JD Series Glass Bulb Fire Sprinkler Manual

SHANGHAI JINDUN FIRE-FIGHTING
SECURITY EQUIPMENT CO.,LTD

Series JD - 5.6 K-factor Upright, Pendent Sprinklers Standard Response, Standard Coverage

General Description

The JD Series, 5.6 K-factor, Upright and Pendent Sprinklers described in this data sheet are standard response - standard coverage, decorative 5 mm glass bulb type spray sprinklers designed for use in light, ordinary, or extra hazard, commercial occupancies such as banks, hotels, shopping malls, factories, refineries, chemical plants, etc.

Corrosion resistant coatings, where applicable, are utilized to extend the life of copper alloy sprinklers beyond that which would otherwise be obtained when exposed to corrosive atmospheres. Although corrosion resistant coated sprinklers have passed the standard corrosion tests of the applicable approval agencies, the testing is not representative of all possible corrosive atmospheres. Consequently, it is recommended that the end user be consulted with respect to the suitability of these coatings for any given corrosive environment.

IMPORTANT
Always refer to Technical Data Sheet JDS134 for the "INSTALLER WARNING" that provides cautions with respect to handling and installation of sprinkler systems and components. Improper handling and installation can permanently damage a sprinkler system or its components and cause the sprinkler to fail to operate in a fire situation or cause it to operate prematurely.

The effects of ambient temperature, concentration of chemicals, and gas/chemical velocity, should be considered, as a minimum, along with the corrosive nature of the chemical to which the sprinklers will be exposed.

WARNINGS

The Series JD Sprinklers described herein must be installed and maintained in compliance with this document, as well as with the applicable standards of the National Fire Protection Association, in addition to the standards of any other authorities having jurisdiction. Failure to do so may impair the performance of these devices. The owner is responsible for maintaining their fire protection system and devices in proper operating condition. The installing contractor or sprinkler manufacturer should be contacted with any questions.

Model/Sprinkler Identification Numbers

JD001 - Upright 5.6K, 1/2" BSPT/NPT
JD003 - Pendent 5.6K, 1/2" BSPT/NPT

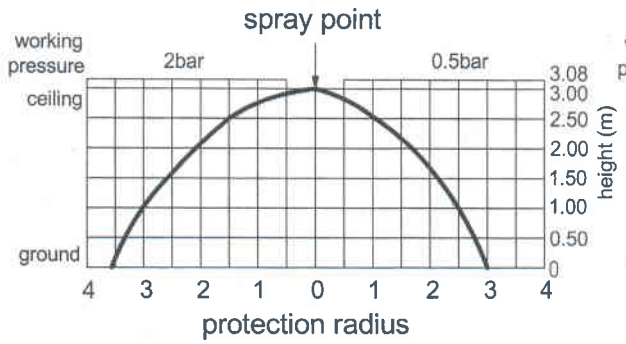


FIGURE 1
SPRAY CURVE FOR SSP SPRINKLER

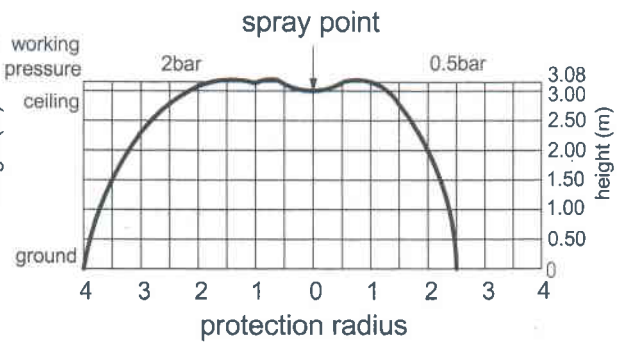
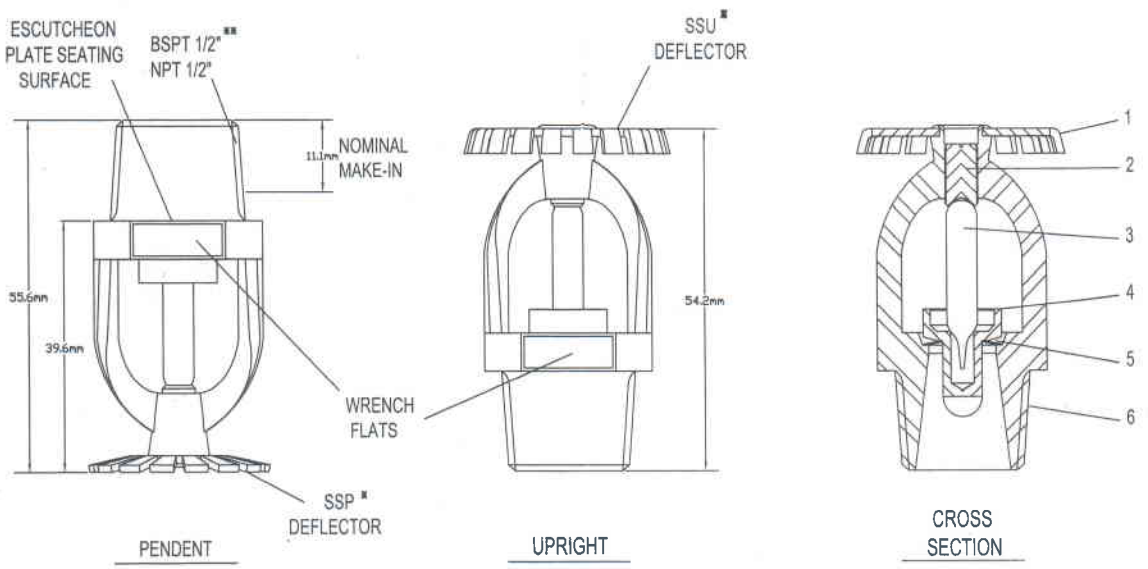


FIGURE 2
SPRAY CURVE FOR SSU SPRINKLER



1 - Deflector
2 - Compression Screw
3 - Glass Bulb
4 - Button
5 - Sealing Assembly
6 - Frame

* Temperature rating is indicate on deflector or adjacent to orifice seat on frame.
** Pipe thread connections per ISO 7/1 can be provided on special request.

FIGURE 3
STANDARD RESPONSE SERIES JD UPRIGHT (JD001) AND PENDENT (JD003) SPRINKLERS
5.6(80)K-FACTOR, 1/2 INCH BSPT/NPT

K	TYPE	TEMP.	BULB LIQUID	SPRINKLER FINISH	
				NATURAL BRASS	CHROME PLATED
5.6	PENDENT(JD003) AND UPRIGHT(JD001)	155℉/68℃	Red	1, 2	
		175℉/79℃	Yellow		
		200℉/93℃	Green		

NOTE:
1. Listed by Underwriters Laboratories, Inc. (UL).
2. Listed by Underwriters Laboratories, Inc. for use in Canada (C-UL).

TABLE A, LABORATORY LISTINGS AND APPROVALS

K	TYPE	SPRINKLER FINISH	
		NATURAL BRASS	CHROME PLATED
5.6	PENDENT(JD003) AND UPRIGHT(JD001)	250 PSI (17,2 BAR) OR 175 PSI (12,1 BAR) (SEE NOTE 1)	

NOTE:
1. The maximum working pressure of 250 psi (17,2 bar) only applies to the Listing by Underwriters Laboratories, Inc. (UL); the Listing by Underwriters Laboratories, Inc. for use in Canada (C-UL);

TABLE B, MAXIMUM WORKING PRESSURE

Technical Data

Approvals
UL and C-UL Listed.

Maximum Working Pressure
Refer to Table B.
Discharge Coefficient
K = 5.6 GPM/psi$^{1/2}$
(80,6LPM/bar$^{1/2}$)
Temperature Ratings
Refer to Table A.
Finishes
Sprinkler: Refer to Table A.

Physical Characteristics
Frame . . . . . Bronze
Button . . . . . Brass/Copper
Sealing Assembly . . . . . Beryllium Nickel w/Teflon
Bulb . . . . . Glass
Compression Screw . . . . Bronze
Deflector . . . . . Copper

Operation

The glass Bulb contains a fluid which expands when exposed to heat. When the rated temperature is reached, the fluid expands sufficiently to shatter the glass Bulb, allowing the sprinkler to activate and water to flow.

Design Criteria

The Series JD Pendent and Upright Sprinklers are intended for fire protection systems designed in accordance with the standard installation rules recognized by the applicable Listing or Approval agency (e.g., UL Listing is based on the requirements of NFPA13).

Installation

The Series JD Sprinklers must be installed in accordance with the following instructions:

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 horizontally, a small air bubble should be present. The diameter of theair bubble is approximately 1/16 inch (1,6 mm) for the 135°F/57°C to 3/32 inch (2,4 mm) for the 200°F/93 °C temperature ratings.

A leak tight 1/2 inch NPT sprinkler joint should be obtained with a torque of 7 to 14 ft.lbs. (9,5 to 19,0 Nm). A maximum of 21 ft. lbs. (28,5 Nm) of torque may be used to install sprinklers with 1/2 NPT connections. A leak tight 3/4 inch NPT sprinkler joint should be obtained with a torque of 10 to 20 ft.lbs. (13,4 to 26,8 Nm). A maximum of 30 ft.lbs. Higher levels of torque may distort the sprinkler inlet and cause 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.

The **Series JD Pendent and Upright Sprinklers** must be installed in accordance with the following instructions.

Step 1. Pendent sprinklers are to be installed in the pendent position, and upright sprinklers are to be installed in the upright position.

Step 2. With pipe thread sealant applied to the pipe threads, hand tighten the sprinkler into the sprinkler fitting.

Step 3. Tighten the sprinkler into the sprinkler fitting using only the W-Type 6 Sprinkler Wrench (Ref. Figure 7).

After installation, the sprinkler wrench flats and frame arms must be inspected whenever the coating has been damaged and bare metal is exposed.

Care and Maintenance

The Series JD Sprinklers must be maintained and serviced in accordance with the following instructions:

NOTES

Before closing a fire protection system main control valve for maintenance work on the fire protection system that 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.

The owner must assure that the sprinklers are not used for hanging of any objects; otherwise, non-operation in the event of a fire or inadvertent operation may result.

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

Sprinklers that are found to be leaking or exhibiting visible signs of corrosion must be replaced.

Automatic sprinklers 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 - before, during, 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).

Frequent visual inspections are recommended to be initially performed for corrosion resistant coated sprinklers, after the installation has been completed, to verify the integrity of the corrosion resistant coating. Thereafter, annual inspections per NFPA 25 should suffice; however, instead of inspecting from the floor level, a random sampling of close-up visual inspections should be made, so as to better determine the exact sprinkler condition and the long term integrity of the corrosion resistant coating, as it may be affected by the corrosive conditions present.

The owner is responsible for the inspection, testing, and maintenance of their fire protection system and devices in compliance with this document, as well as with the applicable standards of the National Fire Protection Association (e.g., NFPA 25), in addition to the standards of any other authorities having jurisdiction. The installing contractor or sprinkler manufacturer should be contacted relative to any questions.

It is recommended that automatic sprinkler systems be inspected, tested, and maintained by a qualified Inspection Service in accordance with local requirements and/or national codes.