

# Victaulic® VicFlex™ Series FL-SC/VS2

## Standard Coverage, Quick/Standard Response Sprinklers

### K5.6 (80)



Patent Pending

## 1.0 PRODUCT DESCRIPTION

The Series FL-SC/VS2 is a listed sprinkler and hose assembly that has been calibrated as a K5.6. This product does not require further calculation or use of equivalent length values.

STANDARD RESPONSE RECESSED PENDENT SPRINKLER	
SIN	V3201
ORIENTATION	PENDENT
NOMINAL K-FACTOR/METRIC K-FACTOR	5.6/80
RESPONSE	Standard
CONNECTION	1" NPT/25 mm BSPT/1" IGS
MAX. WORKING PRESSURE	175 psi (1200 kPa)
ESCUTCHEON	Recessed
LENGTHS	56"/1422 mm and 68"/1727 mm

QUICK RESPONSE RECESSED PENDENT SPRINKLER	
SIN	V3202
ORIENTATION	PENDENT
NOMINAL K-FACTOR/METRIC K-FACTOR	5.6 / 80
RESPONSE	Quick
CONNECTION	1" NPT/25 mm BSPT/1" IGS
MAX. WORKING PRESSURE	175 psi (1200 kPa)
ESCUTCHEON	Recessed
LENGTHS	56"/1422 mm and 68"/1727 mm

STANDARD RESPONSE CONCEALED PENDENT SPRINKLER	
SIN	V3203
ORIENTATION	CONCEALED PENDENT
NOMINAL K-FACTOR/METRIC K-FACTOR	5.6/80
RESPONSE	Standard
CONNECTION	1" NPT/25 mm BSPT/1" IGS
MAX. WORKING PRESSURE	175 psi (1200 kPa)
ESCUTCHEON	Concealed
LENGTHS	56"/1422 mm and 68"/1727 mm

QUICK RESPONSE CONCEALED PENDENT SPRINKLER	
SIN	V3204
ORIENTATION	CONCEALED PENDENT
NOMINAL K-FACTOR/METRIC K-FACTOR	5.6/80
RESPONSE	Quick <sup>1</sup>
CONNECTION	1" NPT/25 mm BSPT/1" IGS
MAX. WORKING PRESSURE	175 psi (1200 kPa)
ESCUTCHEON	Concealed
LENGTHS	56"/1422 mm and 68"/1727 mm

AVAILABLE WRENCHES	
SPRINKLER	V32 Socket
Pendent	■

**Factory Hydrostatic Test:** 100% @ 500 psi/3447 kPa/34 bar

**Min. Operating Pressure:** 7 psi/48 kPa/.5 bar

**Temperature Rating:** See tables in [Section 2.0](#)

<sup>1</sup> V3204 is a Standard Response FM sprinkler

ALWAYS REFER TO ANY NOTIFICATIONS AT THE END OF THIS DOCUMENT REGARDING PRODUCT INSTALLATION, MAINTENANCE OR SUPPORT.



## 2.0 CERTIFICATIONS/LISTINGS



APPROVALS/LISTINGS						
SIN	V3201	V3202	V3203	Cover Plate (V3203)	V3204	Cover Plate (V3204)
Nominal K Factor (gpm/(psi) <sup>1/2</sup> )	5.6	5.6	5.6	–	5.6	–
Metric K-Factor (lpm/(bar) <sup>1/2</sup> )	80	80	80	–	80	–
Response	Standard	Quick	Standard	–	Quick <sup>2</sup>	–
Deflector Type	Recessed	Recessed	Concealed <sup>3</sup>	–	Concealed <sup>1,3</sup>	–
Approved Temperature Ratings F°/C°						
cULus	155°F/68°C 200°F/93°C	155°F/68°C 200°F/93°C	155°F/68°C 200°F/93°C	–	155°F/68°C 200°F/93°C	135°F/57°C 165°F/74°C
FM	155°F/68°C 200°F/93°C	155°F/68°C 200°F/93°C	–	135°F/57°C 165°F/74°C	155°F/68°C 200°F/93°C	135°F/57°C 165°F/74°C

- <sup>1</sup> The V3204 is UL-Listed as a standard response sprinkler when installed with a gasketed coverplate. Coverplate gaskets are optional and ordered separately.
- <sup>2</sup> V3204 is a Standard Response FM sprinkler.
- <sup>3</sup> These sprinklers are required to be vented. Installations with a positive pressure air plenum above the housing is not permitted.

### NOTES

- Reference the specific agency website listing for the most up-to-date certification information.
- For system design purposes, no equivalent length calculations are required.

MAXIMUM ALLOWABLE NUMBER OF BENDS			
Nominal Sprinkler Length inches mm	Maximum Allowable Number of 90° Bends at 2"/51mm Bend Radius for UL Listing		Maximum Allowable Number of 90° Bends at 7"/178mm Bend Radius for FM Approval
	56.0	4	
1422	4		3
68.0	4		3
1727	4		3

Agency	Approved/Listed Bracket Styles
UL	AB2, AB4, AB5, AB10
FM	AB2, AB3, AB4, AB5, AB7, Adjustable AB7, AB10, AB12, ABBA, ABMM

### 3.0 SPECIFICATIONS – MATERIAL

**Deflector:** Brass

**Bulb Nominal Diameter:**

Quick Response: 3.0mm

Standard Response: 5.0mm

**Load Screw:** Brass

**Pip Cap:** Brass

**Spring Seal Assembly:** PTFE Coated Beryllium Nickel Alloy

**Frame:** Brass

**Escutcheon/Plate:** 1010 - 1018 Mild Steel and Stainless Steel

**Concealed Cup:** Carbon Steel, Zinc-Plated

**Concealed Cover Plate Gasket:** White Nitrile (clean room use only)

**Installation Wrench:** Ductile Iron

**Sprinkler Frame Finishes:**

Plain Brass

Chrome Plated

White Painted

**Flexible Hose**

**Flexible Hose:** Stainless Steel

**Collar/Weld Fitting:** Stainless Steel

**Gasket Seal:** Victaulic EPDM

**Nut Isolation Ring:** Nylon

**Coupling Isolation Ring:** Polyethylene

**Tamper Cover:** Polyethylene/Polypropylene

**Threaded Hose Fittings:** Carbon steel, Zinc-Plated

**Coupling**

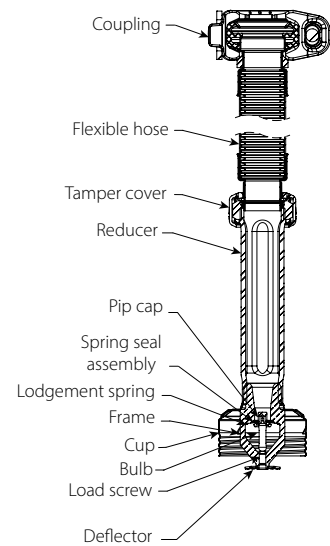
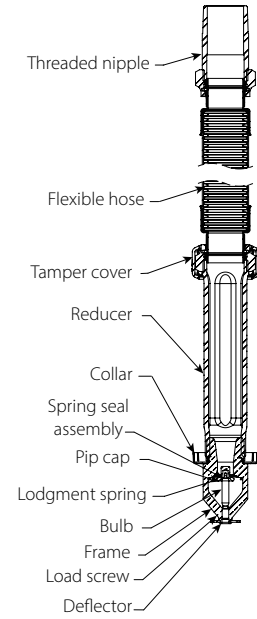
**Coupling Housing:** Ductile Iron

**Coupling Gasket:** Grade “E” EPDM (Type A) Vic-Plus™  
Pre-lubricated Gasket

**Coupling Bolts/Nut:** Carbon Steel, Zinc-Plated

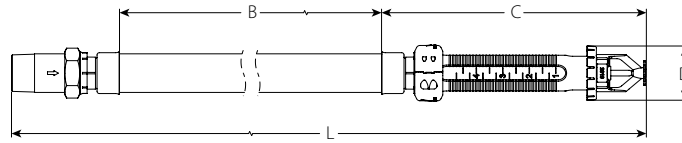
**Coupling Linkage:** Alloy Steel, Zinc-Plated

**Brackets:** Carbon Steel, Zinc-Plated



## 4.0 DIMENSIONS

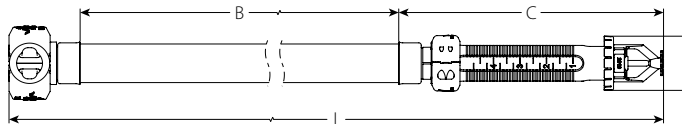
### Threaded Recessed



Sprinkler	Dimensions			
Nominal Length	Overall Length L	Live Length B	Outlet End Length C	Sprinkler OD D
inches	inches	inches	inches	inches
mm	mm	mm	mm	mm
56.0	58.1	45.3	9.3	2.0
1422	1476	1147	236	49
68.0	70.1	57.3	9.3	2.0
1727	1781	1452	236	49

## 4.1 DIMENSIONS

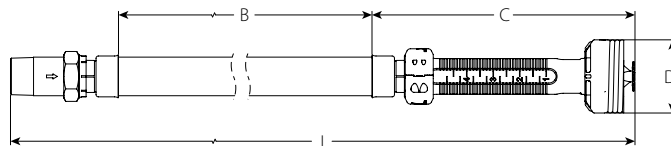
### Grooved Recessed



Sprinkler	Dimensions			
Nominal Length	Overall Length L	Live Length B	Outlet End Length C	Sprinkler OD D
inches	inches	inches	inches	inches
mm	mm	mm	mm	mm
56.0	56.8	45.3	9.3	2.0
1422	1442	1147	236	49
68.0	68.8	57.3	9.3	2.0
1727	1747	1452	236	49

## 4.2 DIMENSIONS

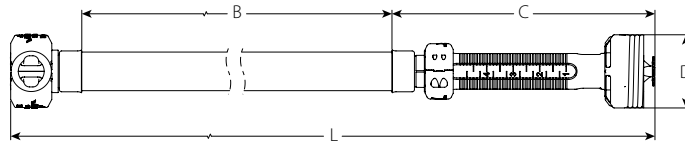
### Threaded Concealed



Sprinkler	Dimensions			
Nominal Length	Overall Length L	Live Length B	Outlet End Length C	Sprinkler OD D
inches	inches	inches	inches	inches
mm	mm	mm	mm	mm
56.0	58.1	45.3	9.3	2.6
1422	1476	1147	234	65
68.0	70.1	57.3	9.3	2.6
1727	1781	1452	234	65

### 4.3 DIMENSIONS

#### Grooved Concealed



Sprinkler Nominal Length inches mm	Dimensions			
	Overall Length L inches mm	Live Length B inches mm	Outlet End Length C inches mm	Sprinkler OD D inches mm
56.0 1422	56.8 1442	45.3 1147	9.3 232	2.6 65
68.0 1727	68.8 1747	57.3 1452	9.3 232	2.6 65

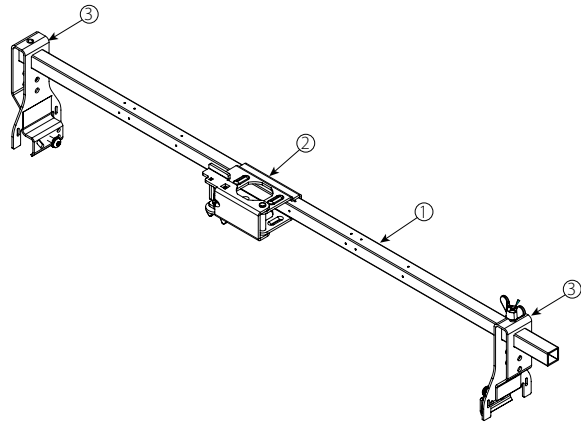
## 4.4 DIMENSIONS

### VicFlex™ Brackets

#### Style AB2

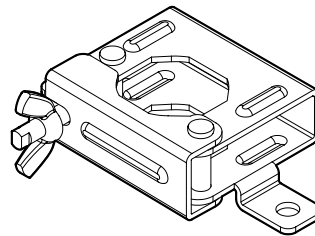
- Suspended Ceilings
- Hard-Lid Ceilings

Item	Description
1	24"/610 mm or 48"/1219 mm Square Bar
2	Patented Vertically Adjustable Center Bracket
3	End Bracket



#### Style AB3

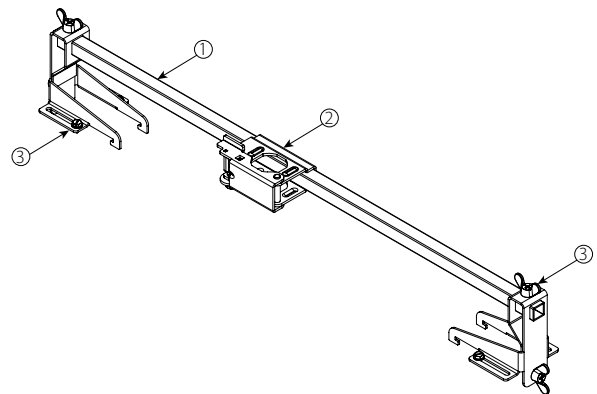
- Surface Mount Applications
- FM/LPCB Approved



#### Style AB4

- Hard-Lid Ceilings with Hat Furring Channel Grid System

Item	Description
1	24"/610 mm or 48"/1219 mm Square Bar
2	Patented Vertically Adjustable Center Bracket
3	End Bracket for Hat Furring Channel



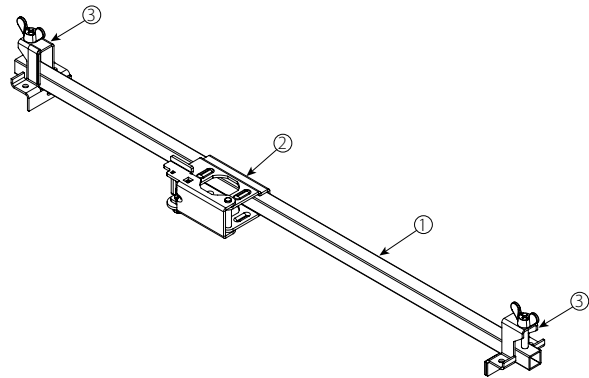
## 4.4 DIMENSIONS (CONTINUED)

### VicFlex™ Brackets

#### Style AB5

- Hard-Lid Ceilings

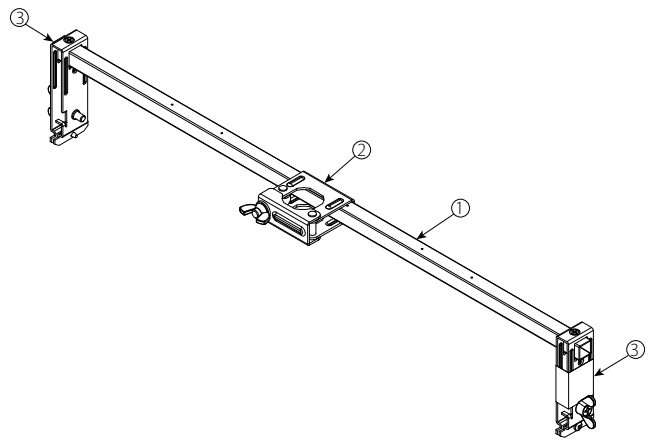
Item	Description
1	24"/610 mm or 48"/1219 mm Square Bar
2	Patented Vertically Adjustable Center Bracket
3	End Bracket



#### Style AB7

- Suspended Ceilings
- Hard-Lid Ceilings

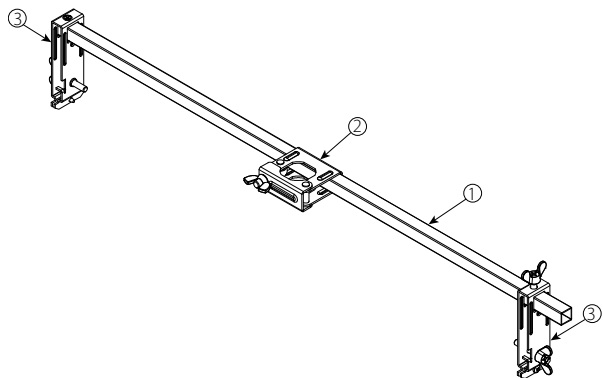
Item	Description
1	24"/610 mm or 48"/1219 mm Square Bar
2	Patented 1-Bee2™ Center Bracket
3	End Bracket



#### Style AB7 Adjustable

- Suspended Ceilings
- Hard-Lid Ceilings

Item	Description
1	700 mm or 1400 mm Square Bar
2	Patented 1-Bee2™ Center Bracket
3	End Bracket (adjustable)



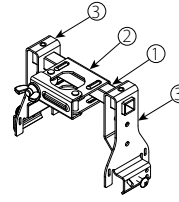
## 4.4 DIMENSIONS (CONTINUED)

### VicFlex™ Brackets

#### Style AB10

- Suspended Ceilings
- Armstrong® TechZone™

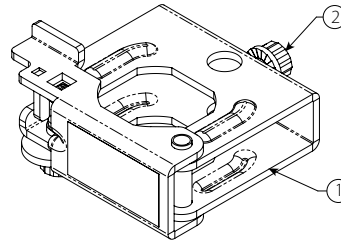
Item	Description
1	6"/152 mm Square Bar
2	Patented 1-Bee2™ Center Bracket
3	End Bracket



#### Style AB12

- Suspended Ceilings
- Hard-Lid Ceilings

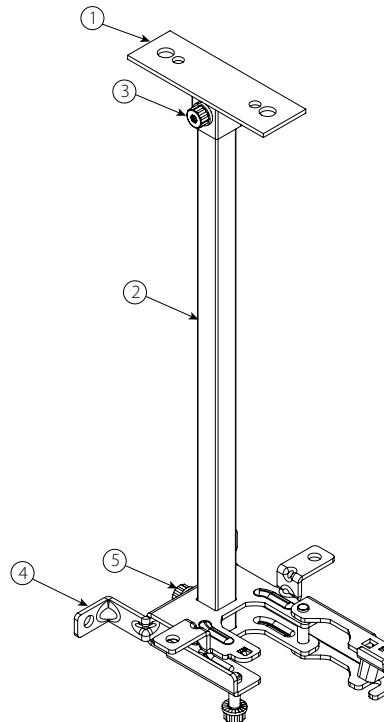
Item	Description
1	Style AB12 Bracket Body
2	T25 Drive Set Screw



#### Style ABBA

- Floor-above Mount
- Cantilever Mount
- Temporary Mount in Exposed Ceilings

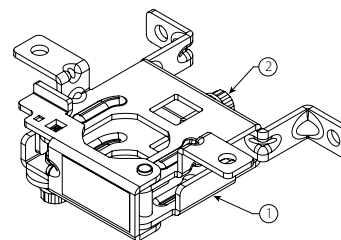
Item	Description
1	Style ABBA Mounting Plate
2	Style ABBA Square Bar
3	Cap Screw, Serrated Flange, M6 × 1 × 20, T25 Torx Drive Recessed
4	Style ABMM Bracket Body
5	Cap Screw, Serrated Flange, M6 × 1 × 15.24, T25 Torx Drive Recessed



#### Style ABMM

- Surface Mount
- Stand-off Mount

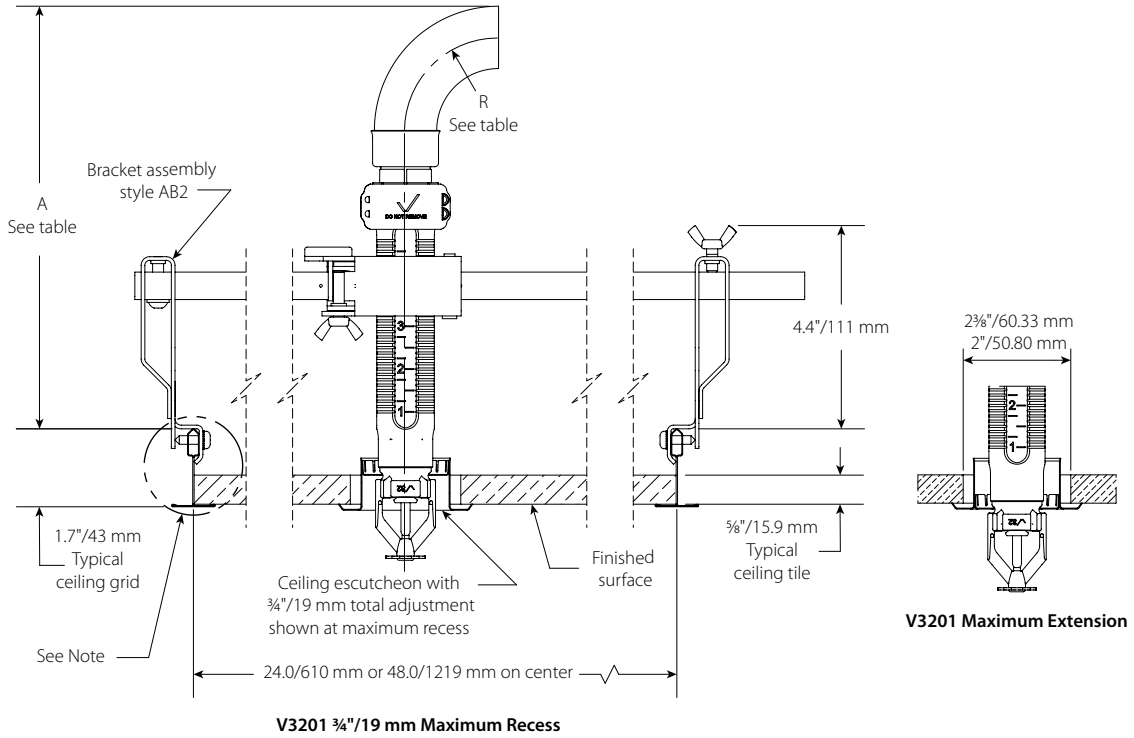
Item	Description
1	Style ABMM Bracket Body
2	Cap Screw, Serrated Flange, M6 × 1 × 15.24, T25 Torx Drive Recessed



## 4.5 DIMENSIONS

### Clearances

#### Series FL-SC/VS2 Recessed Pendant and Style AB2 Bracket



Dimension	V3201/V3202 Recessed Pendant 3/4" Max Recess		V3203/V3204 Concealed Pendant 1/8" Max Recess		
	inches	mm	inches	mm	
R	Bend Radius	2.0 51	7.0 178	2.0 51	7.0 178
A	Minimum Required Installation Space	9.1 231	14.1 358	10.4 261	15.4 388

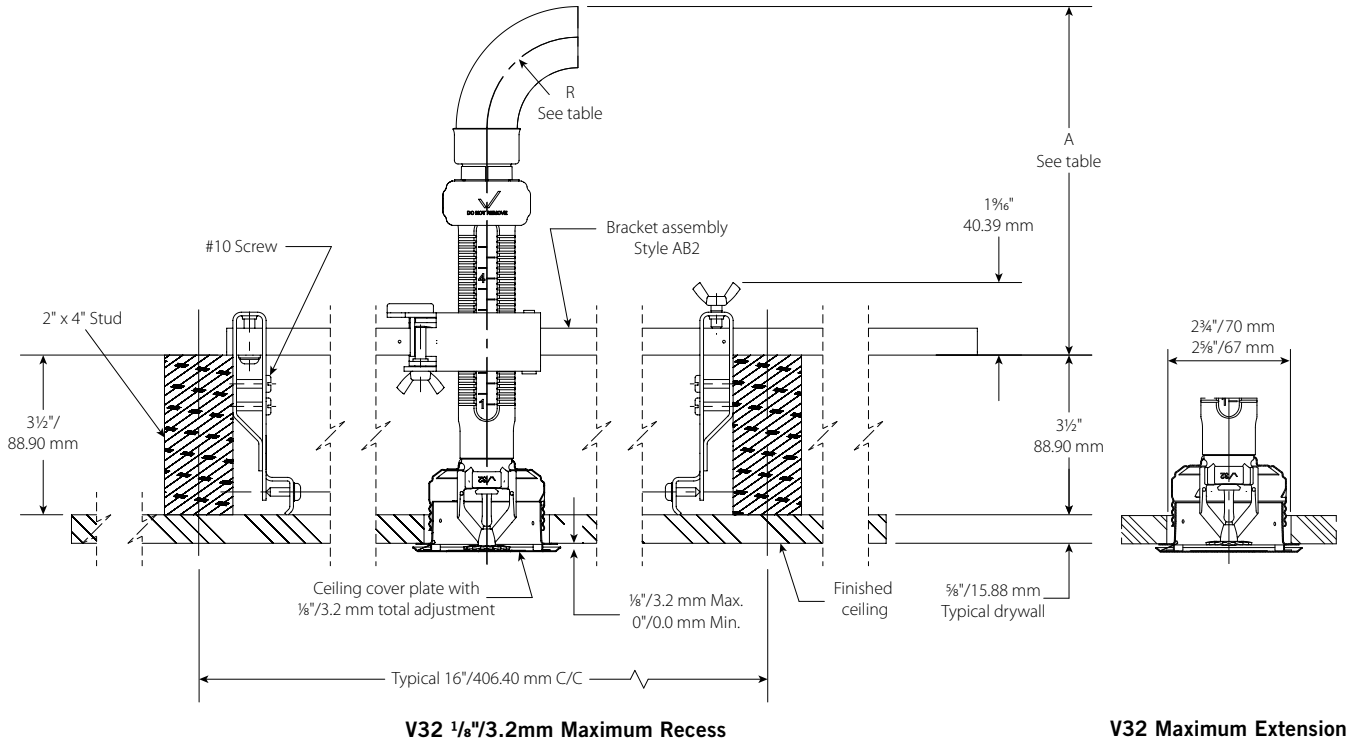
**NOTE**

- Typical T-bar grid and ceiling tile shown. Variations of T-bar and ceiling tile may be used but may result in dimensional changes from layouts depicted in this submittal. Variations of ceiling grids and brackets are permitted but may result in clearance differences from the figures depicted.

## 4.5 DIMENSIONS (CONTINUED)

### Clearances

#### Series FL-SC/VS2 Concealed Pendant and Style AB2 Bracket



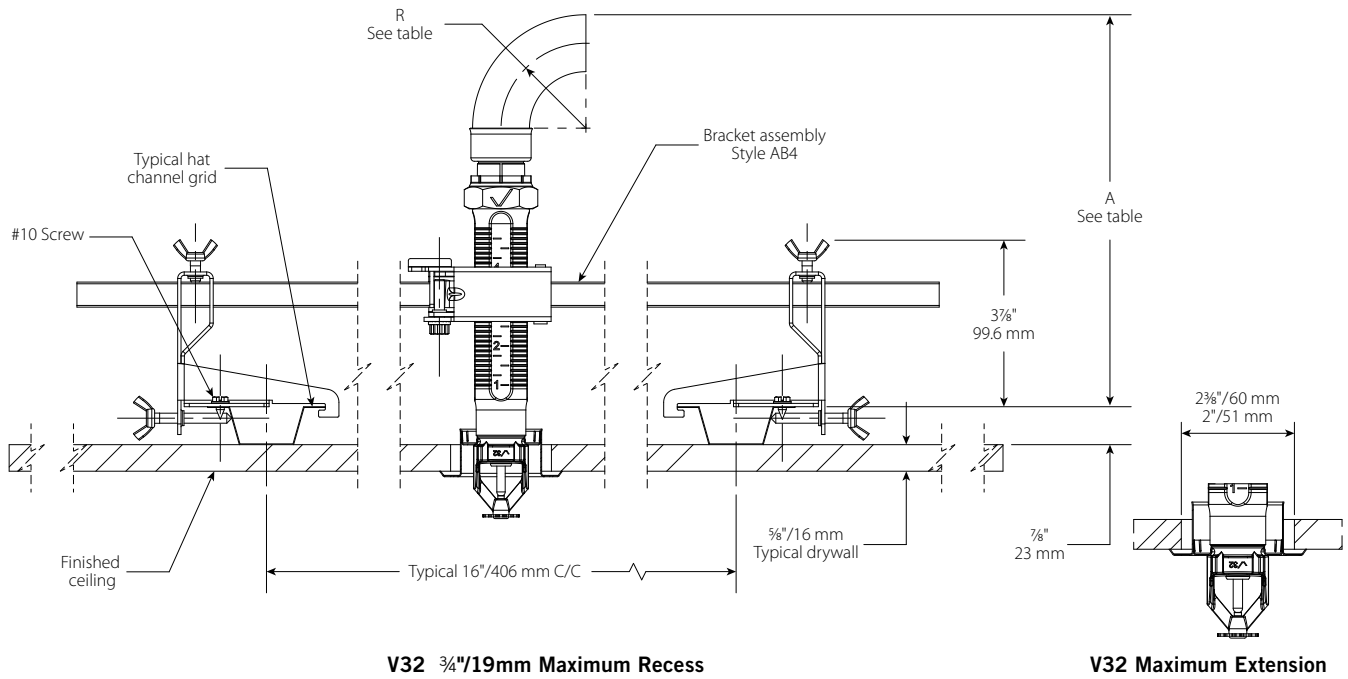
**NOTE**

- Variations of ceiling grids and brackets are permitted but may result in clearance differences from the figures depicted.

Dimension	V3201/V3202 Recessed Pendant 3/4" Max Recess		V3203/V3204 Concealed Pendant 1/8" Max Recess		
	inches	mm	inches	mm	
R	Bend Radius	2.0 51	7.0 178	2.0 51	7.0 178
A	Minimum Required Installation Space	10.8 272	15.8 399	11.9 302	16.9 429

## 4.6 DIMENSIONS

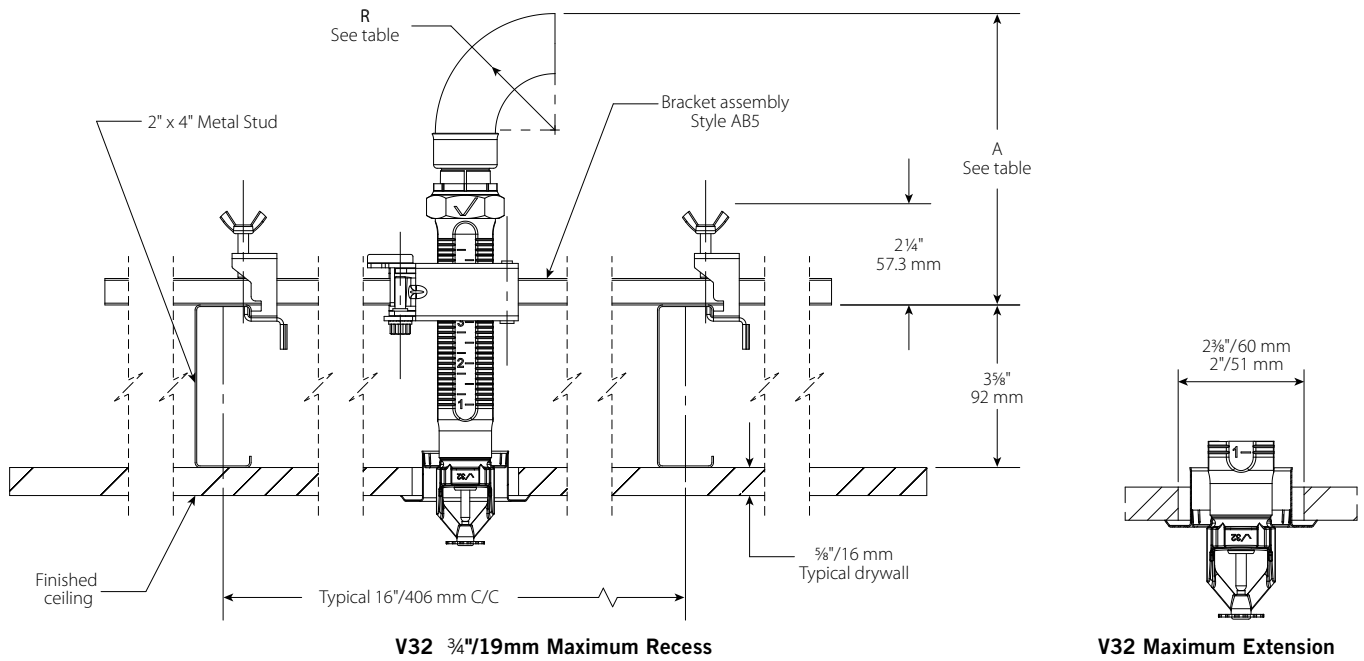
### AB4 Clearances



Dimension	V3201/V3202 Recessed Pendant 3/4" Max Recess		V3203/V3204 Concealed Pendant 1/8" Max Recess	
	inches	mm	inches	mm
R	Bend Radius	2.0 51	7.0 178	2.0 51 7.0 178
A	Minimum Required Installation Space	9.5 242	14.5 369	10.8 272 15.8 399

## 4.7 DIMENSIONS

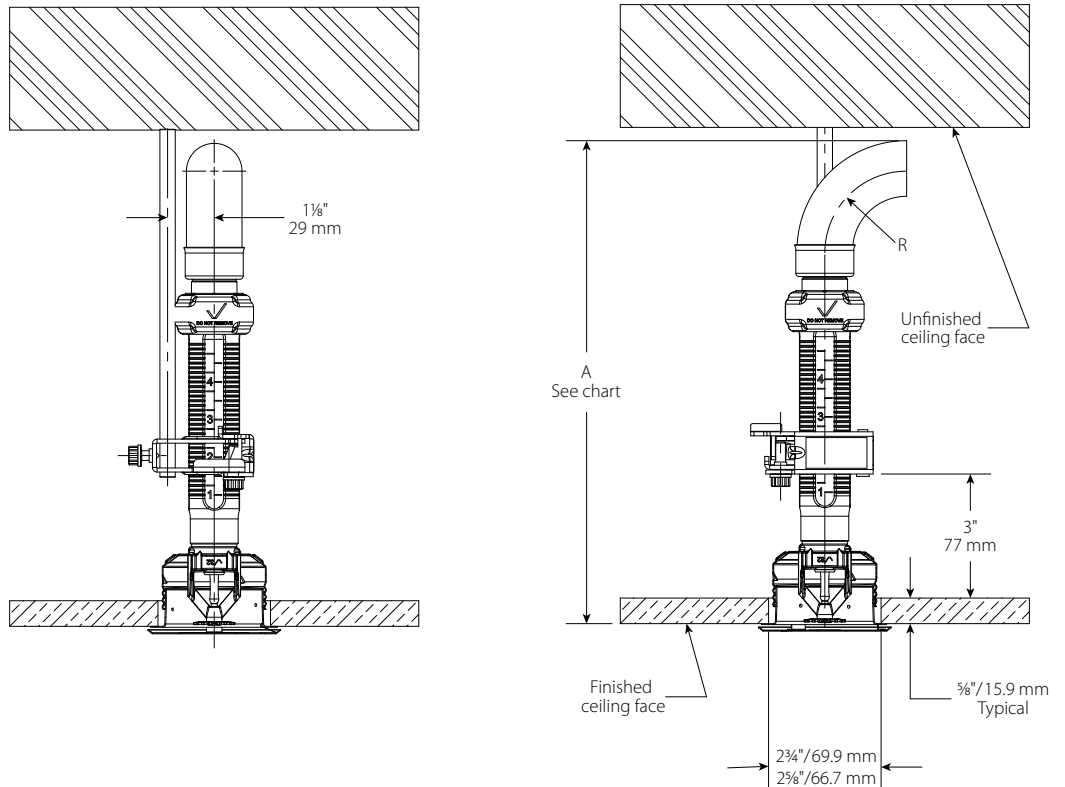
### AB5 Clearances



Dimension	V3201/V3202 Recessed Pendant 3/4" Max Recess		V3203/V3204 Concealed Pendant 1/8" Max Recess		
	inches	mm	inches	mm	
R	Bend Radius	2.0 51	7.0 178	2.0 51	7.0 178
A	Minimum Required Installation Space	9.5 242	14.5 369	10.8 272	15.8 399

## 4.8 DIMENSIONS

### AB12 Clearances

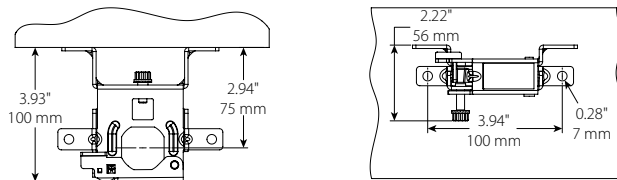


V32 1/8"/3.18mm Maximum Recess

Dimension		V3201 Recessed Pendant 3/4" Max Recess		V3203 Concealed Pendant 1/8" Max Recess	
		inches	mm	inches	mm
R	Bend Radius	2.0	51	2.0	51
				7.0	178
A	Minimum Required Installation Space	10.6	270	11.9	300
				16.9	427

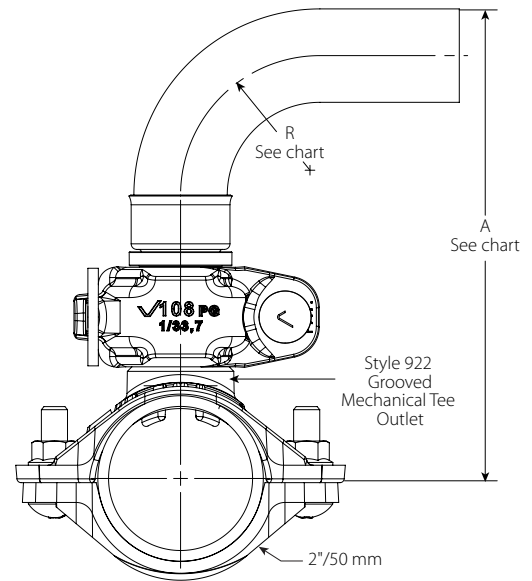
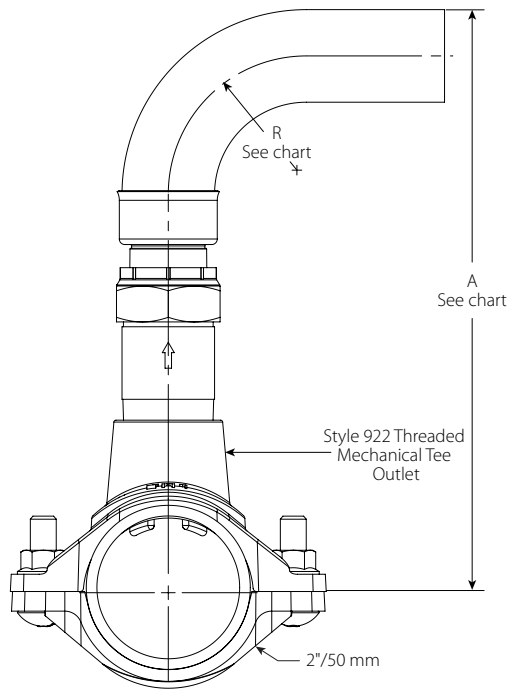
### Style ABMM Bracket

#### Stand-off Dimensions

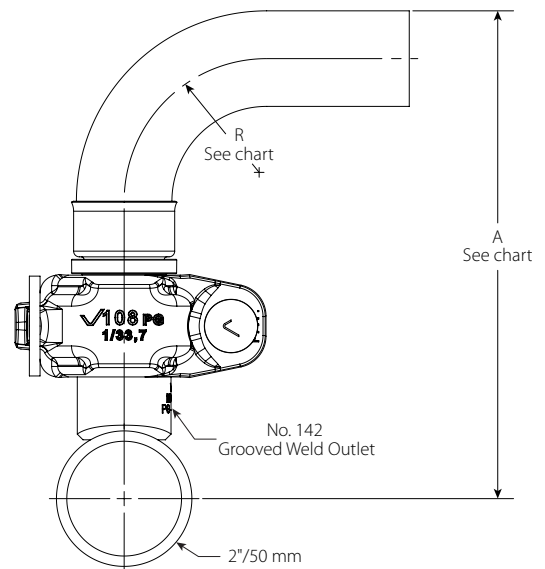
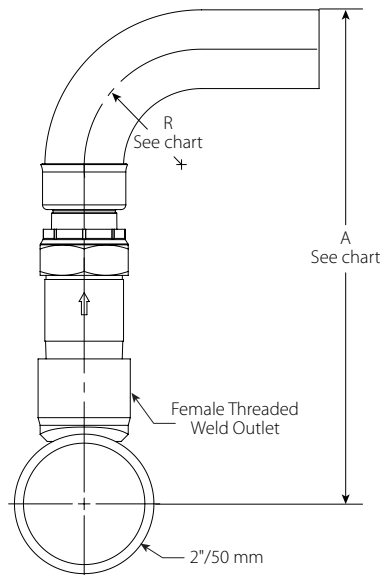


## 4.9 DIMENSIONS

### Branchline Clearances



Dimension		Threaded Branchline into Female Threaded S/922 Outlet inches mm		S/108 Coupling Branchline into S/922 Grooved Outlet inches mm	
R	Bend Radius	2.0 51	7.0 178	2.0 51	7.0 178
A	Minimum Required Installation Space	8.5 214	13.5 341	6.8 171	11.8 298



Dimension		Threaded Branchline into Female Threaded Weld Outlet inches mm		S/108 Coupling Branchline into N/142 Grooved Weld Outlet inches mm	
R	Bend Radius	2.0 51	7.0 178	2.0 51	7.0 178
A	Minimum Required Installation Space	8.5 214	13.5 341	7.1 181	12.1 308

## 5.0 PERFORMANCE

Sprinkler Systems are to be designed to and installed per NFPA, FM Datasheets, and any local standards.

## 6.0 NOTIFICATIONS

### WARNING



- Read and understand all instructions before attempting to install any Victaulic products.
  - Always verify that the piping system has been completely depressurized and drained immediately prior to installation, removal, adjustment, or maintenance of any Victaulic products.
  - Wear safety glasses, hardhat, and foot protection.
- Failure to follow these instructions could result in death or serious personal injury and property damage.

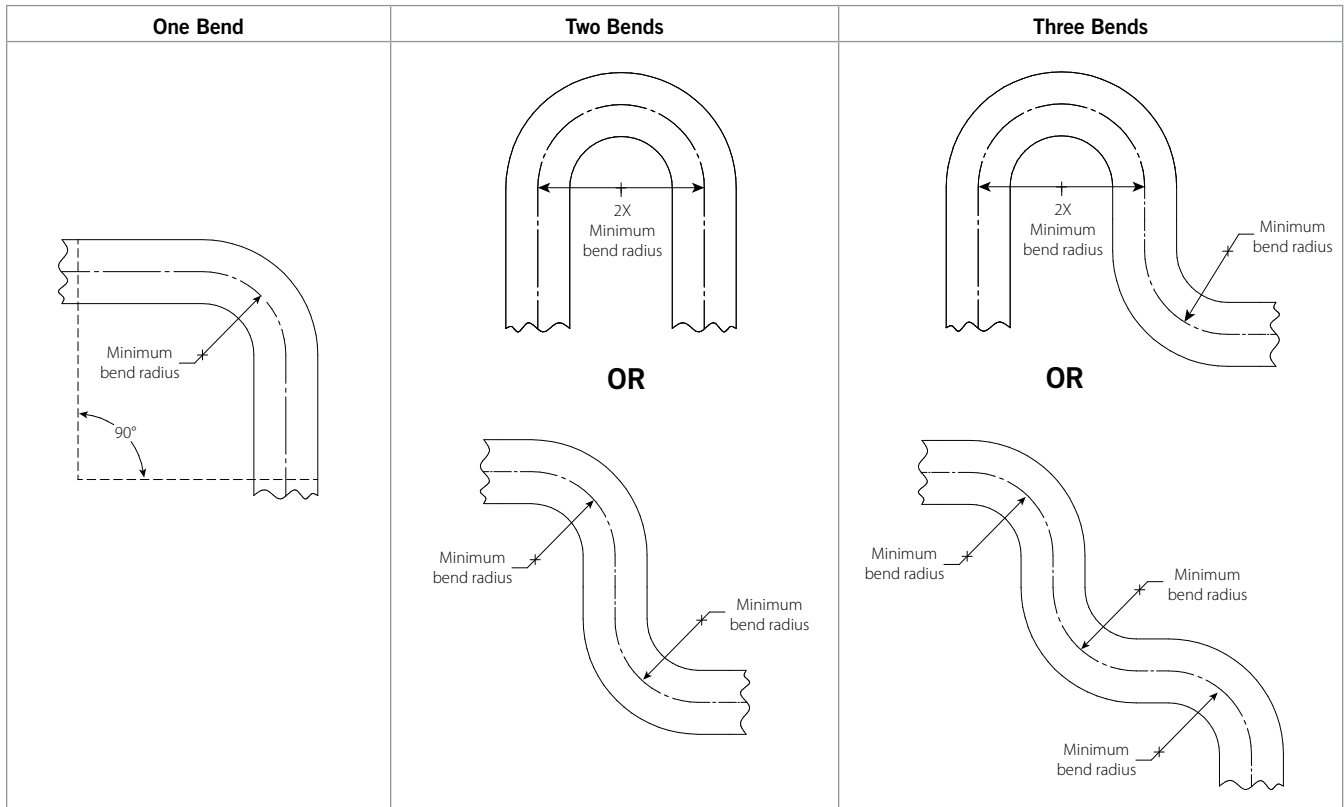
- These products shall be used only in fire protection systems that are designed and installed in accordance with current, applicable National Fire Protection Association (NFPA) standards, or equivalent local and national fire protection standards, and in accordance with applicable building and fire codes. These standards and codes contain important information regarding protection of systems from freezing temperatures, corrosion, mechanical damage, etc.
- The installer shall understand the use of this product and why it was specified for the particular application.
- The installer shall understand common industry safety standards and potential consequences of improper product installation.
- It is the system designer's responsibility to verify suitability of materials for use with the intended fluid media within the piping system and external environment.
- The material specifier shall evaluate the internal and external effect of chemical composition, pH level, operating temperature, chloride level, oxygen level, and flow rate on materials to confirm system life will be acceptable for the intended service.
- It is the responsibility of the owner of a building or their authorized agent to provide the sprinkler system installer with any knowledge that the water supply might be contaminated with or conducive to the development of microbiologically influenced corrosion (MIC), including as required by NFPA 13. Failure to identify adverse water quality issues may affect the *VicFlex* product and void the manufacturer's warranty.

Failure to follow installation requirements and local and national codes and standards could compromise system integrity or cause system failure, resulting in death or serious personal injury and property damage.

**DO NOT** paint, coat, or firestop the outlet/inlet portion of the Series FL-SC/VS2. Braided hose and fitting portions of the Series FL-SC/VS2 may be painted/coated or caulked around, including fire barrier sealant, provided that the substance is compatible with stainless steel and zinc-plated carbon steel or ductile iron. Care shall be taken to ensure that the sprinkler and associated components do not come into contact with paint/coatings and caulking.

Series FL-SC/VS2 that penetrate through non-fire rated gypsum wall (drywall) will function as designed, provided the components are installed in accordance with the respective installation instructions referenced in this document.

## 7.0 REFERENCE MATERIALS



**NOTE**

- For out-of-plane (three-dimensional) bends, care must be taken to avoid imparting torque on the hose.

### VicFlex™ Maximum Load Values

#### Series FL-SC/VS2 with 24" Bracket

Sprinkler Length inches/mm	Total Load		Max. Uniform Load	
	lb	N	lb/linear ft	N/linear m
56/1422	6.8	30.3	3.4	49.6
68/1727	7.5	33.4	3.8	55.5

#### Series FL-SC/VS2 with 48" Bracket

Sprinkler Length inches/mm	Total Load		Max. Uniform Load	
	lb	N	lb/linear ft	N/linear m
56/1422	7.7	34.3	1.9	27.7
68/1727	8.5	37.8	2.1	30.7

Total Load is defined as the sum of the weights of the following:

- Water-Filled Sprinkler Assembly
- Bracket Assembly (any applicable Victaulic bracket model of the relevant associated size)

#### ASTM C635: Suspension System Load-Carrying Capabilities (excerpted)

Suspension System	Duty Classification	Min. Allowable Uniform Load	
		lb/linear ft	N/linear m
Direct-Hung	Light	5.0	73.0
	Intermediate	12.0	175.0
	Heavy	16.0	233.0

**Summary:** All direct-hung suspension system duty classifications per ASTM C635 are able to withstand the maximum water-filled weight of the *VicFlex* Sprinkler Assembly and bracket.

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## 7.0 REFERENCE MATERIALS (CONTINUED)

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**Ratings:** All glass bulbs are rated for temperatures from -67°F/-55°C.

[I-VICFLEX: Field Installation Handbook](#)

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### User Responsibility for Product Selection and Suitability

Each user bears final responsibility for determining the suitability of Victaulic products for their end-use application, in accordance with industry standards, project specifications, and Victaulic's published performance, maintenance, and safety data, as well as all warnings and installation instructions. Nothing in this or any other document, nor any verbal recommendation, advice, or opinion from any Victaulic employee, shall be deemed to alter, vary, supersede, or waive any provision of Victaulic Company's standard conditions of sale, warranty, installation instructions, or this disclaimer.

### Installation

Always refer to and follow the [Victaulic Installation Handbook](#) or installation instructions for the product you are installing. Handbooks are included with each shipment of Victaulic products, providing complete installation and assembly data, and are available in PDF format on our website at [victaulic.com](http://victaulic.com).

### Warranty

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

### Intellectual Property Rights

No statement concerning the use of any material, product, service, or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Victaulic or any of its affiliates, or as a recommendation for the use of such material, product, service, or design in the infringement of any patent or other intellectual property right. The terms "Patented" or "Patent Pending" refer to design or utility patents or patent applications for articles and/or methods of use in the United States and/or other countries. Victaulic and all other Victaulic marks are the trademarks or registered trademarks of Victaulic Company, and/or its affiliated entities, in the U.S. and/or other countries.

### Note

All products bearing a Victaulic trademark are manufactured by Victaulic or to Victaulic specifications. All products are to be installed only in accordance with the applicable Victaulic installation instructions. Victaulic reserves the right to change product specifications, designs and standard equipment without notice and without incurring obligations.