
Label.....	Mylar (Sticky - Back)

### Technical Specifications:



Model & Sprinkler I.D. No.	BF003	BF006
Style	Concealed Pendent	
Bulb Nominal Dia. & Response	Ø5mm, Standard Response	Ø3mm, Quick Response
Thread Size	NPT 1/2"	
Nominal Orifice Size	1/2 Inch	
Nominal K-factor1	5.6 (U.S.) / 80 (metric)	
Max. Working Pressure	175 psig / 1.2 MPa (12 bar)	
Factory Hydrostatic Test	100% @ 500 psig (3.4 MPa)	
Min. Operating Pressure	7 psig / 0.048 MPa (0.48 bar)	
Sprinkler Finish	Chrome Plated	
Listings and Approvals	UL	

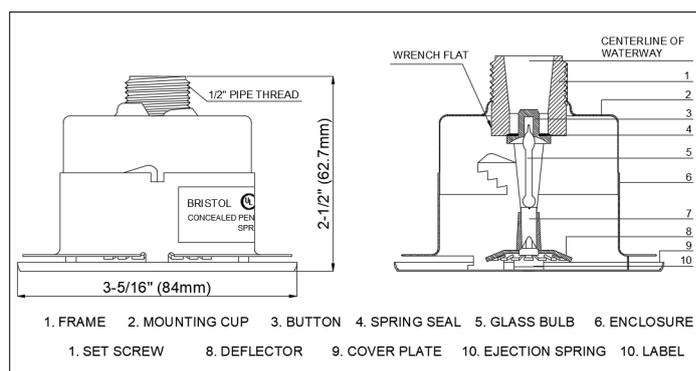


FIGURE A: MODEL BF003 / BF006 CONCEALED PENDENT SPRINKLERS



MODEL: BF001 / BF005 / BF002 / BF004 /  
 BF003 / BF006 / BF007 / BF008  
 STANDARD SPRAY, STANDARD / QUICK  
 RESPONSE,  
 5/3mm BULB TYPE, K5.6, 1/2" CONNECTING  
 THREAD



### Available Temperature Rating

Temp. Classification	Ordinary	Ordinary	Intermediate	Intermediate
Nominal Temp. Rating	135°F / 57°C	155°F / 68°C	175°F / 79°C	200°F / 93°C
Max. Ambient Temp. Allowed <sup>5</sup>	115°F / 46°C	135°F / 57°C	155°F / 68°C	180°F / 82°C
Max. Recommended Ambient Temp. <sup>6</sup>	100°F / 38°C	100°F / 38°C	150°F / 65°C	150°F / 65°C
Glass Bulb Color	Orange	Red	Yellow	Green

### Discharge Coefficient

Sprinklers are rated for use at a maximum service pressure of 175 psig (12 bar). The nominal discharge curve plotted in Figure B represents the flow "Q" in GPM (LPM) as determined by the following formula:

$$Q = K (P)^{0.5}$$

Where,

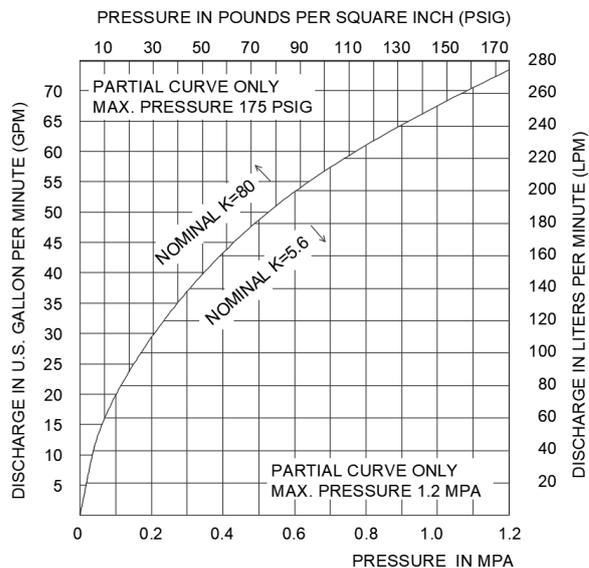
Q = Flow, GPM (LPM)

K = Discharge Coefficient, K = 5.6 (80)

P = Discharge Pressure, psig (bar)

### Accessories

Standard Escutcheon	
Type	E-1
Installation Wrench	
Type	T-1





## ALARM CHECK VALVE

*Model No.: BAV-146*

Model BAV-146 Alarm Check Valve is wet pipe sprinkler system water supply check valve that makes possible the installation of sprinkler systems in buildings not subject to freezing temperatures. It is designed so that water pressure in the piping system will hold back water pressure at the valve until a significant flow of water occurs such as a sprinkler is activated.

The Alarm Check Valve serves as a check valve by trapping pressurized water above the clapper and preventing reverse flow from sprinkler piping.

The valve is trimmed with a water bypass line. The bypass line allows pressure surges to enter the system and to be trapped above the alarm check valve's clapper without the clapper lifting and causing false alarms.

When a significant sustained flow of water occurs, such as from an open sprinkler, the alarm valve's clapper lifts and allows water to enter the system. Simultaneously, water enters an intermediate chamber, which allows the water to activate an alarm either through an optional water motor alarm and/or through a water pressure alarm. These alarms continue to sound until the flow of water is stopped.

The valve should be installed vertically on wet-pipe sprinkler systems with constant pressure or variable pressure water supplies. The valve is made suitable for use on variable pressure water supplies by adding the optional retard chamber to the standard trim.

The valve is available with a flanged inlet and flanged outlet or with a grooved inlet and grooved outlet.



### OPTIONAL ACCESSORIES:

- **Retard Chamber**

The Retard Chamber is required when the Alarm Check Valve is installed on systems with a variable pressure water supply in order to reduce the possibility of false alarms.

- **Water Motor Alarm**

The Alarm Check Valve is designed to activate a mechanical alarm during a sustained flow of water (such as the flow required by an open sprinkler) causes the alarm check's clapper to lift from its seat.

- **Alarm Pressure Switch**

The Alarm Check Valve trim allows installation of pressure switches to operate local electric alarms and/or remote electric alarms during a sustained flow of water (such as the flow requires by an open sprinkler).

Size	4" (DN100)	6" (DN150)
Inlet Connection Style	Flange	Flange
Outlet Connection Style	Flange	Flange
Shipping Weight	55 lbs/25 kg	75 lbs/34 kg
Max. Working Pressure	175 psig/1.2 MPa (12 bar)	
Factory Hydro Test	100% @ 470 psig/ 3.2 MPa (32 bar)	
Standard Finish	Red Painted	
Flange Specification	Flange: Class 150 ANSI B16.1	
Required Accessories	Standard Trim	
Optional Accessories	Retard Chamber, Water Motor Alarm, Alarm Pressure Switch	
Installation Manner	Vertically	
Listings and Approvals	UL (United States)	

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