

# V31, K8.0, K11.2

Extended Coverage Light Hazard  
Adjustable Concealed Pendent

**V3102 Quick Response**  
**V3104 Quick Response**

The Model V31 ECLH Concealed sprinklers are designed with either a K8.0 or K11.2 orifice size to provide added coverage at normal light hazard operating pressures. This concealed, designer style sprinkler allows up to 5/8" / 16 mm adjustment to accommodate concealment needs. Extended spray coverage is up to 400 square feet (37,2 sq. m) per NFPA 13 Light Hazard design criteria.

The integral wrench plate in the cup allows for ease of installation with the V31/V33 wrench by engaging the cup instead of the sprinkler frame.

 LISTED  
SEE VICTAULIC PUBLICATION 10.01 FOR DETAILS



**EXTENDED COVERAGE LIGHT HAZARD  
ADJUSTABLE CONCEALED PENDENT  
V3102, V3104**

**SPRINKLER OPERATION:**

The operating mechanism is a frangible glass bulb which contains a heat responsive liquid. During a fire, the ambient temperature rises causing the liquid in the bulb to expand. When the ambient temperature reaches the rated temperature of the sprinkler, the bulb shatters. As a result, the waterway is cleared of all sealing parts and water is discharged towards the deflector. The deflector is designed to distribute the water in a pattern that is most effective in controlling the fire.

**COVERAGE:**

For coverage area and sprinkler placement, refer to NFPA 13 standards.

**JOB/OWNER**

System No. \_\_\_\_\_  
Location \_\_\_\_\_

**CONTRACTOR**

Submitted By \_\_\_\_\_  
Date \_\_\_\_\_

**ENGINEER**

Spec Sect \_\_\_\_\_ Para \_\_\_\_\_  
Approved \_\_\_\_\_  
Date \_\_\_\_\_

## V31, K8.0, K11.2

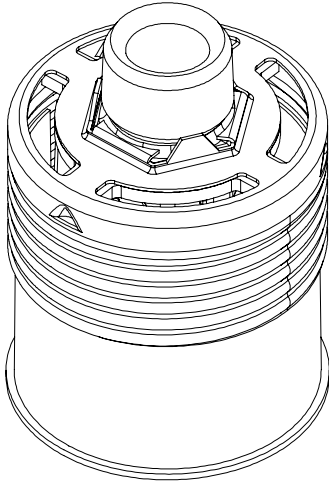
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### TECHNICAL SPECIFICATIONS:



*Exaggerated for clarity*

Models/S.I.N.: V3102, V3104

**Style:** Extended Coverage Light Hazard  
Concealed

**Nominal Orifice Size:** 1/32" 14mm, 5/8" 16mm

**K-Factor:** V3102: 8.0 Imp/11.5 SI

V3104: 11.2 Imp/ 16.2 SI

**Nominal Thread Size:** 3/4"NPT (20mm)

**Max. Working Pressure:**

175psi/1200kPa

**Factory Hydrostatic Test:**

100% @500psi/3450kPa

**Min. Operating Pressure:** 7psi/48kPa

**Temperature Rating:** See chart on page 2

### MATERIAL SPECIFICATIONS

**Pendent Deflector:** Brass per UNS C51000

**Bulb:** Bulb with Glycerin Solution

Bulb Nominal Diameter:

- Quick Response: 3.0mm

**Load Screw:** Bronze per UNS 65100

**Pip Cap:** Bronze per UNS 65100

**Seal:** Teflon\* tape

**Spring:** Beryllium Nickel

**Frame:** Die Cast Brass 65-30

**Lodgement Spring:** Stainless Steel per  
UNSS30200

**Cup:** Cold rolled steel, zinc chrome plated

**Cover/Escutcheon:** Brass per UNS C26000  
reference v3801 for position

### ACCESSORIES

#### Installation Wrench:

- Concealed Wrench: V31/V33

#### Sprinkler Finishes:

- Plain Brass only

#### Coverplate Finishes:

- Chrome plated
- White painted
- Flat Black
- Custom Painted

For cabinets and other accessories refer to separate sheet.

^ For K-Factor when pressure is measured in Bar, multiply S.I. units by 10.0.

\* Teflon is a registered trademark of Dupont Co.

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APPROVALS/LISTINGS	Model	
	V3102	V3104
Orifice Size (inches)	1/32"	3/8"
Orifice Size (mm)	14	16
Nominal K Factor Imperial	8.0	11.2
Nominal K Factor S.I.^	11.5	16.2
Response	QR	QR
Deflector Type	Extended Coverage Concealed Pendent	Extended Coverage Concealed Pendent
Approved Temperature Ratings F°C by Agency‡		
cULus	135°F/57°C	135°F/57°C
NYC/MEA # 62-99-E		

‡ Listings and Approvals as of printing.  
 ^ For K Factor when pressure is measured in Bar, multiply S.I. units by 10.0  
 # Light Hazard ONLY

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**RATINGS**

All glass bulbs are rated for temperatures from -67°F/-55°C to those shown in table below.

Sprinkler	Sprinkler - V3102, V3104				Cover - V38		
	Victaulic Part Identification	Temperature – °F/°C		Glass Bulb Color	Victaulic Part Identification	Temperature – °F/°C	
		Nominal Temperature Rating	Maximum Ambient Temperature Allowed			Nominal Temperature Rating	Maximum Ambient Temperature Allowed
Ordinary	A	135 57	100 38	Orange	A*	135 Ø 57	100 38
Ordinary	C	155 68	100 38	Red	D ‡	165 74	150 65
Intermediate	E	175 79	150 65	Yellow			
Intermediate	F	200 93	150 65	Green			
High	J	286 141	225 107	Blue			
Extra High ‡	K	360 182	300 149	Purple			
– ‡	M	Open	—	No Bulb			

‡ Standard response only.

All standard responses are approved open.

\*A For use with Standard or Quick Response Concealed Sprinkler 135°F/57°C or 155°F/68°C.

‡ D For use with Standard or Quick Response Concealed Sprinkler 175°F/79°C or 200°F/93°C.

Custom Finish - Customer to provide paint specification, allow 4 - 6 weeks for samples.

Ø 138°F/59°C per LPBC

**ORDERING INFORMATION**

Please specify the following when ordering:

Sprinkler Model Number	
Style	
Temperature Rating	
K-Factor	
Thread Size	
Quantity	
Sprinkler Finish	
Escutcheon Finish	
Wrench Model Number	

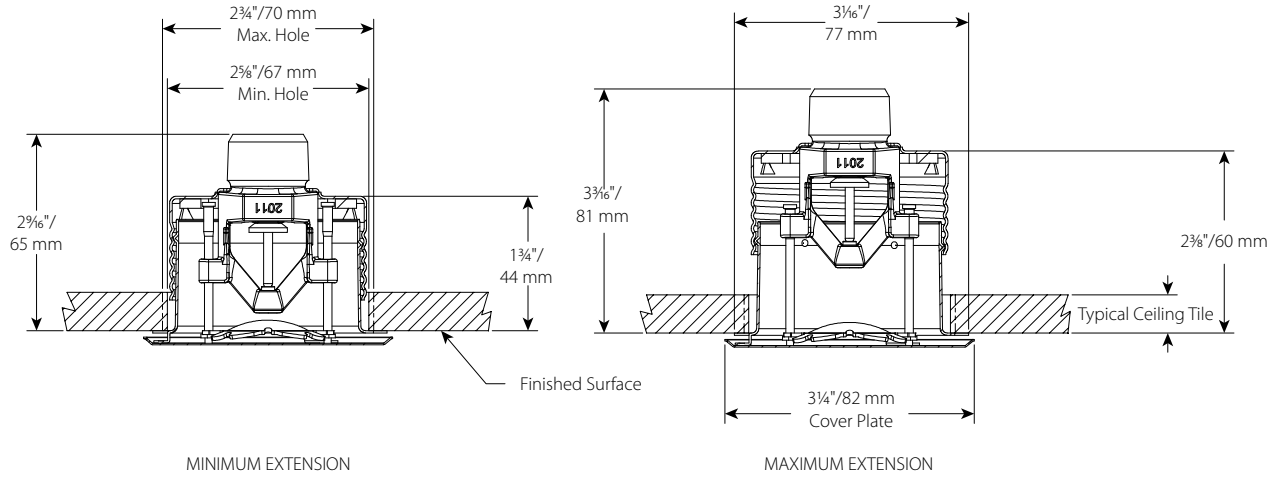
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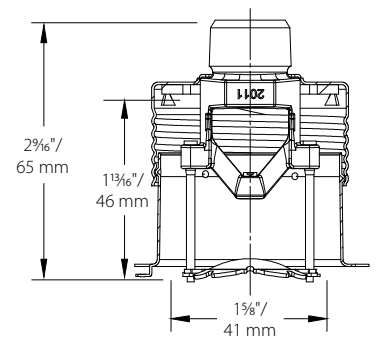
**V3102 Quick Response**  
**V3104 Quick Response**

**DIMENSIONS**

**V3102, V3104 - Minimum/Maximum Extension (drawing not to scale)**



**V3102, V3104 - After Activation Maximum Extension Shown Typical to Both Configurations (drawing not to scale)**



**PERFORMANCE**

Sprinkler Performance Flow and Pressure (Minimum)				
Room Size Feet/m	V3102		V3104	
	Flow	Pressure	Flow	Pressure
16 X 16	26	10.6	30	7.2
4,9 X 4,9	98	73.1	115	49.6
18 X 18	33	17.0	33	8.7
5,5 X 5,5	125	117.2	125	60.0
20 X 20	40	25.0	40	12.8
6,1 X 6,1	150	172.4	150	88.3

Note - Minimum installation distance is 8 feet.  
Sprinkler has been designed as per NFPA13 light hazard design density.

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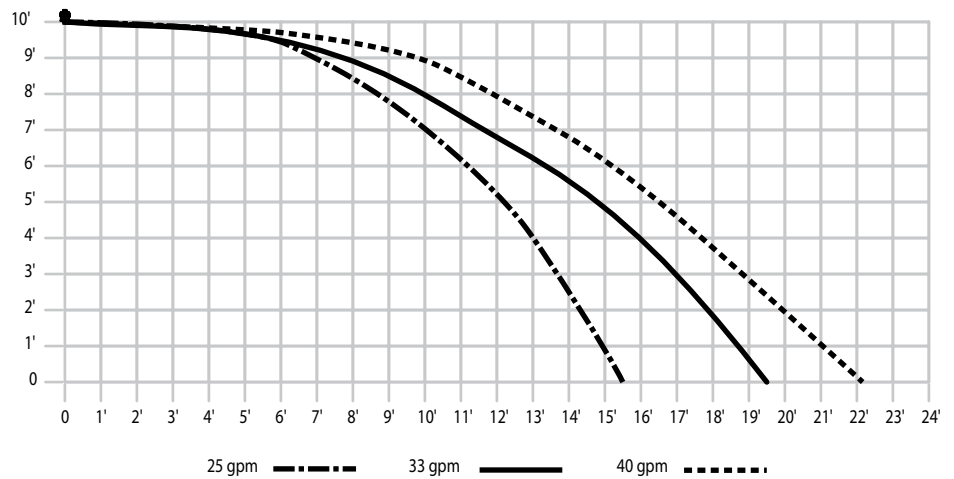
**AVAILABLE WRENCHES**

Sprinkler Type	Wrench
EC Concealed Pendent	V31/V33

**DISTRIBUTION PATTERNS**

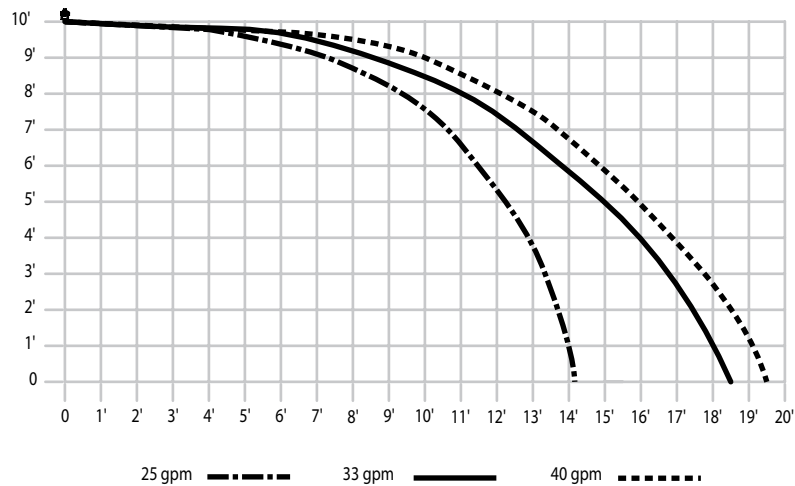
**Model V3102**

**K8.0 Extended Coverage Light Hazard Concealed Pendent Distribution Pendent**



**Model V3104**

**K11.2 Extended Coverage Light Hazard Adjustable Concealed Pendent Distribution**



**NOTE**

1. Data shown is approximate and can vary due to differences in installation.
2. These graphs illustrate approximate trajectories, floor-wetting, and wall-wetting patterns for these specific Victaulic FireLock Automatic Sprinklers. They are provided as information for guidance in avoiding obstructions to sprinklers and should not be used as minimum sprinkler spacing rules for installation. Refer to the appropriate NFPA National Fire Code or the Authority Having Jurisdiction for specific information regarding obstructions, spacing limitations and area of coverage requirements. Failure to follow these guidelines could adversely affect the performance of the sprinkler and will void all Listings, Approvals and Warranties.

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**WARRANTY**

Refer to the Warranty section of the current Price List or contact Victaulic for details.



 <b>WARNING</b>	
    	<ul style="list-style-type: none"> <li>• Always read and understand installation, care, and maintenance instructions, supplied with each box of sprinklers, before proceeding with installation of any sprinklers.</li> <li>• Always wear safety glasses and foot protection.</li> <li>• Depressurize and drain the piping system before attempting to install, remove, or adjust any Victaulic piping products.</li> <li>• Installation rules, especially those governing obstruction, must be strictly followed.</li> <li>• Painting, plating, or any re-coating of sprinklers (other than that supplied by Victaulic) is not allowed.</li> </ul> <p>Failure to follow these instructions could result in serious personal injury and/or property damage.</p> <p>The owner is responsible for maintaining the fire protection system and devices in proper operating condition. For minimum maintenance and inspection requirements, refer to the current National Fire Protection Association pamphlet that describes care and maintenance of sprinkler systems. In addition, the authority having jurisdiction may have additional maintenance, testing, and inspection requirements that must be followed.</p> <p>If you need additional copies of this publication, or if you have any questions about the safe installation of this product, contact Victaulic World Headquarters: P.O. Box 31, Easton, Pennsylvania 18044-0031 USA, Telephone: 001-610-559-3300.</p>

For complete contact information, visit [www.victaulic.com](http://www.victaulic.com)

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