

Royal Flush™ Concealed

Automatic Sprinkler - Model A

Manufactured by: Central Sprinkler Company
451 North Cannon Avenue, Lansdale, Pennsylvania 19446



Product Description

The Model A Royal Flush Concealed Automatic Sprinkler is an aesthetically pleasing, ceiling sprinkler. The ceiling cover plate is only $3\frac{5}{8}$ " (92.1 mm) in diameter. It fits flush against the ceiling resulting in a projection of only $\frac{3}{16}$ " (4.8 mm) below the ceiling.

The Model A is Listed* by U.L., U.L.C. and L.P.C.B. and Approved by F.M. and M.E.A. (NY) for use as a standard sprinkler that qualifies for installation in accordance with current NFPA 13 Standards.

The Model A is available with a brass finish. Its mating cover plate is available in three standard finishes, brass, chrome plated and white painted with additional special finishes available.

Operation: The Model A Sprinkler absorbs heat through the ceiling plate which is secured to the support ring by a fusible alloy. At its rated temperature, the plate falls away and exposes the sprinkler to direct heat from the fire. Heat melts the sprinkler's fusible element, releasing water flow. Water is then discharged in a designed flow pattern.



Technical Data

Model: A

Style: Concealed

Orifice Size and K-Factor:

$\frac{3}{8}$ " (9.5 mm)	2.7 (38.9 metric)
$\frac{7}{16}$ " (11.0 mm)	4.2 (60.6 metric)
$\frac{1}{2}$ " (12.7 mm)	5.6 (80.8 metric)

$\frac{3}{8}$ " (9.5 mm) and $\frac{7}{16}$ " (11.0 mm) are not FM or LPCB Approved.

Thread Size: $\frac{1}{2}$ " (15 mm) N.P.T.

Temperature Rating:

Sprinkler: 162°F/73°C
212°F/100°C (U.L., U.L.C. Only)

Cover Plate: 135°F/57°C
165°F/74°C

Approvals: U.L., U.L.C., F.M. ($\frac{1}{2}$ " (15 mm) only), L.P.C.B. ($\frac{1}{2}$ " (15 mm) only), M.E.A. (375-75-SA)

- $\frac{3}{8}$ " (10 mm) and $\frac{7}{16}$ " (11.1 mm) are Listed for Light Hazard only.
- $\frac{3}{8}$ " (10 mm) and $\frac{7}{16}$ " (11.1 mm) are not FM or LPCB Approved.

Maximum Working Pressure:

250 psi (17.3 bar) ($\frac{1}{2}$ " (15 mm) Orifice)
U.L. and U.L.C. Only
175 psi (12.1 bar) – All Others

Factory Hydro Test:

100% at 500 psi (34.5 bar)

Standard Finishes:

Sprinkler: brass

Cover Plate: brass, chrome plated and white painted with special painted finishes available

*For specific listing requirements see the appropriate information contained in this brochure.



**$\frac{3}{8}$ " (9.5 mm),
 $\frac{7}{16}$ " (11.0 mm),
or $\frac{1}{2}$ " (12.7 mm)
Orifice
Concealed
Automatic
Sprinkler**

Length: $2\frac{1}{2}$ " (63.5 mm)

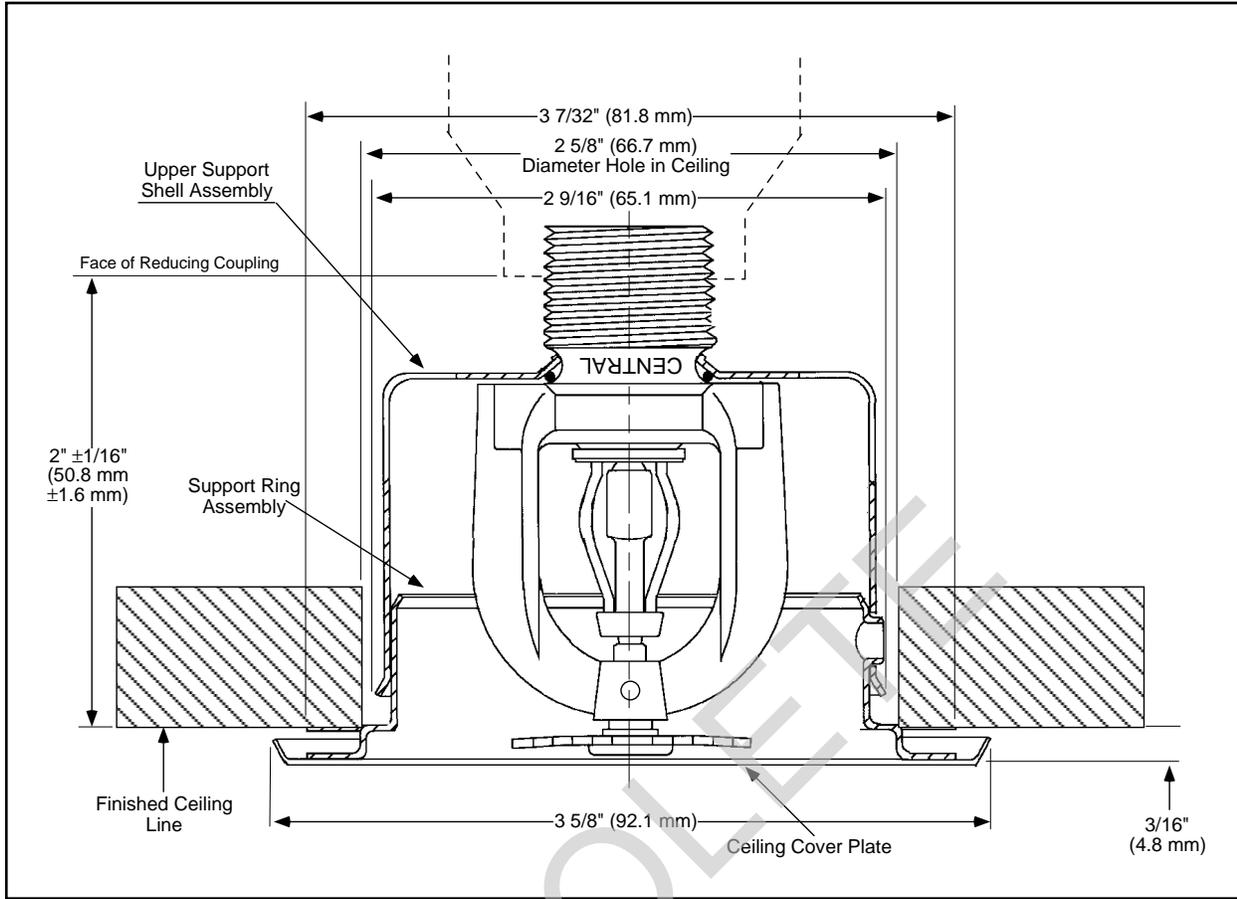
Cover Plate: $3\frac{5}{8}$ " (92.1 mm) diameter

Projection Below Ceiling: $\frac{3}{16}$ " (4.8 mm)

Highest Allowable Ambient Temp.:
100°F/38°C

Weight: 7 oz. (198 grams) fully assembled
with cover plate

Figure 1
Royal Flush Concealed



Universal Wrench
(Part #1122)





Design Data

Design Requirements—Standard Applications

In standard applications, the Model A Royal Flush Concealed Automatic Sprinklers are intended for standard flow and pressure requirements as specified in current NFPA 13 Standards.

Ceiling Cover Plates are available in a variety of metallic or painted finishes. For custom painted finishes, the customer must furnish a quick-drying paint, preferably lacquer-based, to insure proper color duplication. One quart of paint is required for each 200 cover plates.



Installation

All Model A Royal Flush Concealed Automatic Sprinklers must be installed according to current NFPA 13 Standards. Deviations from these requirements and standards or any alteration to the sprinkler itself will void any warranty made by Central Sprinkler Company. In addition, installation must also meet local government provisions, codes and standards as applicable.

For standard applications the system piping may be hydraulically calculated. Check for the proper model, style, orifice size, and temperature rating prior to installation. Install sprinklers after the piping is in place to avoid mechanical damage; replace any damaged units. Wet pipe systems must be protected from freezing.

Upon completion of the installation, the system must be tested per recognized standards.

In the event of a thread leak, remove the unit, apply new pipe joint compound or tape, and reinstall.

Installation Sequence

Step 1. The unit must be installed in a pendent position.

Step 2. The face of the sprinkler fitting should be installed a nominal 2" ($\pm 1/6$ ") (50.8 mm (± 1.6 mm)) behind the finished ceiling line.

Step 3. Use only a non-hardening pipe joint compound or Teflon* tape. Apply only to the male threads.

Step 4. Hand tighten the sprinkler into the fitting. Use a Central Sprinkler Universal Sprinkler Wrench to tighten the unit in the fitting. A leak tight joint requires only 7 to 14 ft. lbs. (9.5 to 19.0 Nm) of torque; a tangential force of 14 to 28 lbs. (62.3 to 124.5 N) delivered through a 6" (150 mm) handle will deliver adequate torque. Torque levels over 21 ft. lbs. (28.6 Nm) may distort the orifice seal, resulting in leakage.

Step 5. To install the ceiling cover plate, align it with and press it over the support ring assembly, then push upward and twist to the right.

Caution: Special care must be taken when installing with a CPVC system. Sprinklers must be installed only after the primed and cemented pipe has time to set-up to ensure that no primer or cement accumulates within the sprinkler.

Special care must be taken when installing with a copper system. Sprinklers must be installed only after the inside of the sprinkler drop and associated fittings have been wire brushed to remove any flux. Residual flux can cause corrosion and in extreme cases can impair proper sprinkler operation.

*Teflon is a trademark of the DuPont Corp.



Care & Maintenance

Sprinklers must be handled carefully. They must not be transported or stored where ambient temperature may exceed 100°F/38°C. For best results, store them in a dry, cool location in the original shipping package.

Do not install sprinklers that have been dropped or visibly damaged. Sprinklers should never be painted, coated, plated or altered in any other way from manufactured condition or they may not function properly. Any sprinklers altered in such manner must be replaced.

The owner is responsible for the proper operating condition of all fire protection devices and accessories. The NFPA standard 25 entitled, "Inspection, Testing and Maintenance of Water-Based Fire Protection System", contains guidelines and minimum maintenance requirements. Furthermore, the local Authority Having Jurisdiction may have additional regulations and requirements for maintenance, testing, and inspection that must be obeyed.

It is advisable to have sprinkler systems inspected regularly by a qualified inspection service. Length of time between such inspections can vary due to accessibility, ambient atmosphere, water supply, and site activity.

Do not attempt to reassemble or otherwise reuse a sprinkler that has operated. Replace any sprinkler exhibiting corrosion or damage; always use new sprinklers of the same orifice, style, and temperature rating as replacements.

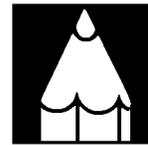
Because the discharge pattern is critical to protection of life and property, nothing should be hung or attached to the sprinkler unit that would disrupt the pattern. Such obstructions must be removed. In the event that construction has altered the original configuration, additional sprinklers should be installed to maintain the protection level.

Do not attempt to replace sprinklers without first removing the fire protection system from service. Be certain to secure permission from all *Authorities Having Jurisdiction*, and notify all personnel who may be affected during system shutdown. A fire watch during maintenance periods is a recommended precaution.

To remove the system from service mode, first refer to the system operating guide and valve instruction. Drain water and relieve pressure in the pipes. Remove the existing unit and install the replacement, using only the recommended sprinkler wrench. Be certain to match model, style, orifice, and temperature rating.

A fire protection system that has been shut off after an activation should be repaired and returned to service immediately. Inspect the entire system for damage and replace or repair as necessary. Sprinklers that did not operate but were subjected to corrosive elements of combustion or excessive temperatures should be inspected, and replaced if need be. The *Authority Having Jurisdiction* will detail minimum replacement requirements and regulations.

Guarantee: Central Sprinkler Company will repair and/or replace any products found to be defective in material or workmanship within a period of one year from the date of shipment. Please refer to the current Price List for further details of the warranty.



Ordering Information

Ordering Information: When placing an order, indicate the full product name. Please specify the quantity, model, style, orifice size, temperature rating, sprinkler finish, cover plate finish, and sprinkler wrench.

For special painted cover plate finishes, the customer must supply a quick-drying paint, preferably in a lacquer-base finish to insure proper color duplication. Without such a guide, Central Sprinkler Company cannot be responsible for acceptable color matching.

Availability and Service: Central sprinklers, valves, accessories and other products are available throughout the U.S. and Canada, and internationally, through a network of Central Sprinkler distribution centers. You may write directly to Central Sprinkler Company, or call 215-362-0700 for the distributor nearest you.

Patents: Patents are pending.

Conversion Table:

1 inch	= 25.400 mm
1 foot	= 0.3048 m
1 pound	= 0.4536 kg
1 foot pound	= 1.36 Nm
1 psi	= 6.895 kpa
	= 0.0689 bar
	= 0.0703 kg/cm ²
1 U.S. gallon	= 3.785 dm ³
	= 3.785 liters

Conversions are approximate.



Central Sprinkler Company

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