

GB-20

Large Orifice

Extended Coverage Light Hazard
Recessed Pendent and Pendent
Glass Bulb Automatic Sprinkler

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



Product Description

The Central Model GB-20 Large Orifice Recessed Pendent and Pendent Automatic Sprinkler is a low cost, aesthetically pleasing unit, specifically designed for Extended Coverage/Light Hazard applications per NFPA 13.

The Model GB-20 Sprinkler incorporates a specially designed deflector that provides a much greater area of coverage than most commercial sprinklers. A 2-piece recessed escutcheon assembly that provides for $\frac{3}{8}$ " (9.5mm) of field adjustment is available.

The Model GB-20 has a nominal K factor of 7.8 (112.5 Metric), a maximum temperature rating of 200°F/93°C, and a maximum working pressure of 175 psi (12.1 bar).

The Model GB-20 is available in three standard finishes, brass, chrome plated and white painted. Its mating escutcheon plate is available in three standard finishes, brass plated, chrome plated and white painted with additional special painted finishes available.

Operation: The glass bulb capsule operating mechanism contains a heat-sensitive liquid that expands upon application of heat. At the rated temperature, the frangible capsule ruptures, thereby releasing the orifice seal. The sprinkler then discharges water in a pre-designed spray pattern to control or extinguish the fire.

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



Technical Data

Model: GB-20
Style: Recessed Pendent and Pendent
Escutcheon: Model ELO Recessed (2-piece)

Note: Only the Model ELO "Recessed" (2-piece) Escutcheon may be used. Substitution of other "recessed" escutcheons may impair the operating sensitivity and distribution pattern.

Wrench: Combination Wrench or GB-20 Wrench
Orifice Size: $\frac{17}{32}$ " (13.5 mm)
K-Factor: 7.8 (112.5 metric) Nominal
Thread Size: $\frac{3}{4}$ " (20 mm) N.P.T.
Temperature Rating: 155°F/68°C
175°F/79°C
200°F/93°C

Approvals: U.L., U.L.C.,
M.E.A. 312-92-E
Maximum Working Pressure:
175 psi (12.1 bar)
Factory Hydro Test: 100% at
500 psi (34.5 bar)
Standard Finishes:
Sprinkler: brass, chrome plated
Corrosion-Resistant Coatings:
white, black, off-white
Escutcheon: brass plated, chrome
plated, white painted
Length: $2\frac{1}{16}$ " (52.4 mm)
Width: $1\frac{11}{16}$ " (42.9 mm) Diameter
Weight: 3.2 oz. (90.7 grams)
Patent: Pending



Extended
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Light
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Pendent
Sprinkler

Figure 1
GB-20 Recessed Pendant

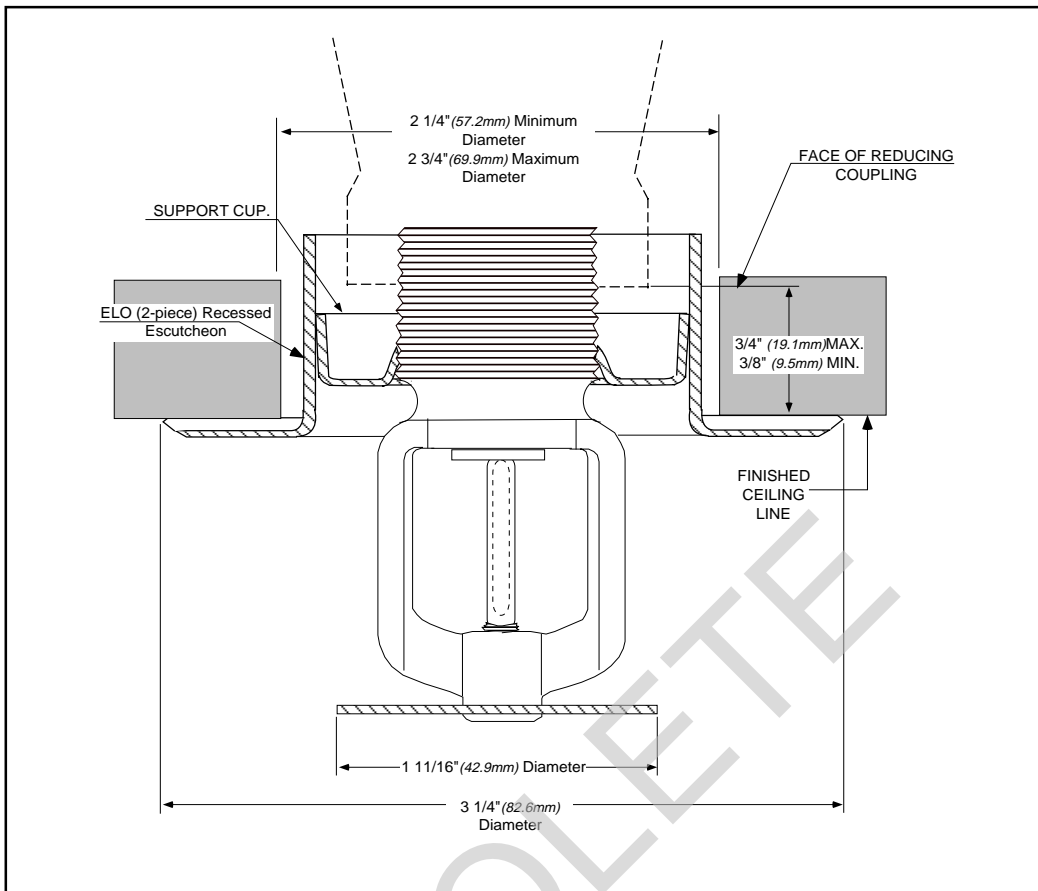
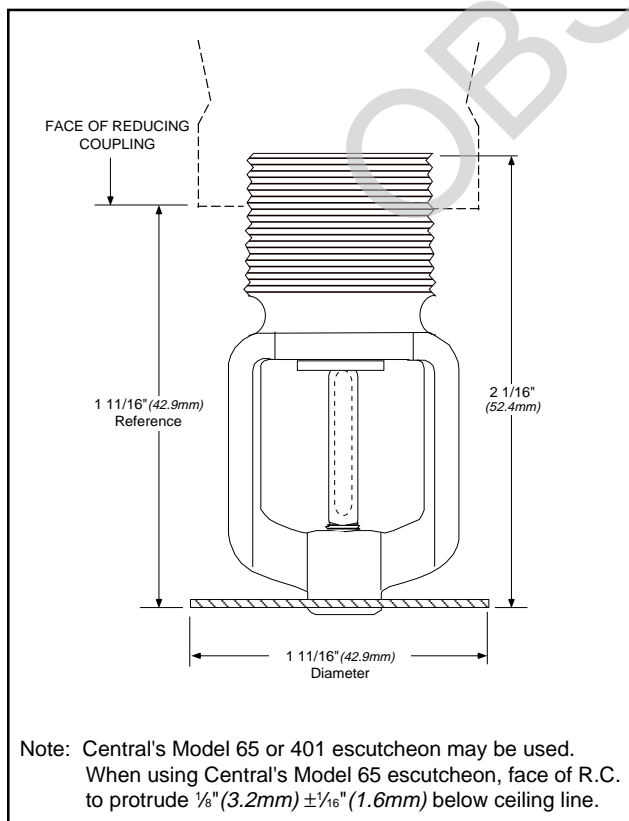
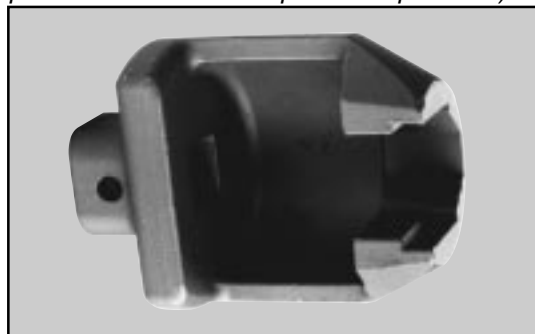


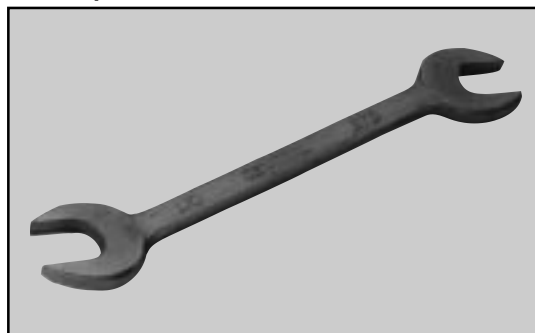
Figure 2
GB-20 Pendant



GB-20 Wrench (Part #1125) (for pendent and recessed pendant sprinklers)



Combination Wrench (Part #1106) (for pendent sprinklers)





Design Data

Design Requirements — Extended Coverage Applications

Coverage Area (ft. x ft.)	Maximum Distance Off Wall	Minimum Flow gpm (Lpm)	Minimum Pressure psi (bar)
16 x 16 (4.9 x 4.9)	8 feet (2.4 m)	26(98.5)	11.1(0.8)
18 x 18 (5.5 x 5.5)	9 feet (2.7 m)	33(125.1)	17.9(1.2)
20 x 20 (6.1 x 6.1)	10 feet (3.0 m)	40(151.6)	26.3(1.8)

The Model GB-20 Pendent and Recessed Pendent Sprinklers are U.L. Listed for Extended Coverage applications in **Light Hazard Occupancies** only.

21 ft.-lbs. (28.6 Nm) may distort the orifice seal, resulting in leakage.

Step 5. To install the escutcheon plate, align it with and press it over the sprinkler body until the outer edge of the escutcheon meets the mounting surface.

CAUTION: Do not wrench or turn the deflector, as this action may damage the sprinkler and cause it to leak under pressure.

Special care must be taken when installing with a CPVC system. Sprinklers must be installed after the CPVC manufacturer's recommended setting time for the primer and cement to ensure that neither accumulate 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.



Installation

Installation Sequence

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

Step 2. The face of the sprinkler fitting should be installed a nominal $\frac{1}{16}'' \pm \frac{3}{16}''$ (14.3 mm \pm 4.8 mm) behind the ceiling line as shown in the installation diagram on page two. Adjustments may be made via the push-on escutcheon plate to compensate for variations in the fitting.

Do not use the push-on escutcheon plate to hold the unit in position. The sprinkler will function properly only when the system piping is anchored to the building structure. Otherwise reaction forces from system initiation could alter the sprinkler alignment and disrupt the pattern.

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 Combination Sprinkler Wrench for pendent sprinklers and a GB-20 Wrench for pendent or recessed pendent styles to tighten the unit into 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

All Central Model GB-20 Recessed Pendent and Pendent Automatic Sprinklers must be installed according to current NFPA 13 Standards and these installation instructions. 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.

The system piping must be properly sized to ensure the minimum required flow rate at the sprinkler. 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.

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.



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 a 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 Systems", contains guidelines and minimum maintenance requirements. Furthermore, the local Authority Having Jurisdiction may have addi-

*Teflon is a trademark of the DuPont Corp.

tional 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 re-assemble or otherwise reuse a sprinkler that has operated. Replace any sprinkler exhibiting corrosion or damage; always use new sprinklers of the same type 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 instructions. Drain water and relieve the pressure in the system piping. Remove the existing unit and install the replacement, using only the special 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 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, type of finish or coating, and sprinkler wrench.

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.

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.



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