

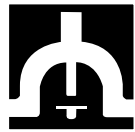
Model BV-20 QR

8.0 K-factor Quick Response Extended Coverage Light Hazard



Pendent & Rec. Pendent Glass Bulb Automatic Sprinkler

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General Description

The Central Model BV-20 QR, 8.0 K-factor Quick Response, Extended Coverage Light Hazard (ECLH) Pendent and Recessed Pendent Sprinklers are decorative glass bulb sprinklers designed for use in light hazard occupancies such as churches, hospitals, offices, and restaurants.

They are intended for use in automatic sprinkler systems designed in accordance with standard installation rules (e.g., NFPA 13) for the protection of light hazards up to a maximum coverage area of 400 ft² (37,2 m²), as compared to the maximum coverage area of 225 ft² (20,9 m²) for standard coverage sprinklers.

The recessed version of the Central Model BV-20 QR ECLH, intended for use in areas with a finished ceiling, uses a two-piece Model ELO Recessed Escutcheon. The Model ELO Recessed Escutcheon provides up to 3/4 inch (19,1 mm) of total adjustment from the flush pendent position. The adjustment provided by these Recessed Escutcheons reduces the accuracy to which the fixed pipe drops to the sprinklers must be cut.

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, which then allows the sprinkler to activate & flow water.

WARNING

The Model BV-20 QR ECLH Pendent & Rec. Pendent 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 integrity 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 relative to any questions.



Technical Data

Sprinkler Identification Number
SIN C4232

Approvals
UL & ULC Listed.

(The approvals apply only to the service conditions indicated in the Design Criteria Section)

Maximum Working Pressure
175 psi (12,1 bar)

Pipe Thread Connection
3/4 inch NPT

Discharge Coefficient
K = 8.0 GPM/psi^{1/2} (115,2 LPM/bar^{1/2})

Temperature Ratings
135°F/57°C or 155°F/68°C

Finishes
Sprinkler: White Polyester, Chrome Plated, or Natural Brass

Rec. Escutcheon: White Coated, Chrome Plated, or Brass Plated

Physical Characteristics

The Model BV-20 QR ECLH Pendent & Rec. Pendent Sprinklers utilize a dezincification resistant (DZR) bronze frame and a 3 mm bulb. The two-piece button assembly is brass and copper. The sprinkler frame orifice is sealed with a gasketed spring plate (Belleville Seal) consisting of a beryllium nickel disc spring that is sealed on both its inside and outside edges with a Teflon™ gasket. The compression screw is bronze, & the deflector is brass.



Extended Coverage Light Hazard Pendent & Rec. Pendent Sprinklers

Figure 1 - Cross Section Model BV-20 QR ECLH, Pendent Sprinkler

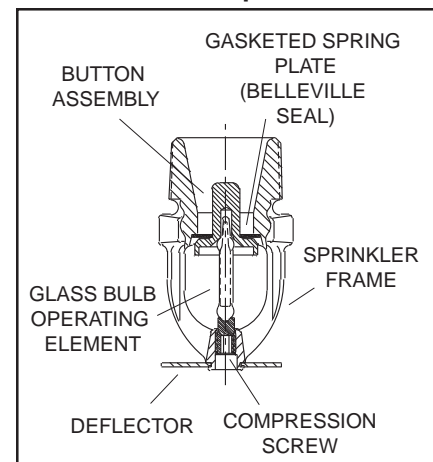


Figure 2 - Model BV-20 QR ECLH, Pendant & Recessed Pendant Sprinklers

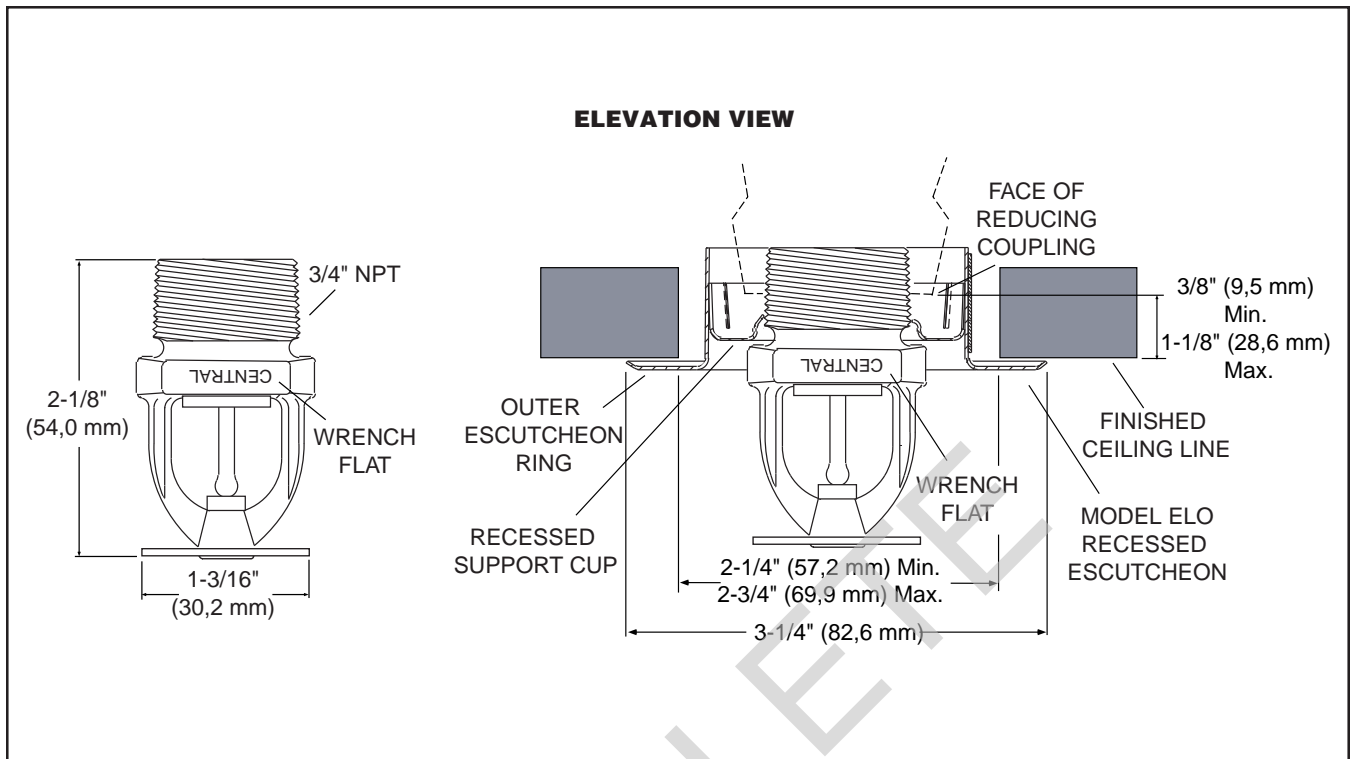


Figure 3 - W-Type 3 Sprinkler Wrench (Part #1073)

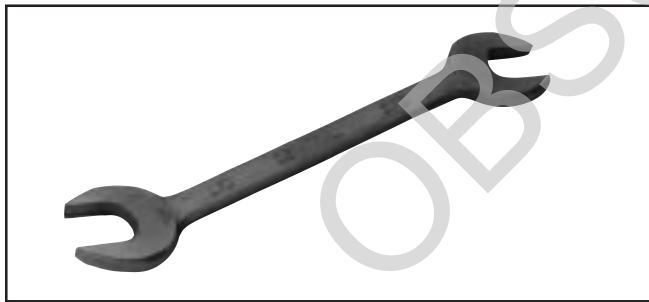


Figure 4 - ELO Offset Wrench (Part #1093)



Table 1 - UL and ULC Listing Criteria for the Installation of Model BV-20 QR Extended Coverage Light Hazard Pendant Sprinklers

| Spacing | Minimum Flow/Pressure LH (0.1 gpm/sq. ft.) | Style | Temperature Rating | |
|------------------------------|---|-----------------------------|--------------------------|--------------------------|
| 16' x 16' (4,9 m x 4,9 m) | 26.0 gpm / 10.6 psi 98,4 Lpm / 0,73 bar | Pendant Recessed Pendant | 135°F/57°C 135°F/57°C | 155°F/68°C 155°F/68°C |
| 18' x 18' (5,5 m x 5,5 m) | 33.0 gpm / 17.0 psi 124,9 Lpm / 1,17 bar | Pendant Recessed Pendant | 135°F/57°C 135°F/57°C | 155°F/68°C --- |
| 20' x 20' (6,1 m x 6,1 m) | 40.0 gpm / 25.0 psi 151,4 Lpm / 1,72 bar | Pendant Recessed Pendant | 135°F/57°C 135°F/57°C | --- --- |



Design Criteria

The Model BV-20 QR, Extended Coverage Light Hazard (ECLH) Pendent and Recessed Pendent Sprinklers are UL and ULC listed for use in light hazard occupancies, using the design criteria in Table 1 as well as any additional requirements specified in current NFPA 13 Standards for Extended Coverage Pendent Sprinklers.

The minimum lateral spacing between the BV-20 QR ECLH Pendent and Recessed Pendent Sprinklers to prevent cold soldering, is 8 feet (2,4 m).

The Model BV-20 QR Sprinklers can be used with any metallic flush or extended escutcheon, provided the maximum ceiling to top of sprinkler deflector dimension specified in NFPA 13 is maintained. For recessed applications, only the Model ELO Recessed Escutcheon Assemblies may be used.



Installation

The Model BV-20 QR ELCH 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 with an approximate diameter of 1/16 inch should be present.

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. (40,7 Nm) of torque is to be used to install 3/4 inch NPT sprinklers. Higher levels of torque may distort the sprinkler inlet with consequent leakage or impairment of the sprinkler.

Do not attempt to compensate for insufficient adjustment in an Escutcheon Plate by under- or over-tightening the Sprinkler. Readjust the position of the sprinkler fitting to suit.

Step 1. Pendent sprinklers must be installed only in the pendent position. The deflector is to be parallel to the ceiling, roof, or mounting surface, as applicable.

Step 2. After installing the ELO support cup (or other escutcheon, as applicable) over the sprinkler pipe threads & with pipe thread sealant applied to the pipe threads, hand tighten the sprinkler into the sprinkler fitting.

Step 3. Wrench tighten the sprinkler using only the following wrenches:

BV-20 QR Pend - W-Type 3 (Ref. Fig. 3)

BV-20 QR Rec. Pend - ELO Offset (Ref. Fig. 4)

Wrenches are to be applied to the sprinkler wrench flats (Ref. Fig. 2) only.



Care & Maintenance

The Model BV-20 QR ECLH Sprinklers must be maintained and serviced in accordance with the following instructions.

NOTES

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

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

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

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 - 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).

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.



Limited Warranty

Products manufactured by Tyco Fire Products are warranted solely to the original Buyer for ten (10) years against defects in material and workmanship when paid for and properly installed and maintained under normal use and service. This warranty will expire ten (10) years from date of shipment by Tyco Fire Products. No warranty is given for products or components manufactured by companies not affiliated by ownership with Tyco Fire Products or for products and components which have been subject to misuse, improper installation, corrosion, or which have not been installed, maintained, modified or repaired in accordance with applicable Standards of the National Fire Protection Association, and/or the standards of any other Authorities Having Jurisdiction. Materials found by Tyco Fire Products to be defective shall be either repaired or replaced, at Tyco Fire Products' sole option. Tyco Fire Products neither assumes, nor authorizes any person to assume for it, any other obligation in connection with the sale of products or parts of products. Tyco Fire Products shall not be responsible for sprinkler system design errors or inaccurate or incomplete information supplied by Buyer or Buyer's representatives.

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THE FOREGOING WARRANTY IS MADE IN LIEU OF ANY AND ALL OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.



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. Refer to price list for complete listing of Part Numbers.

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