

## V34, K14.0

Extended Coverage/Ordinary Hazard (ECOH) Pendent, Recessed Pendent and Upright

**V3421 STANDARD RESPONSE - Pendent, Recessed Pendent - UL, ULC Listed**

**V3425 STANDARD RESPONSE - Upright - cULus Listed**

Model V34 ECOH sprinklers are designed to protect ordinary hazard occupancies with a maximum coverage area of 400 square feet with unobstructed or non-combustible obstructed ceiling construction as permitted by NFPA 13. These sprinklers have been fire tested to compare their performance with that of standard coverage ordinary hazard sprinklers with a maximum coverage area of 130 square feet and 15 foot spacing. The results show that the protection provided by V3421 and V3425 sprinklers is equivalent to or exceeding that of standard spray sprinklers. The die cast frame is cast with a hex-shaped wrench boss to allow easy tightening from many angles, reducing assembly effort. This sprinkler is available in various temperature ratings (see chart on page 3) and finishes to meet many design requirements.



SEE VICTAULIC PUBLICATION 10.01 FOR DETAILS



PENDENT  
(V3421)



RECESSED PENDENT  
(V3421)



V3425 UPRIGHT

### 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:

Extended spray coverage is up to 400sq. ft./37.2sq. m per NFPA 13.

### INSTALLATION REQUIREMENTS:

Extended Coverage Ordinary Hazard sprinklers shall be installed in accordance with the guidelines in NFPA 13 using no less than the minimum allowable density for the hazard group and coverage area as outlined in the Coverage Area/Density section of the submittal. According to NFPA 13, Extended Coverage Ordinary Hazard sprinklers are intended for installation with not less than 18"/457.2 mm clearance between the sprinkler deflector and the top of the commodity in Ordinary Hazard group 1 and occupancies.

### JOB/OWNER

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

Location \_\_\_\_\_

### CONTRACTOR

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

Date \_\_\_\_\_

### ENGINEER

Spec Sect \_\_\_\_\_ Para \_\_\_\_\_

Approved \_\_\_\_\_

Date \_\_\_\_\_

[www.victaulic.com](http://www.victaulic.com)

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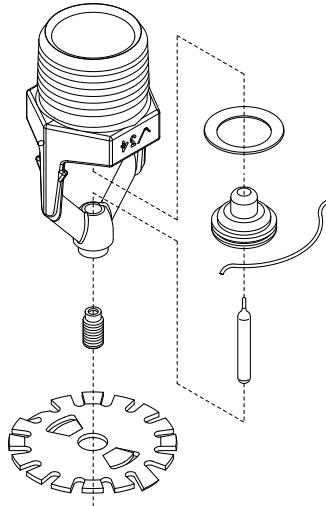
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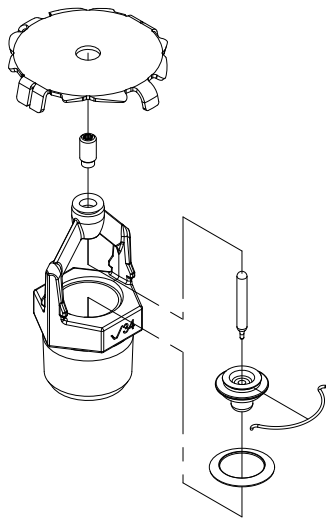
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### TECHNICAL SPECIFICATIONS:



*Exaggerated for Clarity*



*Exaggerated for Clarity*

**Models:** V3421 and V3425

**Style:** ECOH - Pendent, Recessed Pendent (V3421) and Upright (V3425)

**Nominal Orifice Size:** 3/4"/20 mm

**K-Factor:** 14.0 Imp./20.2 S.I.^

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

**Max. Working Pressure:** 175 psi/1200 kPa

**Factory Hydrostatic Test:**

100% @ 500 psi/3450 kPa

**Min. Operating Pressure:** 7.8 psi/53.8 kPa

**Temperature Rating:** See chart on page 3

### Material Specifications

**Pendent Deflector:** UNS C51000

**Bulb:** Glass with glycerin solution.

**Bulb Nominal Diameter:** 3 mm

**Load Screw:** UNS C65100

**Pip Cap:** CW602N brass alloy

**Spring:** Beryllium nickel

**Seal:** Teflon\* tape

**Frame:** Die cast brass 65-30

**Lodgement Spring:**

UNS S30200

### Accessories

#### Installation Wrench:

- Open End: V34
- Recessed: V34

#### Sprinkler Finishes:

- Plain brass
- Chrome plated
- Nickel Teflon\*
- White painted\*\*
- Custom painted\*\*

For escutcheons, boxes and other accessories refer to separate sheet.

NOTE: Weather resistant recessed escutcheons available on request.

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

\* Teflon is a registered trademark of Dupont Co.

\*\* UL Listed for corrosion resistance in all configurations.

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Model	Orifice Size	Nominal K-Factor	Response	Deflector Type	Approved Temperature Ratings ‡ (Refer to notes below.)			
					Room Size - Feet/Meters			
	Inches mm	Imperial S.I. <sup>^</sup>	Standard or Quick		14 x 14 4.3 x 4.3	16 x 16 4.9 x 4.9	18 x 18 5.5 x 5.5	20 x 20 6.1 x 6.1
V3421	¾ 20	14.0 20.2	Standard	Pendant	1 – A	1 – A	1 – A	1 – A
V3421	¾ 20	14.0 20.2	Standard	Recessed Pendant Up to ¾" Adjustment	1 – A	1 – A	1 – A	1 – A
V3425	¾ 20	14.0 20.2	Standard	Upright	2 – A	2 – A	2 – A	2 – A

‡ Listings and approval as of printing. Not all temperature rating combinations are Approved or Listed. Check Victaulic for specific combinations.

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

**APPROVED TEMPERATURE RATINGS**

Approval	Temperature Rating
1 – UL/ULC	A – 155°F/68°C, 175°F/79°C, 200°F/93°C, 286°F/141°C
2 – cULus	A – 155°F/68°C, 175°F/79°C, 200°F/93°C, 286°F/141°C

**RATINGS**

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

Sprinkler Temperature Classification	Victaulic Part Identification	Temperature – °F/°C		Glass Bulb Color
		Nominal Temperature Rating	Maximum Ambient Temperature Allowed	
Ordinary	C	155 68	100 38	Red
Intermediate	E	175 79	150 65	Yellow
Intermediate	F	200 93	150 65	Green
High	J	286 141	225 107	Blue

**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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- Always read and understand installation, care, and maintenance instructions, supplied with each box of sprinklers, before proceeding with installation of any sprinklers.
- Always wear safety glasses and foot protection.
- Depressurize and drain the piping system before attempting to install, remove, or adjust any Victaulic piping products.
- Installation rules, especially those governing obstruction, must be strictly followed.
- Painting, plating, or any re-coating of sprinklers (other than that supplied by Victaulic) is not allowed.

Failure to follow these instructions could result in serious personal injury and/or property damage.

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.

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.

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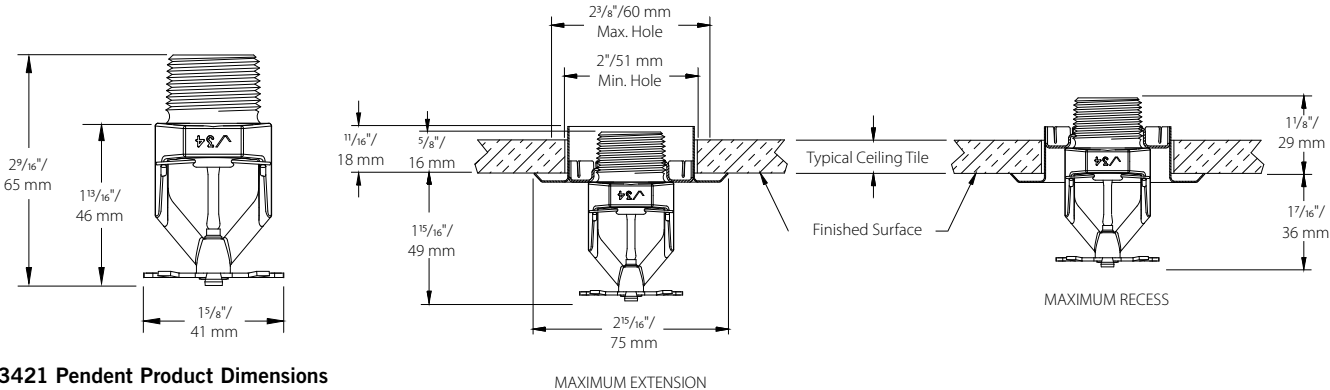
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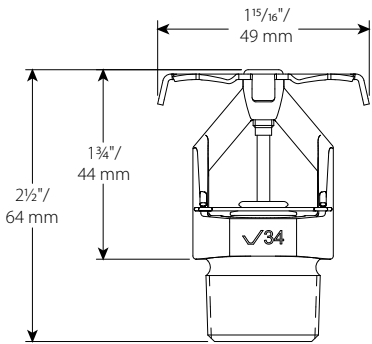
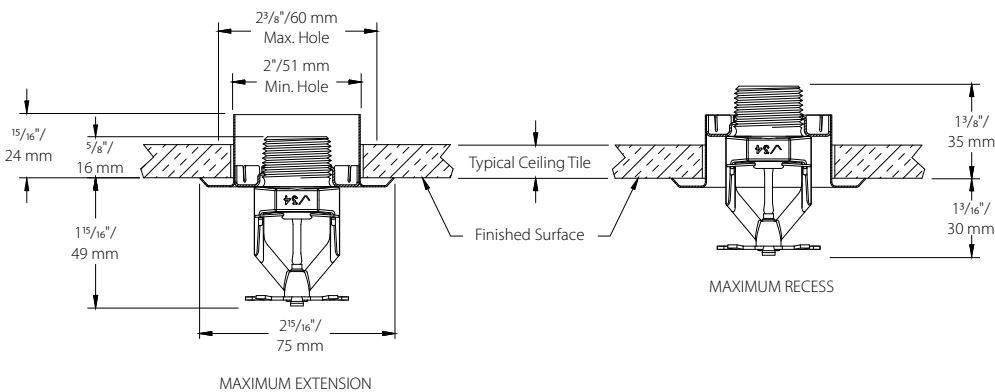
## DIMENSIONS

### ½" Adjustment Recessed – V3421 (drawing not to scale)



V3421 Pendant Product Dimensions

### ¾" Adjustment Recessed – V3421 (drawing not to scale)



V3425 Upright Product Dimensions

## AVAILABLE WRENCHES

Sprinkler Type	V34 Open End	V34 Recessed
Pendant	yes	yes
Recessed Pendant	—	yes
Upright	yes	—

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COVERAGE AREA/DENSITY

SPRINKLER PERFORMANCE FLOW AND PRESSURE (MINIMUM) V3421, V3425				
Coverage Area Feet/Meters	Ordinary Hazard Group 1		Ordinary Hazard Group 2	
	0.15 gpm/sq. ft. 6.1 mm/min		0.20 gpm/sq. ft. 8.1 mm/min	
	Flow Rate GPM/LPM	End Sprinkler Pressure psi/kPa	Flow Rate GPM/LPM	End Sprinkler Pressure psi/kPa
14 x 14	39.0	7.8	51.0	13.3
4.3 x 4.3	147.6	53.8	193.0	91.7
16 x 16	39.0	7.8	51.0	13.3
4.9 x 4.9	147.6	53.8	193.0	91.7
18 x 18	49.0	12.3	65.0	21.6
5.5 x 5.5	185.5	84.8	246.0	148.9
20 x 20	60.0	18.4	80.0	32.7
6.1 x 6.1	227.1	126.9	302.8	225.5

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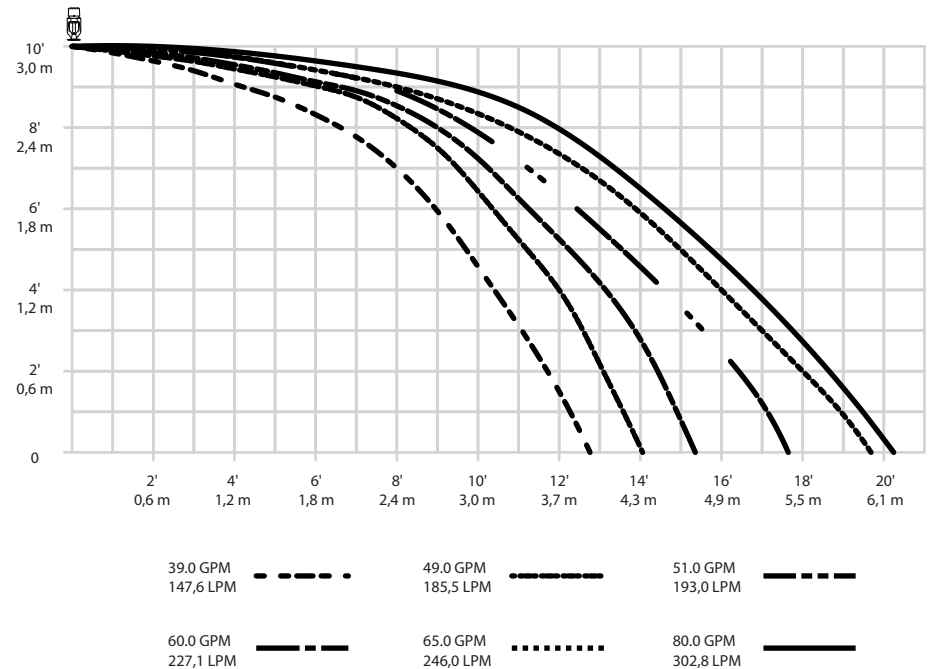
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### DISTRIBUTION PATTERNS

#### Model V3421

#### K14.0 ECOH PENDENT AND RECESSED PENDENT DISTRIBUTION PATTERNS – TRAJECTORY



Response	Minimum Installation Spacing Feet/Meters
V3421 - Standard	12.0 3.7
V3425 - Standard	8.0 2.4

#### NOTES:

- 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.
- 3 All patterns are symmetrical to the centerline of the waterway.

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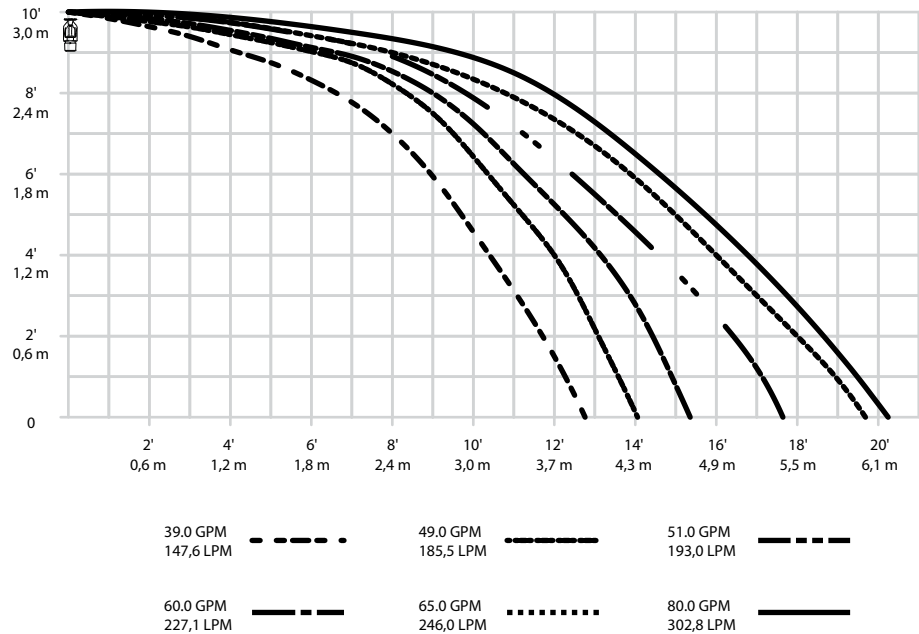
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### DISTRIBUTION PATTERNS

#### Model V3425

#### K14.0 ECOH UPRIGHT DISTRIBUTION PATTERNS - TRAJECTORY



#### NOTES:

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- 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.
- 3 All patterns are symmetrical to the centerline of the waterway.

### WARRANTY

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

### NOTE

This product shall be manufactured by Victaulic or to Victaulic specifications. All products to be installed in accordance with current Victaulic installation/assembly instructions. Victaulic reserves the right to change product specifications, designs and standard equipment without notice and without incurring obligations.

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

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