Upright & Pendent Sprinklers

STANDARD SPRAY, STANDARD / QUICK RESPONSE, 5 / 3 mm BULB TYPE, K80 (5.6), 1/2" CONNECTING THREAD

**General description**
The Standard/Quick Response Upright and Standard/Quick Response 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 Upright, Pendent Sprinklers all produce a hemispherical water distribution pattern below the deflector.

**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.

![FIGURE A: UPRIGHT & PENDENT SPRINKLERS](image-url)
Technical specifications

### Style

<table>
<thead>
<tr>
<th>Bulb Nominal Dia. &amp; Response</th>
<th>Upright</th>
<th>Pendent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ø5mm, Standard Response</td>
<td>Ø3mm, Quick Response</td>
<td>Ø5mm, Standard Response</td>
</tr>
</tbody>
</table>

### Thread Size [Optional]

- NPT1/2 or R1/2

### 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% @ 500psig (3.4 MPa)

### Min. Operating Pressure

- 7 psig / 0.048 MPa (0.48 bar)

### Sprinkler Finish [Optional]

- Natural Brass or Chrome Plated

### Listings and Approvals

- UL(United States) / ULC(Canada)

### Available temperature rating

<table>
<thead>
<tr>
<th>Temp. Classification</th>
<th>Ordinary</th>
<th>Ordinary</th>
<th>Intermediate</th>
<th>Intermediate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Temp. Rating</td>
<td>135°F / 57°C</td>
<td>155°F / 68°C</td>
<td>175°F / 79°C</td>
<td>200°F / 93°C</td>
</tr>
<tr>
<td>Max. Ambient Temp. Allowed</td>
<td>115°F / 46°C</td>
<td>135°F / 57°C</td>
<td>155°F / 68°C</td>
<td>180°F / 82°C</td>
</tr>
<tr>
<td>Max. Recommended Ambient Temp.</td>
<td>100°F / 38°C</td>
<td>100°F / 38°C</td>
<td>150°F / 65°C</td>
<td>150°F / 65°C</td>
</tr>
</tbody>
</table>

### Glass Bulb Colour

- Orange | Red | Yellow | Green

### Sprinkler materials

<table>
<thead>
<tr>
<th>Frame</th>
<th>Bronze Forging UNS-C87400</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deflector</td>
<td>Brass UNS-28000</td>
</tr>
<tr>
<td>Glass Bulb</td>
<td>Glass with Glycerin Solution, JOB® G5 for Upright/ Pendent JOB® F3 for Upright/ Pendent</td>
</tr>
<tr>
<td>Set Screw</td>
<td>Brass UNS-28000</td>
</tr>
<tr>
<td>Button</td>
<td>Brass UNS-28000</td>
</tr>
<tr>
<td>Spring</td>
<td>Stainless Steel</td>
</tr>
<tr>
<td>Seal</td>
<td>Teflon® Tape</td>
</tr>
</tbody>
</table>

### Footnotes:

1. The pipe thread connections accord with ISO7/1.
2. This table shows the listings and approvals available at the time of printing. Check with the manufacturer for any additional approvals.
3. UL and ULC Listed for both Light-Hazard and Ordinary-Hazard occupancies.
4. Based on NFPA 13. Other limits may apply depending on fire loading, sprinkler location, and other requirements of the Authority Having Jurisdiction. Refer to specific installation standards.
5. The temperature rating is stamped on the deflector or adjacent to orifice seat on frame.
**Discharge coefficient**

The Upright and Pendent 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:

\[ Q = K(P)^{0.5} \]

**Warning**

The Upright Sprinklers and the Pendent Sprinklers described herein must be installed and maintained in compliance with this document, as well as 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 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.

**Installation**

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 1/16” (1.6 mm) for the 135°F/57°C to 3/32" (2.4 mm) for the 286°F/141°C rating. (At higher ambient temperatures, the bubble may be barely perceptible for the lower temperature ratings.)

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

1. Prior to installing the sprinklers, if applicable, 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.

2. With pipe thread sealant applied to the pipe threads and after installing standard escutcheon, over the sprinkler threads, hand tighten the sprinkler into the sprinkler fitting.

3. Refer to Figure D and select the appropriate Sprinkler Wrench for tightening the sprinkler into the sprinkler fitting.
Notes
A leak tight 1/2” pipe thread 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 is to be used to install the sprinkler. Higher levels of torque may distort the sprinkler inlet with consequent leakage or impairment of the sprinkler.

Push 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 lowering it down over the sprinkler deflector.
Care and maintenance

Automatic sprinklers must never be shipped or stored where their temperatures will exceed 100°F/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.