

# Model B

## 8.0 K-factor

### Quick Response

### Extended Coverage Light Hazard

Horiz. Sidewall & Rec. Horiz. Sidewall Glass Bulb Automatic Sprinkler

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## General Description

The Central Model B, 8.0 K-factor (17/32 inch orifice), Quick Response, Extended Coverage Light Hazard (ECLH) Horizontal Sidewall & Recessed Horizontal Sidewall Sprinklers are decorative glass bulb sprinklers designed for use in light hazard occupancies per NFPA 13 or FM installation standards.

They are designed for installation along a wall beneath smooth & level ceilings as defined in the applicable installation standard. Horizontal sidewall sprinklers are generally used in lieu of pendent sprinklers because of aesthetic, building construction, or installation economy considerations.

The recessed version of the Model B using a two-piece Series 4211 Recessed Escutcheon provides 3/4 inch (19,1 mm) of field adjustment. In addition to its aesthetically pleasing appearance, the adjustment provided by the Recessed Escutcheon reduces the accuracy to which the fixed pipe 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 B ECLH Horizontal Sidewall and Recessed Horizontal Sidewall Sprinklers described herein must be installed & 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 C4332

**Approvals**  
UL and ULC Listed. FM Approved.  
(The approvals apply only to the service conditions indicated in the Design Criteria Section)

**Maximum Working Pressure**  
175 psi (12,1 bar)

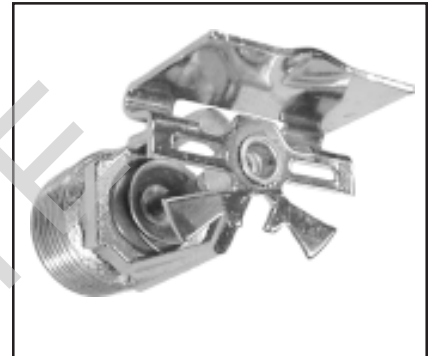
**Pipe Thread Connection**  
3/4 inch NPT

**Discharge Coefficient**  
K = 8.0 GPM/psi<sup>1/2</sup> (116,8 LPM/bar<sup>1/2</sup>)

**Temperature Ratings**  
135°F/57°C, 155°F/68°C, & 175°F/79°C

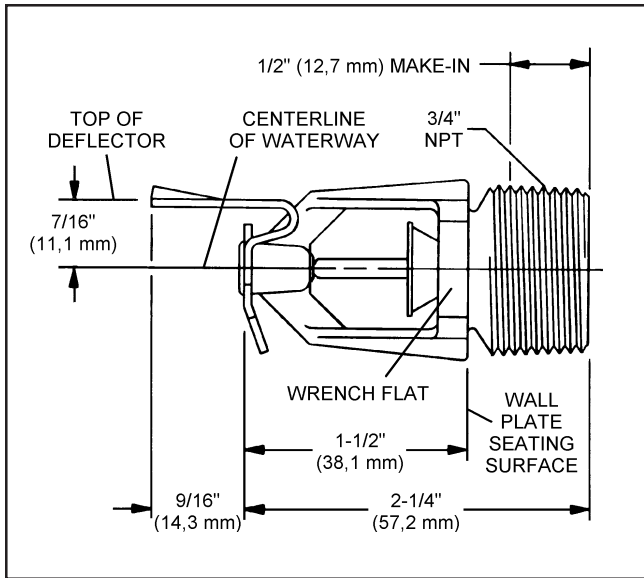
**Finishes**  
Sprinkler: White Polyester, Chrome Plated, or Natural Brass  
Recessed Escutcheon: White Coated or Chrome Plated

**Physical Characteristics**  
The Model B ECLH Horizontal Sidewall & Recessed Horizontal Sidewall 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.

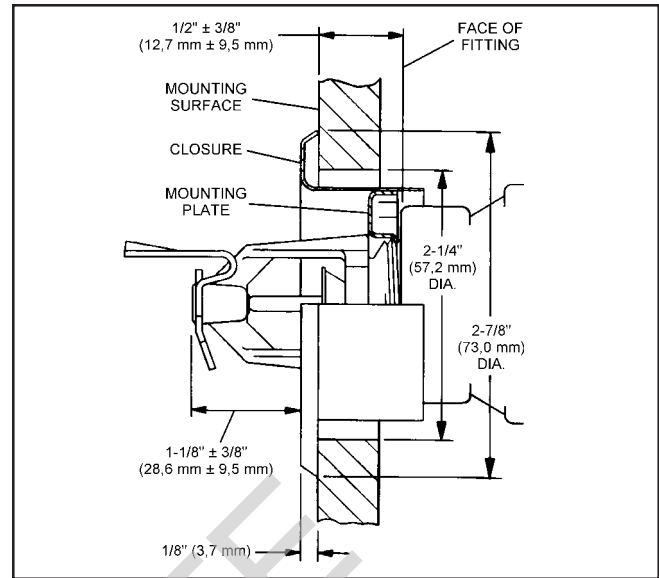


## Extended Coverage Light Hazard Horizontal Sidewall & Rec. Horizontal Sidewall Sprinklers

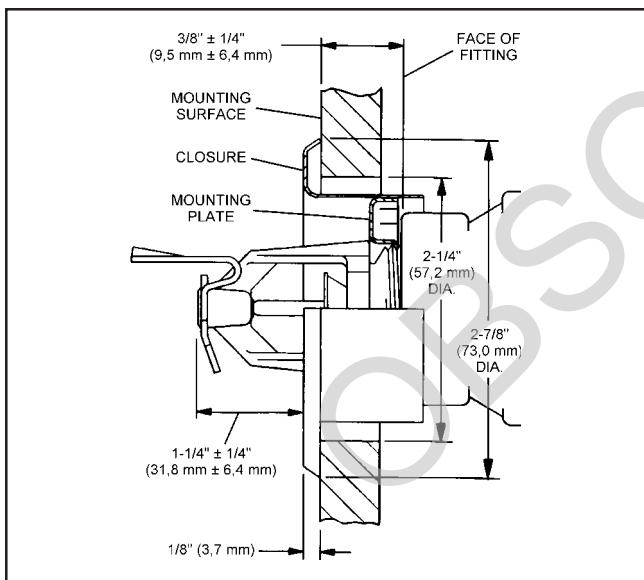
**Figure 1**  
**Model B Sidewall**



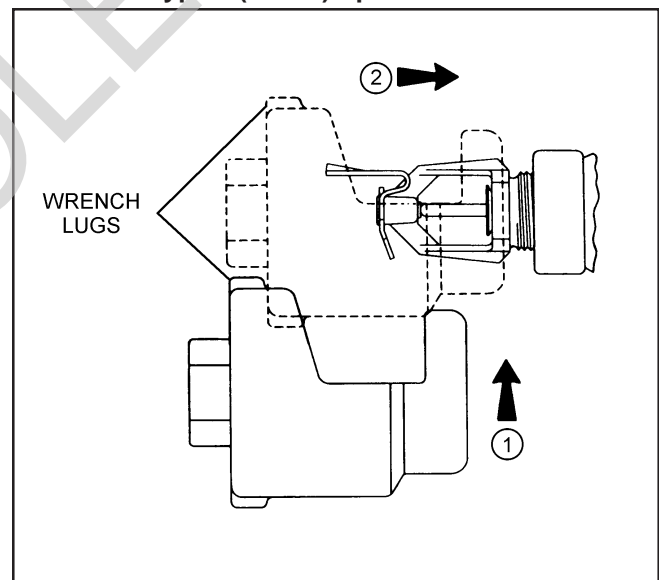
**Figure 2**  
**Model B Sidewall with**  
**Series 4211 Recessed Escutcheon**



**Figure 3**  
**Model B Sidewall with**  
**Series 4221 Recessed Escutcheon**



**Figure 4**  
**Installation sequence using**  
**W-Type 7 (10683) Sprinkler Wrench**



The Model B ECLH Horizontal Sidewall & Recessed Horizontal Sidewall 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 Sidewall Sprinklers. The Recessed Horizontal Sidewall Sprinklers are only listed with the Series 4221 or 4211 Recessed Escutcheon Assemblies. The Horizontal Sidewall and Recessed Horizontal Sidewall Sprinklers must be installed in such a manner, that no other sprinkler is located within the maximum protection area of any other sprinkler.

The 135°F/57°C & 155°F/68°C Model B ECLH Horizontal Sidewall & Recessed Horizontal Sidewall Sprinklers are FM Approved for use in light hazard occupancies in accordance with the FM Loss Prevention Data Sheets. The Recessed Horizontal Sidewall Sprinklers are only FM Approved when the Series 4221 Recessed Escutcheon Assembly is used. The Horizontal Sidewall and Recessed Horizontal Sidewall Sprinklers are FM approved with a ceiling to top of deflector distance of 4" - 12" (101,6 mm - 304,8 mm) and up to a maximum spacing (W x L) of 16' x 24' (4,88 m x 7,32 m).

**Table 1 - UL and ULC Flow/Pressure Requirements  
Model B 135°F, 155°F & 175°F Horizontal Sidewall & Recessed Horizontal Sidewall**

Spacing (W x L)	Minimum	Sidewall Sensitivity			Recessed Sidewall Sensitivity (Series 4221 or 4211 Esc.)			Top of Deflector to Ceiling Flow/Pressure Distance
		135°F (57°C)	155°F (68°C)	175°F (79°C)	135°F (57°C)	155°F (68°C)	175°F (79°C)	
16' x 16' (4,9 m x 4,9 m)	26 gpm / 10.6 psi (98 Lpm / 0,73 bar)	QR	QR	QR	QR	QR	QR	4"- 12" (101,6 - 304,8 mm)
16' x 18' (4,9 m x 5,5 m)	29 gpm / 13.1 psi (110 Lpm / 0,91 bar)	QR	QR	QR	QR	QR	QR	4"- 12" (101,6 - 304,8 mm)
16' x 20' (4,9 m x 6,1 m)	32 gpm / 16.0 psi (121 Lpm / 1,10 bar)	QR	----	----	QR	----	----	4"- 6" (101,6 - 152,4 mm)
16' x 20' (4,9 m x 6,1 m)	33 gpm / 17.0 psi (125 Lpm / 1,17 bar)	QR	----	----	QR	----	----	4"- 12" (101,6 - 304,8 mm)
16' x 22' (4,9 m x 6,7 m)	35 gpm / 19.1 psi (133 Lpm / 1,32 bar)	QR	----	----	QR	----	----	4"- 6" (101,6 - 152,4 mm)
16' x 22' (4,9 m x 6,7 m)	36 gpm / 20.3 psi (136 Lpm / 1,40 bar)	QR	----	----	QR	----	----	4"- 12" (101,6 - 304,8 mm)
16' x 24' (4,9 m x 7,3 m)	39 gpm / 23.8 psi (148 Lpm / 1,64 bar)	QR	----	----	QR	----	----	4"- 6" (101,6 - 152,4 mm)
16' x 24' (4,9 m x 7,3 m)	40 gpm / 25 psi (151 Lpm / 1,72 bar)	QR	----	----	QR	----	----	4"- 12" (101,6 - 304,8 mm)



## Installation

The Model B ECLH Horizontal Sidewall & Recessed Horizontal Sidewall 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 the air bubble is approximately 1/16 inch (1,6 mm) for the 135°F/57°C, 155°F/68°C, and 175°F/79°C temperature ratings.*

*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 make up for insufficient adjustment in the escutcheon plate by under- or overtightening the sprinkler. Readjust the position of the sprinkler fitting to suit.*

**Step 1.** Horizontal sidewall sprinklers are to be installed in the horizontal position with their centerline of waterway perpendicular to the back wall and parallel to the ceiling. The word "TOP" on the deflector must face towards the ceiling.

**Step 2.** After installing the Series 4221 or 4211 Mounting Plate (as applicable) over the sprinkler pipe threads and 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 W-Type 7 Sprinkler Wrench (Ref. Figure 4). To use the W-Type 7 Sprinkler Wrench, slip the Wrench opening over the Model B Sprinkler Deflector by passing the Sprinkler Wrench up from beneath the Sprinkler as shown in Figure 4. The W-Type 7 Sprinkler Wrench is to be applied to the Sprinkler Wrench flats

only. Using a 1/2 inch ratchet drive or by applying an 8 to 10 inch adjustable wrench to the hex end of the sprinkler wrench, tighten the sprinkler into the fitting.

### NOTE

*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 & Maintenance

The Model B ECLH Horizontal Sidewall & Recessed Horizontal Sidewall 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 it 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 & 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 & 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 & maintained by a qualified Inspection Service.

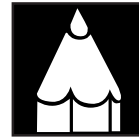


## Limited Warranty

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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