



FOR EASTERN HEMISPHERE APPLICATIONS

REQUIRING 10MM ORIFICE SPRINKLERS
TO HAVE 3/8" (10mm) BSP THREADS

PENDENT AND UPRIGHT SPRINKLERS

UNIVERSAL MODEL A

STANDARD RESPONSE, 5mm BULB TYPE, 10mm ORIFICE, 10mm BSP

GENERAL DESCRIPTION

The 10mm orifice Universal Model A Pendent and Upright Sprinklers (Ref. Figure A) are automatic sprinklers of the frangible bulb type. They are "standard response - small orifice spray sprinklers" intended for use in fire sprinkler systems designed in accordance with the standard installation rules recognized by the applicable Approval agency. Both the Pendent and Upright Sprinklers produce a hemispherical water distribution pattern below the deflector.

APPROVALS AND STANDARDS

Laboratory approvals for the 10mm orifice Model A Pendent and Upright Sprinklers are given in Table A.

WARNING

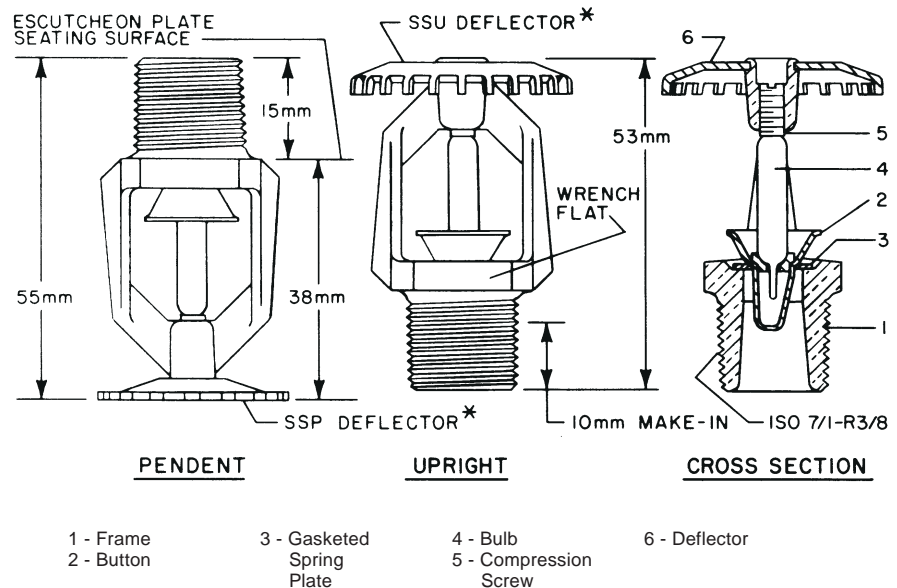
The 10mm orifice Model A Pendent and Upright Sprinklers described herein must be installed and maintained in compliance with this document, as well as the applicable standards of any other authorities having jurisdiction. Failure to do so may impair the integrity of these devices.

The owner is responsible for maintaining their fire protection system and devices in proper operating condition. The installing contractor or manufacturer should be contacted relative to any questions.

TECHNICAL DATA

The 10mm orifice Model A Pendent and Upright Sprinklers are rated for use at a maximum service pressure of 12,1 bar and they are available in the temperature ratings and finishes indicated in Table A.

The nominal discharge curve plotted in



* Temperature rating is indicated on deflector or adjacent to orifice seat on frame.

FIGURE A
10mm ORIFICE MODEL A PENDENT AND UPRIGHT SPRINKLERS

Figure B represents the flow "Q" in LPM as determined by the following formula:

$$Q = K\sqrt{p}$$

where the nominal discharge coefficient "K" equals 57; and, "p" equals the residual flowing pressure in bar. Approval standards permit the actual value of "K" to vary from 54 to 60; however, for hydraulic calculations, a K-factor of 57 is to be applied.

The Frame of the Model A Sprinkler (Ref. Figure A), is bronze per ASTM B176 (C87800) or, a proprietary alloy designated as QM. The Button (bulb retainer) is phospher bronze per ASTM B103 (C51000 or C52100). The Gasketed Spring Plate consists of a Beryllium Nickel (N03360) disc spring that is sealed on both its inside and outside faces with a Teflon[®] gasket. The Compression Screw is bronze per ASTM B140 (C31400) and the Deflector is brass per ASTM B152 (C11000). The Model A Sprinklers utilize a 5mm diameter frangible bulb. Table A indicates the bulb liquid color as a function of temperature rating.

INSTALLATION

NOTES

Do not install any bulb type sprinkler if the bulb is cracked or there is a loss of liquid from the bulb. With the sprinkler held horizontal, a small air bubble should be present. The diameter of the air bubble is approximately 1,6mm for the 57°C to 2,4mm for the 182°C rating. (At higher ambient temperatures, the bubble may be barely perceptible for the lower temperature ratings.)

The Model A Pendent and Upright Sprinklers must be installed in accordance with the following instructions.

1. Prior to installing pendent sprinklers, verify that the face of the sprinkler fitting is within the proper range of distance which can be accommodated by the type of escutcheon being used.

TYPE	TEMPERATURE RATING	FRAME COLOR CODE	BULB LIQUID COLOR	SPRINKLER FINISH		
				NATURAL BRASS	CHROME PLATED	POLYESTER COATED (All Colors)
PENDENT and UPRIGHT	57°C	Unpainted	Orange	1, 2		
	68°C	Unpainted	Red			
	79°C	White	Yellow			
	93°C	White	Green			
	141°C	Blue	Blue			
	182°C	Red	Mauve			

NOTES:

1. Approved by the Loss Prevention Council (United Kingdom).
2. Approved by the Scientific Services Laboratory (Australia).

**TABLE A
LABORATORY APPROVALS**

2. After installing the escutcheon, as applicable, over the sprinkler threads, apply pipe thread sealant sparingly to the sprinkler threads only. Use of a Teflon[†] based pipe thread sealant is recommended.
3. Hand tighten the sprinkler into the sprinkler fitting.
4. Referring to Figure C, select the appropriate Sprinkler Wrench and tighten the sprinkler into the sprinkler fitting.

The F850 Sprinkler Wrench must be used for installing polyester coated sprinklers, in order to prevent damage to the sprinkler finish.

NOTES

A leak tight ISO 7/1-R3/8 sprinkler joint should be obtained with a torque of 8 to 16 Nm. A maximum torque of 25 Nm is to be used to install the sprinklers. Higher levels of torque may distort the sprinkler inlet with consequent leakage or impairment of the sprinkler.

Do not attempt to make-up for insufficient adjustment in the escutcheon plate by under- or over-tightening the sprinkler. Readjust the position of the sprinkler fitting to suit.

CARE AND MAINTENANCE

Automatic sprinklers must never be shipped or stored where their temperatures will exceed 38°C and they must never be painted, plated, coated or otherwise altered after leaving the factory. Modified sprinklers must be replaced. Sprinklers that have been exposed to corrosive products of combustion, but have not operated,

should be replaced if they cannot be completely cleaned by wiping the sprinkler with a cloth or by brushing it with a soft bristle brush.

Care must be exercised to avoid damage to the sprinklers — both before and after installation. Sprinklers damaged by dropping, striking, wrench twist/slippage, or the like, must be replaced. Also, replace any sprinkler that has a cracked bulb or that has lost liquid from its bulb (ref. Installation Section Note).

NOTES

Absence of an escutcheon, which is used to cover a clearance hole, may delay the time to sprinkler operation in a fire situation.

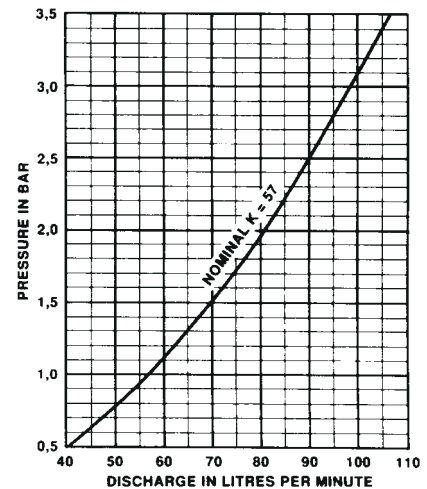
Before closing a fire protection system control valve for maintenance work on the fire protection system which it controls, permission to shut down the affected fire protection system must be obtained from the proper authorities and all personnel who may be affected by this action must be notified.

It is recommended that automatic sprinkler systems be inspected quarterly by a qualified Inspection Service.

WARRANTY

Seller warrants for a period of one year from the date of shipment (warranty period) that the products furnished hereunder will be free from defects in material and workmanship.

For further details on Warranty, see Price List.

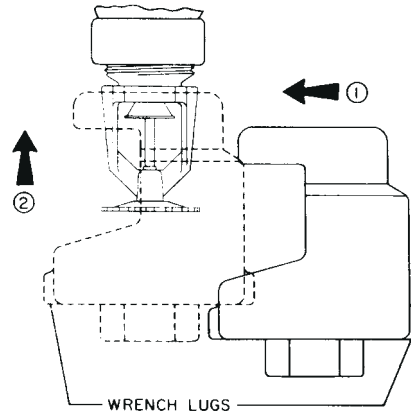


**FIGURE B
NOMINAL DISCHARGE CURVE**

SELECTION:

Select the appropriate wrench based on the following requirements:

- A. Model A Sprinklers with a natural brass or chrome plated finish may be installed using a 200 or 250mm adjustable Crescent type wrench or the Model F850 Sprinkler Wrench.
- B. Model A Sprinklers with a polyester coated finish must only be installed with the Model F850 Sprinkler Wrench.



Model F850 Nylon Coated Sprinkler Wrench

USE:

When using a 200 or 250mm adjustable Crescent type wrench, the wrench is to be applied to the sprinkler wrench flats only (Ref. Figure A).

To use the F850 Sprinkler Wrench, slip the Wrench opening over the Model A Sprinkler Deflector by passing the Sprinkler Wrench around the side of the Sprinkler as shown in the above illustration.

Using a 1/2 inch ratchet drive or by applying a 200 or 250mm adjustable wrench to the hex end of the Sprinkler Wrench, tighten the sprinkler into the fitting. The two lugs located on opposite sides of the Wrench indicate the orientation of the sprinkler frame arms.

NOTE

Push up on the Sprinkler Wrench, while it is being turned, to ensure that the Wrench recess stays fully engaged with the sprinkler wrench flats.

Carefully remove the Sprinkler Wrench by disengaging it from the sprinkler wrench flats, and then passing it sideways over the sprinkler deflector.

**FIGURE C
SPRINKLER WRENCH SELECTION AND USE**

ORDERING PROCEDURE

It is suggested that a color chip be provided when ordering color finishes other than a white color. Otherwise, responsibility for duplication cannot be accepted.

Contact your local distributor for availability.

Sprinkler Assemblies:

Specify: 10mm orifice, (specify temperature rating), Standard Response, Model A (specify Pendent or Upright) Sprinkler with (specify type of finish) and 10mm pipe thread connection.

Sprinkler Wrench:

Specify: Model F850 Sprinkler Wrench, PSN 56-850-4-001.

WEIGHT

The nominal weights are as follows.

10mm Orifice Model A	
Standard Response	
Pendent Sprinkler	50 g
10mm Orifice Model A	
Standard Response	
Upright Sprinkler	55 g
Model F850	
Sprinkler Wrench	440 g

