

# 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/25mm BSPT/1" IGS
MAX. WORKING PRESSURE	175 psi (1200 kPa)
ESCUICHEON	Recessed
LENGTHS	56"/1422mm and 68"/1727mm

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

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

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

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

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

## 2.0 CERTIFICATION/LISTINGS



APPROVALS/LISTINGS				
SIN	V3201	V3202	V3203	V3204 <sup>1</sup>
Nominal K Factor Imperial	5.6	5.6	5.6	5.6
Metric K-Factor (lpm/(bar) <sup>1/2</sup> )	80	80	80	80
Orientation	Pendent	Pendent	Pendent	Pendent
Escutcheon	Recessed	Recessed	Concealed	Concealed
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

<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.

### NOTES

- Listings and approval as of printing.
- For system design purposes, no equivalent length calculations are required.
- These sprinklers are required to be vented. Installations with a positive pressure air plenum above the housing are not permitted.

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

Agency	Approved/Listed Bracket Styles
UL	AB2, AB4, AB5, AB10

### 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

**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:** Polyethelene

**Tamper Cover:** Polyethelene/Polypropylene

**Threaded Hose Fittings:** Carbon steel, zinc-plated

**Coupling**

**Coupling Housing:** Ductile iron

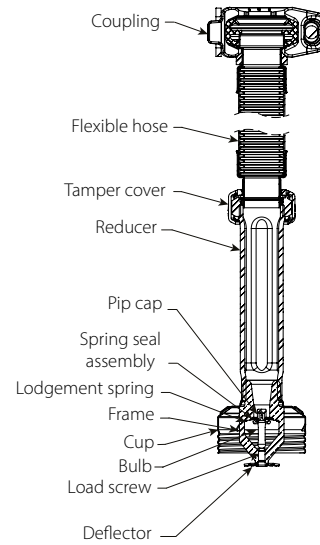
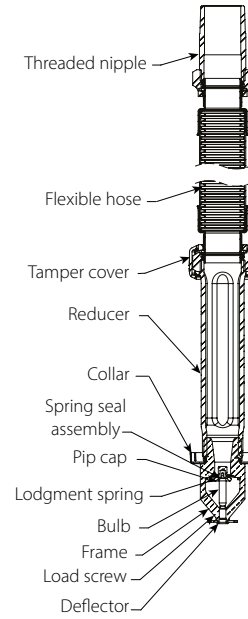
**Coupling Gasket:** Grade “E” EPDM (Type A) Vic-Plus™  
Pre-lubricated Gasket

**Coupling Bolts/Nut:** Carbon steel, zinc-plated

**Coupling Linkage:** Alloy Steel, zinc-plated

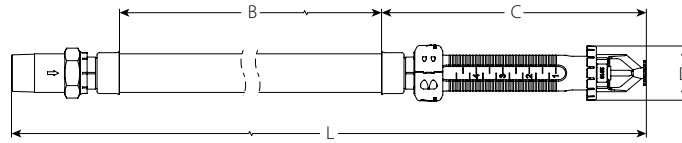
**Brackets:** Carbon steel, zinc-plated

**Concealed Cover Plate Gasket:** White nitrile (Clean room use only)



## 4.0 DIMENSIONS

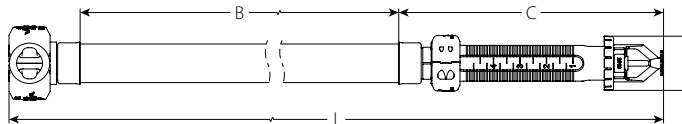
### Threaded Recessed



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	234	49
68.0	70.1	57.3	9.3	2.0
1727	1781	1452	234	49

## 4.1 DIMENSIONS

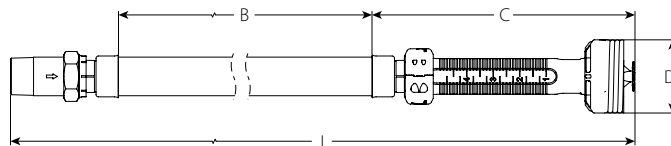
### Grooved Recessed



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	232	49
68.0	68.8	57.3	9.3	2.0
1727	1747	1452	232	49

## 4.2 DIMENSIONS

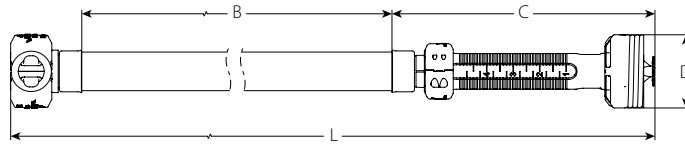
### Threaded Concealed



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

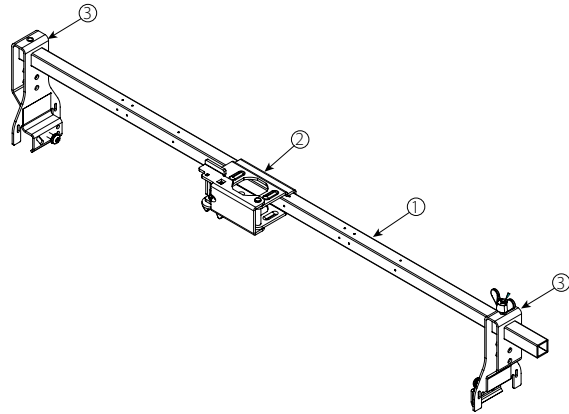
## 4.4 DIMENSIONS

### VicFlex Brackets

#### Style AB2

- Suspended Ceilings
- Hard-Lid Ceilings

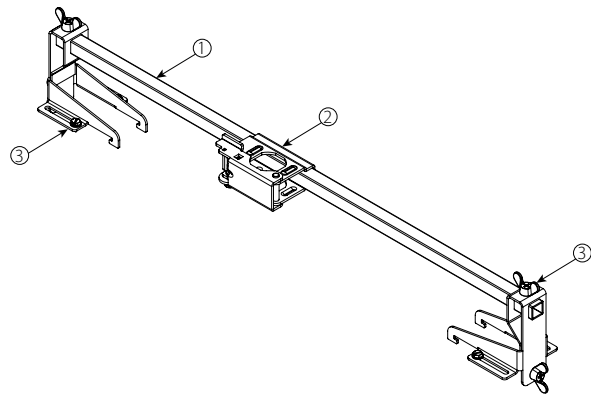
Item	Description
1	24"/610mm or 48"/1219mm Square Bar <sup>1</sup>
2	Patent-Pending Adjustable Center bracket
3	End Bracket (adjustable)



#### Style AB4

- Hard-Lid Ceilings with Hat furring channel grid system

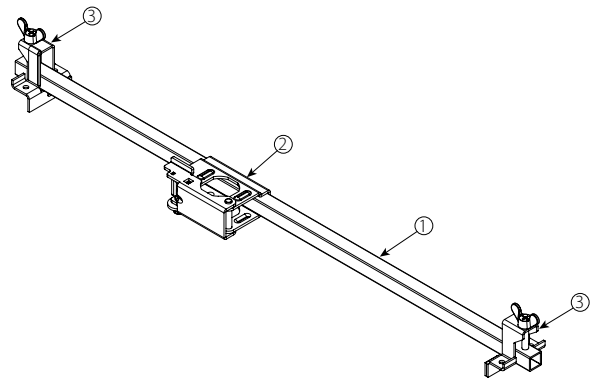
Item	Description
1	24"/610mm or 48"/1219mm Square Bar <sup>1</sup>
2	Patent-Pending Adjustable Center bracket
3	Adjustable End Bracket for Hat Furring Channel



#### Style AB5

- Hard-Lid Ceilings

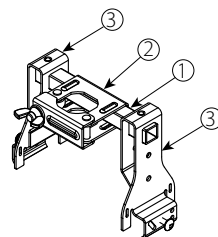
Item	Description
1	24"/610 mm or 48"/1220 mm Square Bar
2	Patented Vertically Adjustable Center Bracket
3	End Bracket (adjustable)



#### Style AB10

- Suspended ceilings
- Armstrong® TechZone™

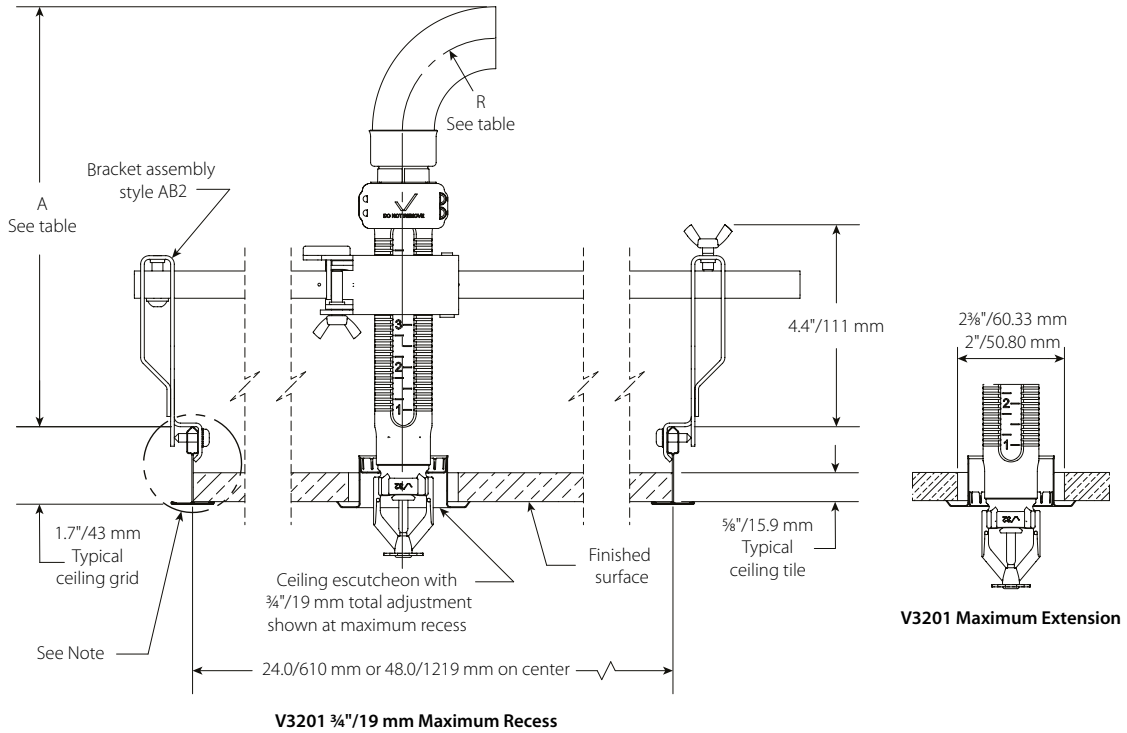
Item	Description
1	6"/152mm Square Bar <sup>1</sup>
2	Patented 1-Bee <sup>2</sup> ® Center Bracket
3	End Bracket



## 4.5 DIMENSIONS

### Clearances

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



#### NOTE

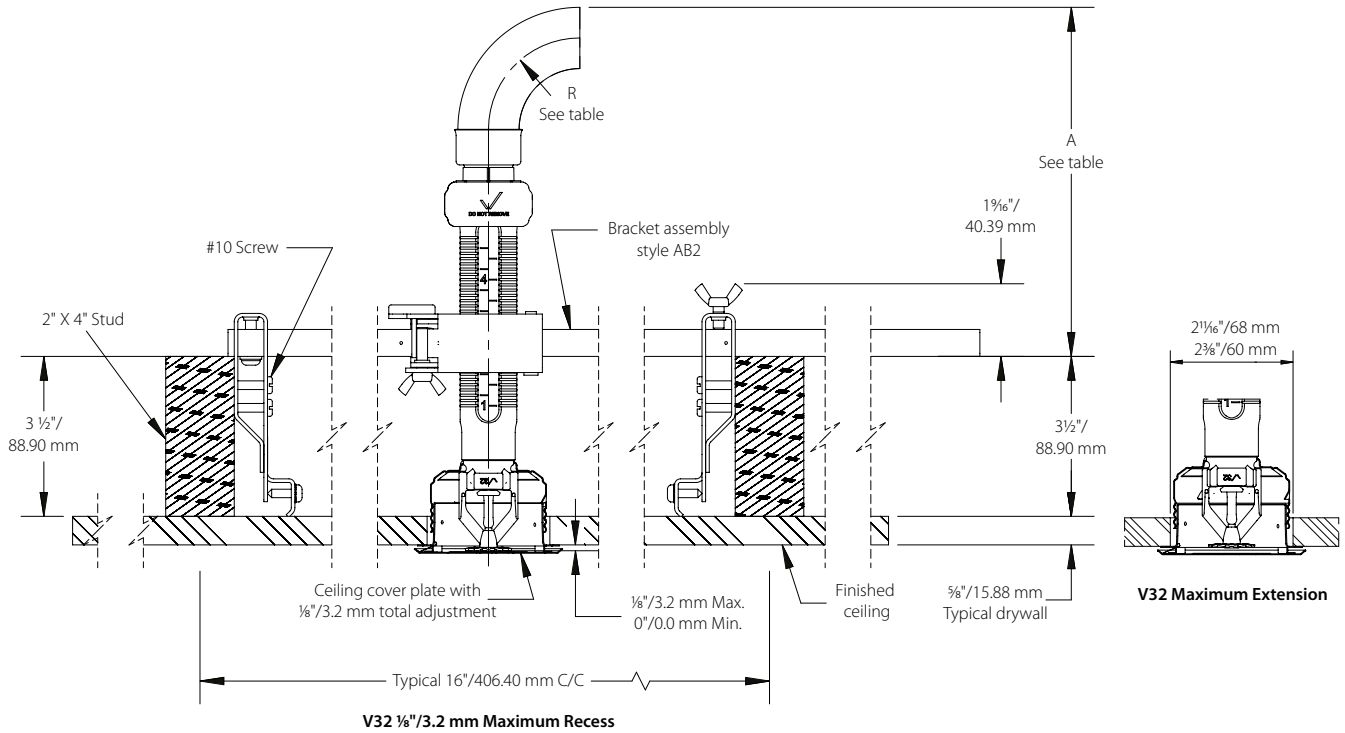
- Typical t-bar grid and ceiling tile shown. Variations of t-bar and ceiling tile may be used but may result in dimensional changes from layouts depicted in this submittal. Variations of ceiling grids and brackets are permitted but may result in clearance differences from the figures depicted.

	<b>V3201 Recessed Pendant <math>\frac{3}{4}</math>" Max Recess</b> inches mm	<b>V3201 Recessed Pendant <math>\frac{3}{4}</math>" Max Recess</b> inches mm	<b>V3203 Concealed Pendant <math>\frac{1}{8}</math>" Max Recess</b> inches mm	<b>V3203 Concealed Pendant <math>\frac{1}{8}</math>" Max Recess</b> inches mm
"R" Minimum 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

## 4.5 DIMENSIONS (CONTINUED)

### Clearances

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



**NOTE**

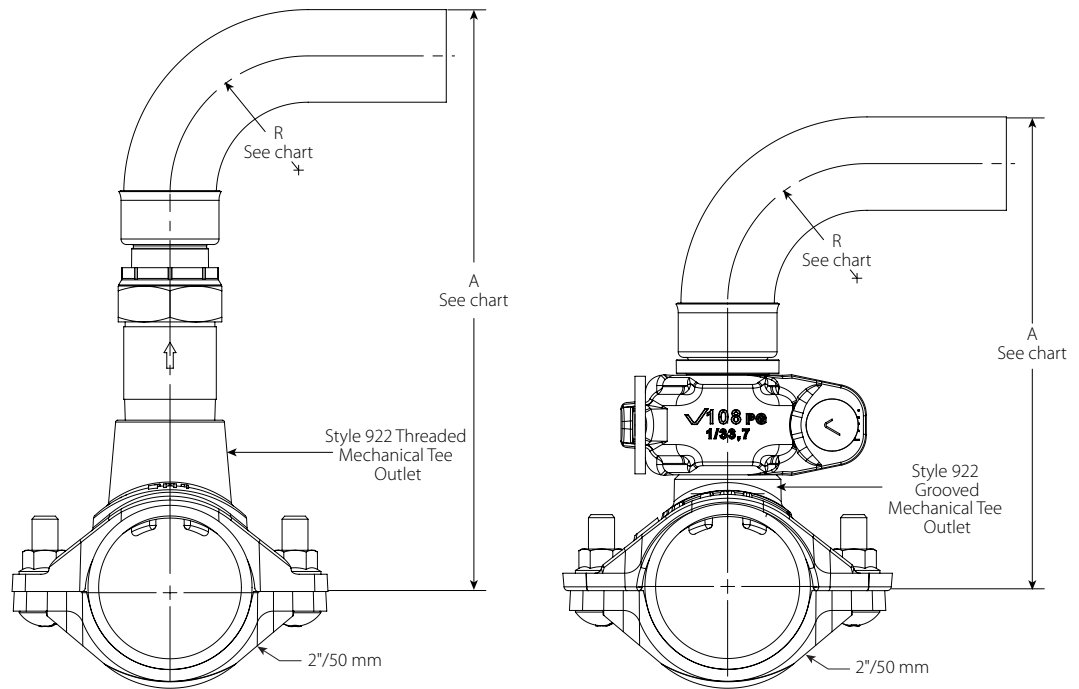
- Variations of ceiling grids and brackets are permitted but may result in clearance differences from the figures depicted.

	<b>V3201 Recessed Pendant 3/4\"/&gt; Max Recess</b>	<b>V3201 Recessed Pendant 3/4\"/&gt; Max Recess</b>	<b>V3203 Concealed Pendant 1/8\"/&gt; Max Recess</b>	<b>V3203 Concealed Pendant 1/8\"/&gt; Max Recess</b>
	inches mm	inches mm	inches mm	inches mm
"R" Minimum 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

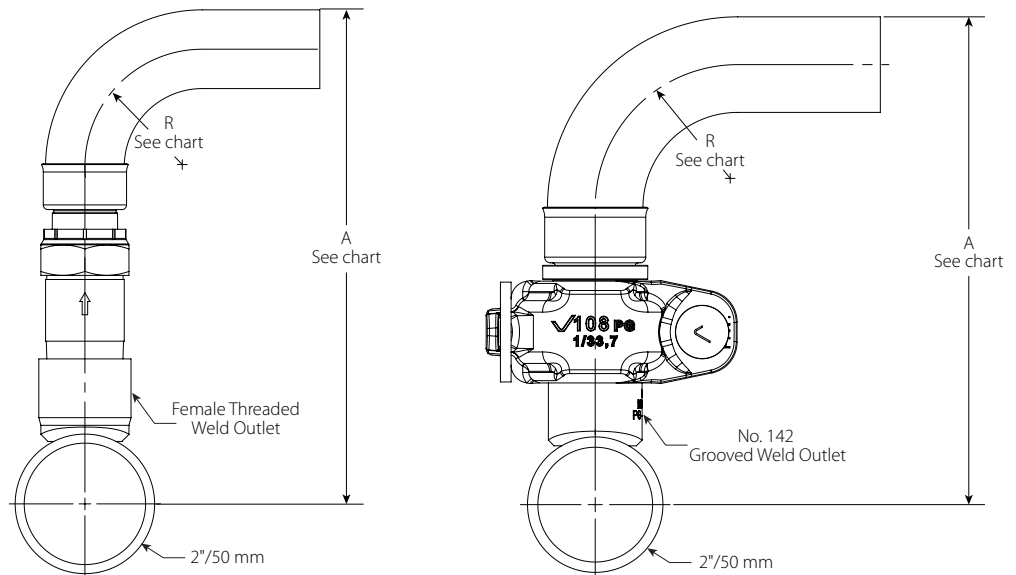


## 4.6 DIMENSIONS

### Branchline Clearances



	Threaded Branchline into Female Threaded S/922 Outlet		S/108 Coupling Branchline into S/922 Grooved Outlet	
	inches mm	inches mm	inches mm	inches mm
"R" Minimum 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




	Threaded Branchline into Female Threaded Weld Outlet		S/108 Coupling Branchline into N/142 Grooved Weld Outlet	
	inches mm	inches mm	inches mm	inches mm
"R" Minimum 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 is to be installed and designed as per NFPA or any local standards.

## 6.0 NOTIFICATIONS

<b>⚠ WARNING</b>	
	<ul style="list-style-type: none"><li>• Read and understand all instructions before attempting to install any Victaulic products.</li><li>• Always verify that the piping system has been completely depressurized and drained immediately prior to installation, removal, adjustment, or maintenance of any Victaulic products.</li><li>• Wear safety glasses, hardhat, and foot protection.</li></ul> <p>Failure to follow these instructions could result in death or serious personal injury and property damage.</p>
<ul style="list-style-type: none"><li>• 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 13, 13D, 13R, etc.) standards, or equivalent 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.</li><li>• The installer shall understand the use of this product and why it was specified for the particular application.</li><li>• The installer shall understand common industry safety standards and potential consequences of improper product installation.</li><li>• 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.</li><li>• The material specifier shall evaluate the 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.</li></ul> <p>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.</p>	

### NOTES

- The braided hose portion of the sprinkler assembly may be painted provided the paint is compatible with stainless steel and zinc-plated carbon steel or ductile iron.
- DO NOT paint, coat, or firestop the outlet/inlet portion of the Style VS2 Sprinkler Assembly. Braided hose and fitting portions of the Style VS2 Sprinkler Assembly may be painted or coated, provided that the paint or coating is compatible with stainless steel material. This includes penetrating through firestop-filled annular space of a firewall. The firestop material in direct contact with the flexible braided hose will not impede the functionality of the Style VS2 Sprinkler Assembly, provided that the components are installed in accordance with Victaulic's installation instructions.

## 7.0 REFERENCE MATERIALS

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

[I-VICFLEX-V32](#)

### 7.1 CEILING LOADS

Installation		Loads	
Sprinkler Length inches mm	Bracket Length inches mm	Total Load lb N	Uniform Load lb/linear-ft N/linear-m
56 1422	24 610	6.8 30.3	3.4 49.6
68 1727	24 610	7.5 33.4	3.8 55.5
56 1422	48 1219	7.7 34.3	1.9 27.7
68 1727	48 1219	8.5 37.8	2.1 30.7

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

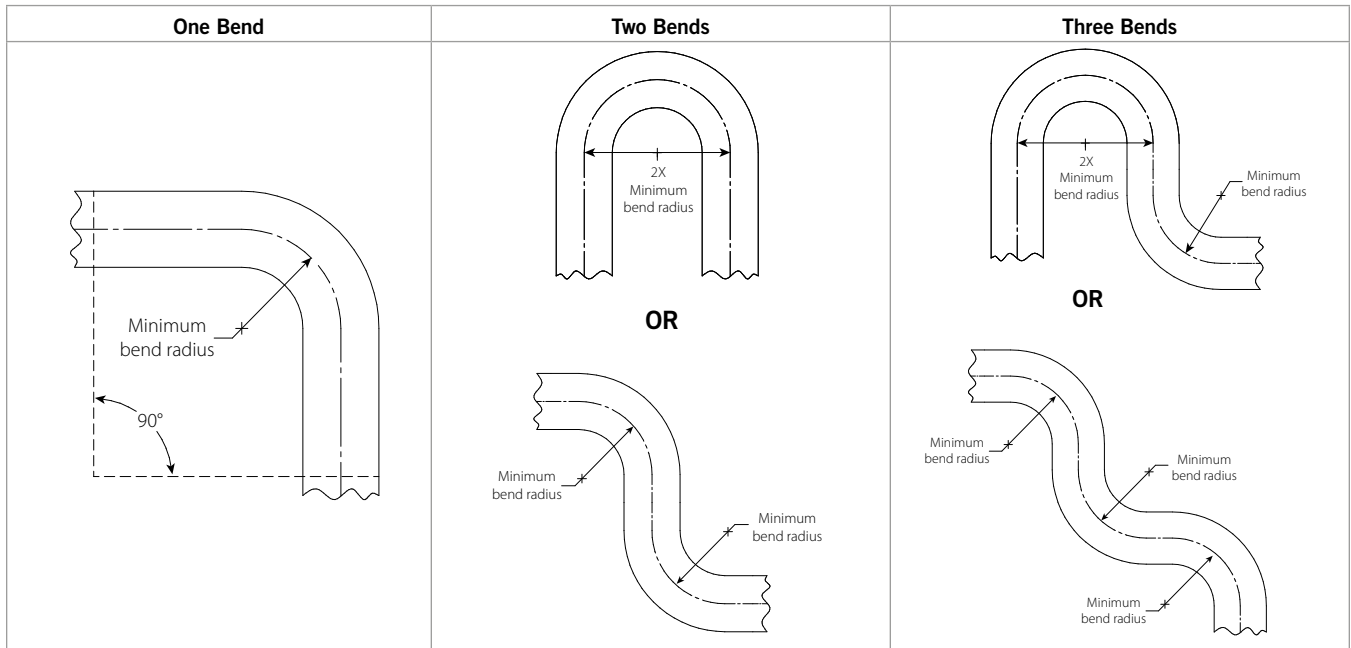
- water-filled sprinkler assembly
- bracket assembly (any applicable Victaulic bracket model of the relevant associated size)

#### ASTM C635

Installation		Loads
Suspension System	Duty Classification	Min. Allowable Uniform Load lb/linear-ft N/linear-m
Direct-Hung	Light	5.0 73.0
	Intermediate	12.0 175.2
	Heavy	16.0 233.6

**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.

## 7.2 FLEXIBLE HOSE BEND CHARACTERISTICS



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

### User Responsibility for Product Selection and Suitability

Each user bears final responsibility for making a determination as to the suitability of Victaulic products for a particular end-use application, in accordance with industry standards and project specifications, as well as Victaulic performance, maintenance, safety, and warning 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, installation guide, or this disclaimer.

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### 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.

### Installation

Reference should always be made to the Victaulic installation handbook or installation instructions of 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 [www.victaulic.com](http://www.victaulic.com).

### Warranty

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

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