

VicFlex™ Style VS1 Dry Sprinkler

Models V3505, V3506, V3509, V3510, V3517, V3518



1.0 PRODUCT DESCRIPTION

Style: Pendent, Concealed Pendent, Horizontal Sidewall

K Factor: 5.6 Imp./8.1 S.I.

Nominal Orifice Size: ½"/13 mm

Maximum Working Pressure: 175 psi/1200 kPa

Factory Hydrostatic Test: 100% @ 500 psi/3450 kPa

Minimum Operating Pressure: 7 psi/48 kPa

Connections: To branch line (inlet) via 1"/25 mm NPT or 1" BSPT

Minimum Bend Radius:

- 2"/51 mm

Hazard Classifications: Light and Ordinary Hazard

Maximum Number of Bends:

4

2.0 CERTIFICATION/LISTINGS



APPROVALS/LISTINGS	Model					
	V3505	V3506	V3509	V3510	V3517	V3518
Orifice Size (inches)	½"	½"	½"	½"	½"	½"
Orifice Size (mm)	13	13	13	13	13	13
Nominal K Factor Imperial	5.6	5.6	5.6	5.6	5.6	5.6
Nominal K Factor S.I. ⁶	8.1	8.1	8.1	8.1	8.1	8.1
Response	Standard	Quick	Standard	Quick	Standard	Quick
Deflector Type	Pendent	Pendent	Hor. SW	Hor. SW	Conc Pen	Conc Pen
Approved Temperature Ratings F°/C°						
	135/57	135/57	135/57	135/57	135/57	135/57
	155/68	155/68	155/68	155/68	155/68	155/68
	175/79	175/79	175/79	175/79	175/79	175/79
	200/93	200/93	200/93	200/93	200/93	200/93
	286/141	286/141	286/141	286/141	–	–

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

System No.		Location	
Submitted By		Date	

Spec Section		Paragraph	
Approved		Date	

3.0 MATERIAL SPECIFICATIONS

Deflector: Brass

Bulb: Glass with glycerin solution

Bulb Nominal Diameter:

Quick Response: 3.0 mm

Standard Response: 5.0 mm

Split spacer: Stainless Steel

Load screw: Brass

Pip Cap: Stainless Steel

Spring Seal Assembly: PTFE-coated Beryllium Nickel and Stainless Steel

Frame: Die cast brass 65-30

Flexible Hose: 300-Series Stainless Steel

Collar/Weld Fitting: 300-Series Stainless Steel

Gasket Seal: Victaulic EPDM

Isolation Ring: Nylon

Hose Fittings: Carbon Steel, Zinc-Plated

Inlet Fitting: Brass

Outer tube: 300-Series Stainless Steel

Concealed cup: Carbon Steel, Zinc-plated

Brackets: Carbon Steel, Zinc-plated

3.1 ACCESSORIES SPECIFICATIONS

Sprinkler Finishes:

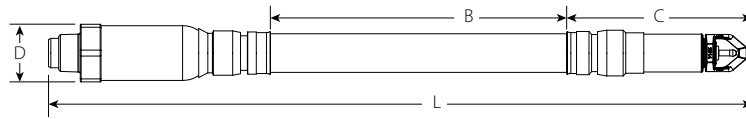
Standard: VC-250

White painted RAL 9010

4.0 DIMENSIONS

Product Details and Optional Components

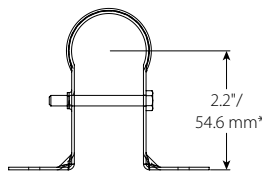
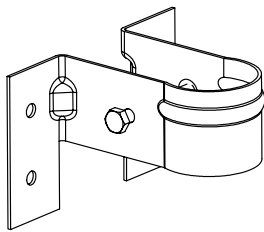
Style VS1 Dry Sprinkler



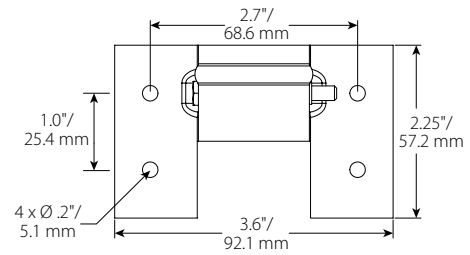
Sprinkler Length inches mm	Overall Length (pendent) L inches mm	Live Length B inches mm	Outlet End Length C inches mm	Maximum OD D inches mm
38 965	39.2 995	25.1 638	6.5 165	2.2 56
50 1270	51.2 1300	37.1 943	65 165	2.2 56
58 1475	59.2 1505	45.1 1145	65 165	2.2 56

1 Add 1/2" to Overall Length and Outlet End Length for increased length of sidewall deflector

Style VB1 Bracket



*Note: Theoretical center point of sprinkler in bracket.



Style VB2 Bracket

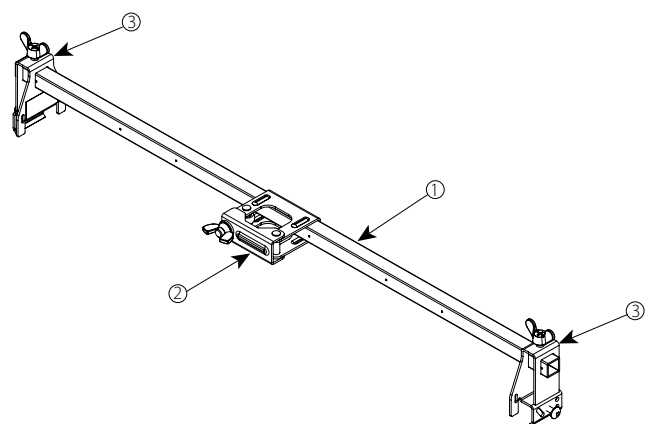
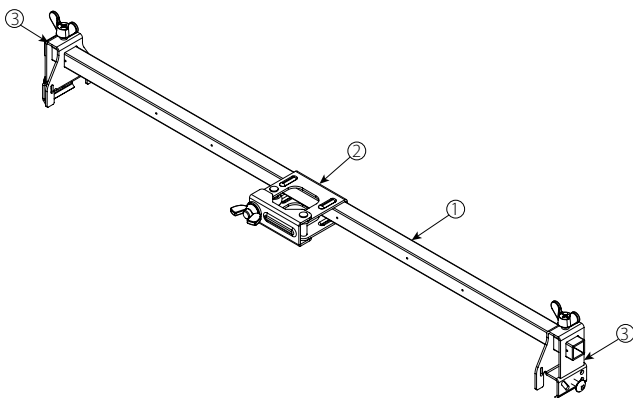
Recessed Pendent, Suspended Ceilings

Item	Description
1	24"/610 mm or 48"/1220 mm Square Bar
2	Patented 1-Bee Center Bracket
3	End Bracket

Style VB3 Bracket

Concealed Pendent, Suspended Ceilings

Item	Description
1	24"/610 mm or 48"/1220 mm Square Bar
2	Patented 1-Bee Center Bracket
3	End Bracket



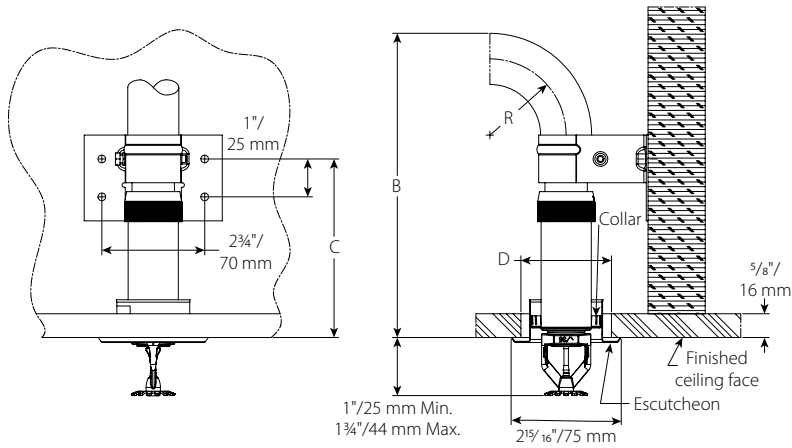
4.1 DIMENSIONS

Sprinkler Finishes: Dimensions and Mounting Conditions:

NOTE:

Drawings are shown with 5/8" finished ceiling thickness. Adjustments to "B" and "C" dimensions will be required if finished ceiling thickness deviate from drawing.

Recessed Pendant:



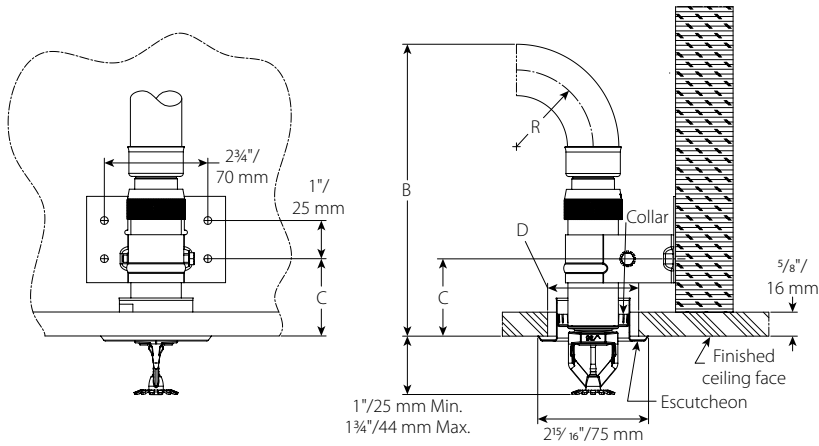
Take-out Chart						
Dimension	inches/mm					
Bend Radius "R"	2/50	3/75	4/100	5/125	6/150	7/175
B	7 5/8/193	8 5/8/218	9 5/8/244	10 5/8/269	11 5/8/295	12 5/8/320
C	4 3/4/119					
Ceiling Hole Diameter "D"	2 - 2 3/8"/50 - 60mm					

NOTE:

Dimensions are shown with 3/4" escutcheon at middle of height adjustment range.

4.2 DIMENSIONS

Recessed Pendant Alternative Bracket Location:



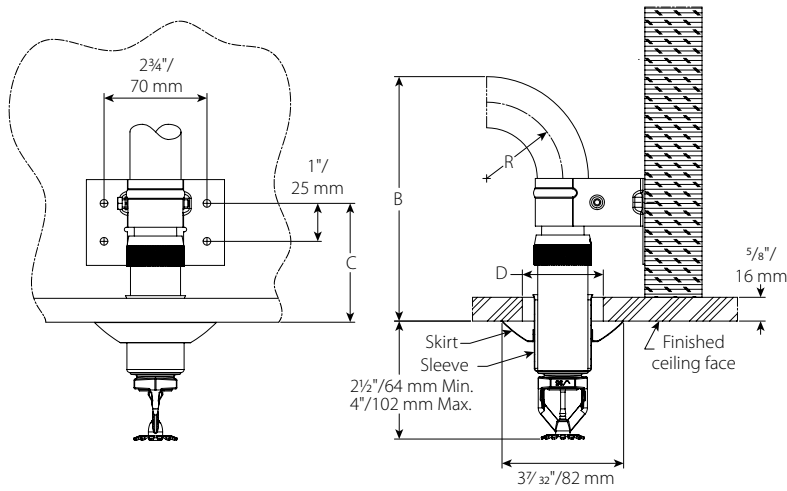
Take-out Chart						
Dimension	inches/mm					
Bend Radius "R"	2/50	3/75	4/100	5/125	6/150	7/175
B	7 5/8/193	8 5/8/218	9 5/8/244	10 5/8/269	11 5/8/295	12 5/8/320
C	2/50					
Ceiling Hole Diameter "D"	2 - 2 3/8/50 - 60					

NOTE:

Dimensions are shown with 3/4" escutcheon at middle of height adjustment range.

4.3 DIMENSIONS

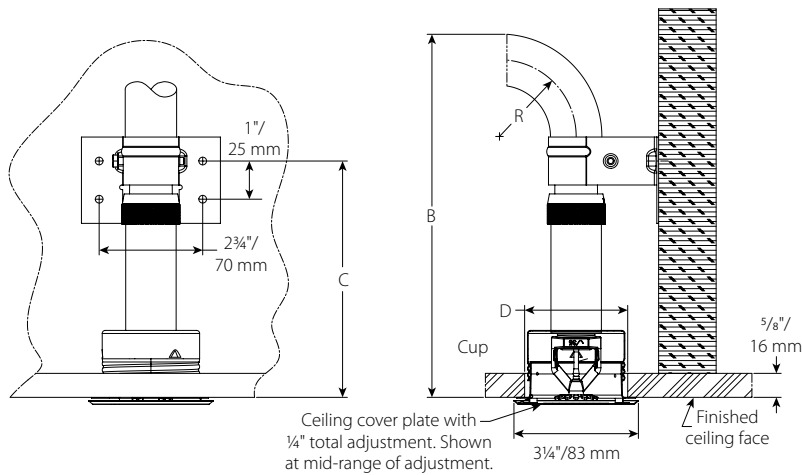
Sleeve and Skirt Pendant:



Hose Clearance Chart						
Dimension	inches/mm					
Bend Radius "R"	2/50	3/75	4/100	5/125	6/150	7/175
B	6 1/2/163	7 1/2/188	8 1/2/213	9 1/2/239	10 1/2/264	11 1/2/290
C	3 1/8/79					
Ceiling Hole Diameter "D"	1 3/4/44 - 2 1/8/54					

4.4 DIMENSIONS

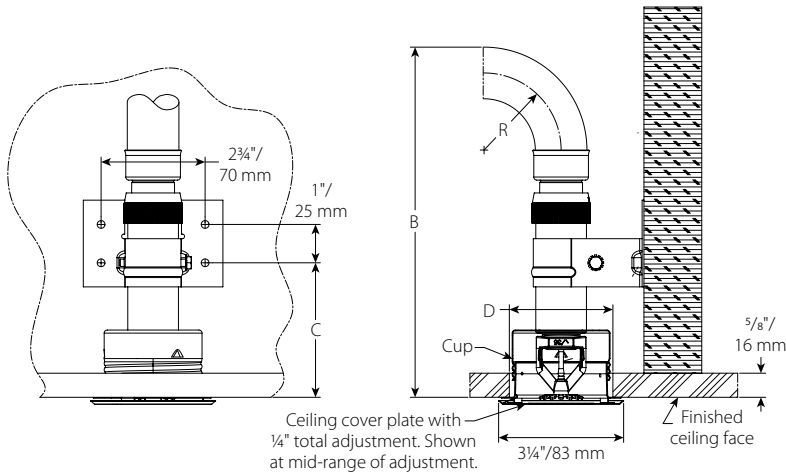
Concealed Pendant:



Hose Clearance Chart						
Dimension	inches/mm					
Minimum Bend Radius "R"	2/50	3/75	4/100	5/125	6/150	7/175
B	9 1/2/241	10 1/2/267	11 1/2/292	12 1/2/318	13 1/2/343	14 1/2/368
C	6 1/4/157					
Ceiling Hole Diameter "D"	2 5/8/67 - 2 3/4/70					

4.5 DIMENSIONS

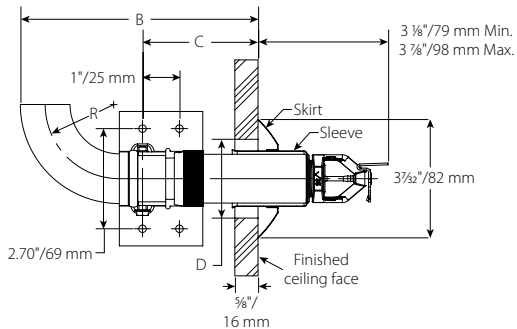
Concealed Pendent Alternative Bracket Location:



Hose Clearance Chart						
Dimension	inches/mm					
Bend Radius "R"	2/50	3/75	4/100	5/125	6/150	7/175
B	9 1/8/231	10 1/8/257	11 1/8/282	12 1/8/307	13 1/8/333	14 1/8/358
C	3 1/2/89					
Ceiling Hole Diameter "D"	2 5/8/67 - 2 3/4/70					

4.6 DIMENSIONS

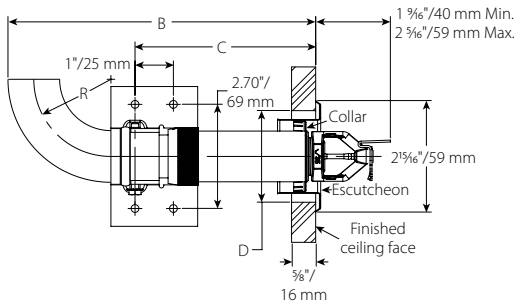
Sleeve and Skirt Sidewall:



Hose Clearance Chart						
Dimension	inches/mm					
Minimum Bend Radius "R"	2/50	3/75	4/100	5/125	6/150	7/175
B	6 1/2/163	7 1/2/188	8 1/2/213	9 1/2/239	10 1/2/264	11 1/2/290
C	3 1/8/79					
Ceiling Hole Diameter "D"	1 3/4/44 - 2 1/8/54					

4.7 DIMENSIONS

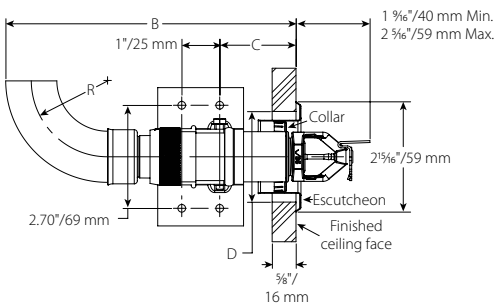
Recessed Sidewall:



Hose Clearance Chart						
Dimension	inches/mm					
Minimum Bend Radius "R"	2/50	3/75	4/100	5/125	6/150	7/175
B	8/203	9/229	10/254	11/279	12/305	13/330
C	4 3/4/119					
Ceiling Hole Diameter "D"	2/51 - 2 3/8/600					

4.8 DIMENSIONS

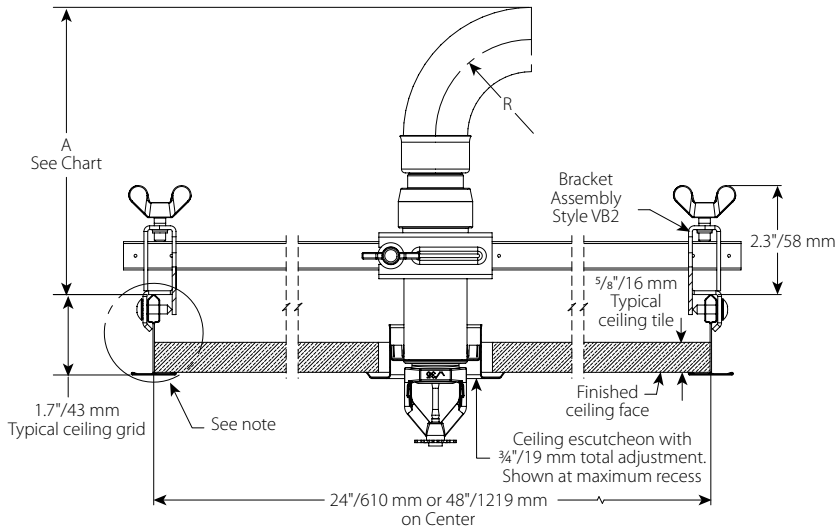
Recessed Sidewall Alternative Bracket Location:



Hose Clearance Chart						
Dimension	inches/mm					
Bend Radius "R"	2/50	3/75	4/100	5/125	6/150	7/175
B	8/203	9/229	10/254	11/279	12/305	13/330
C	2/51					
Ceiling Hole Diameter "D"	2/51 - 2 3/8/600					

4.9 DIMENSIONS

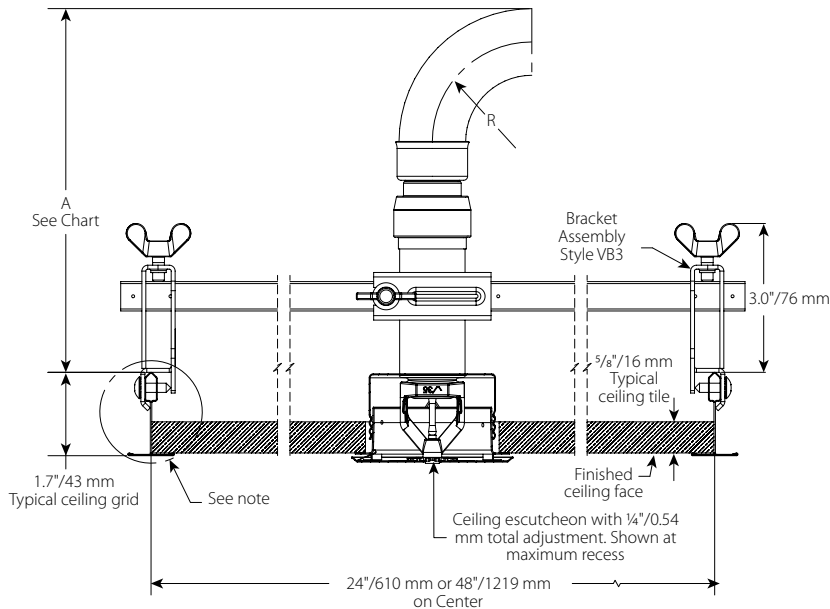
VB2 Recessed Pendant:



Hose Clearance Chart						
Dimension	inches/mm					
Bend Radius "R"	2/50	3/75	4/100	5/125	6/150	7/175
A	6½/163	7½/188	8½/213	9½/239	10½/264	11½/290

4.10 DIMENSIONS

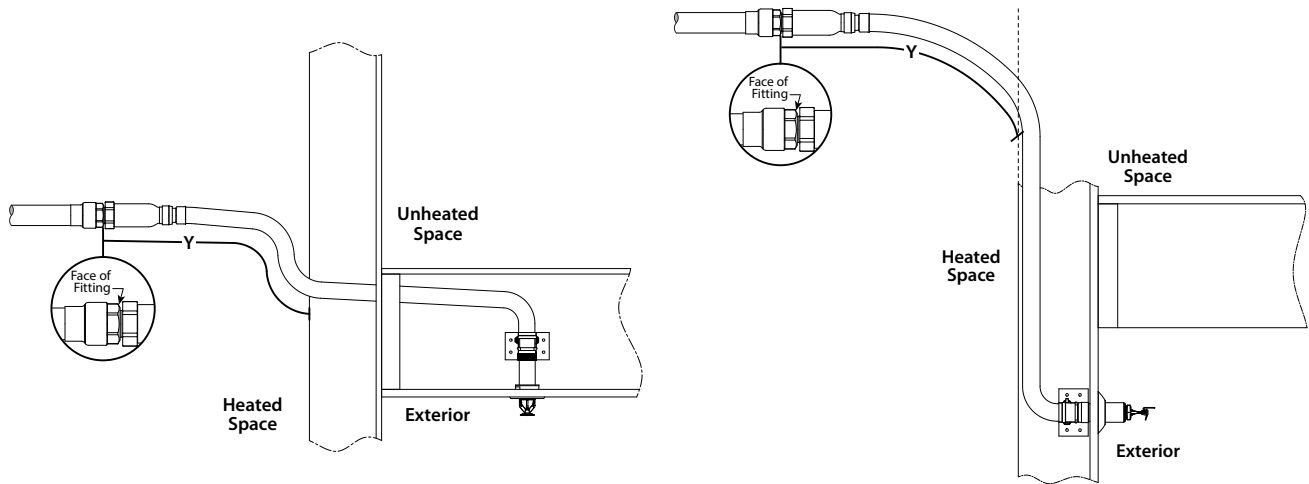
VB3 Concealed Pendant:



Hose Clearance Chart						
Dimension	inches/mm					
Bend Radius "R"	2/50	3/75	4/100	5/125	6/150	7/175
A	7⅝/193	8⅝/218	9⅝/244	10⅝/269	11⅝/295	12⅝/320

5.0 PERFORMANCE

Freeze Protection



Ambient Temperature Exposed to Discharge End of Sprinkler	Exposed Minimum Barrel Length "Y"		
	inches mm		
	40°F/4°C	50°F/10°C	60°F/16°C
40 °F	0	0	0
4 °C	0	0	0
30 °F	0	0	0
-1 °C	0	0	0
20 °F	4	0	0
-7 °C	100	0	0
10 °F	8	1	0
-12 °C	200	25	0
0 °F	12	3	0
-18 °C	300	75	0
-10 °F	14	4	1
-23 °C	350	100	25
-20 °F	14	6	3
-29 °C	350	150	75
-30 °F	16	8	4
-34 °C	400	200	100
-40 °F	18	8	4
-40 °C	450	200	100
-50 °F	20	10	6
-46 °C	500	250	150
-60 °F	20	10	6
-51 °C	500	250	150

NOTE

- Exposed minimum barrel lengths are inclusive up to 30-mph/48-kph wind velocities.

Maximum Allowable Number of Bends

Sprinkler Length inches mm	Maximum Allowable Number of 90 Bends at 2"/51mm Bend Radius
38 965	4
50 1270	4
58 1475	4

6.0 NOTIFICATIONS

WARNING

- It is the responsibility of the system designer to verify suitability of 300-Series stainless steel flexible hose for use with the intended fluid media.
- The effect of chemical composition, pH level, operating temperature, chloride level, oxygen level, and flow rate on 300-Series stainless steel flexible hose must be evaluated by the material specifier to confirm system life will be acceptable for the intended service.

Failure to follow these instructions could cause product failure, resulting in serious personal injury and/or property damage.

Important Installation Notes:

1. Should be installed only in accordance with NFPA 13 Standard for the the Installation of Sprinkler Systems.
2. Install and tighten hexagonal boss at inlet of sprinkler fitting only.
3. DO NOT install the Victaulic® VicFlex™ Style VS1 Dry Sprinkler's inlet into any fitting that interferes with thread penetration. Use a sample fitting to confirm proper engagement.
To ensure unobstructed flow during operation, the Victaulic® VicFlex™ Style VS1 Dry Sprinkler must be installed into a fitting that will prevent water and debris from accumulating at the dry sprinkler's inlet.
4. Do not remove deflector or inlet end of sprinkler.

FOR DRY SYSTEMS ONLY:

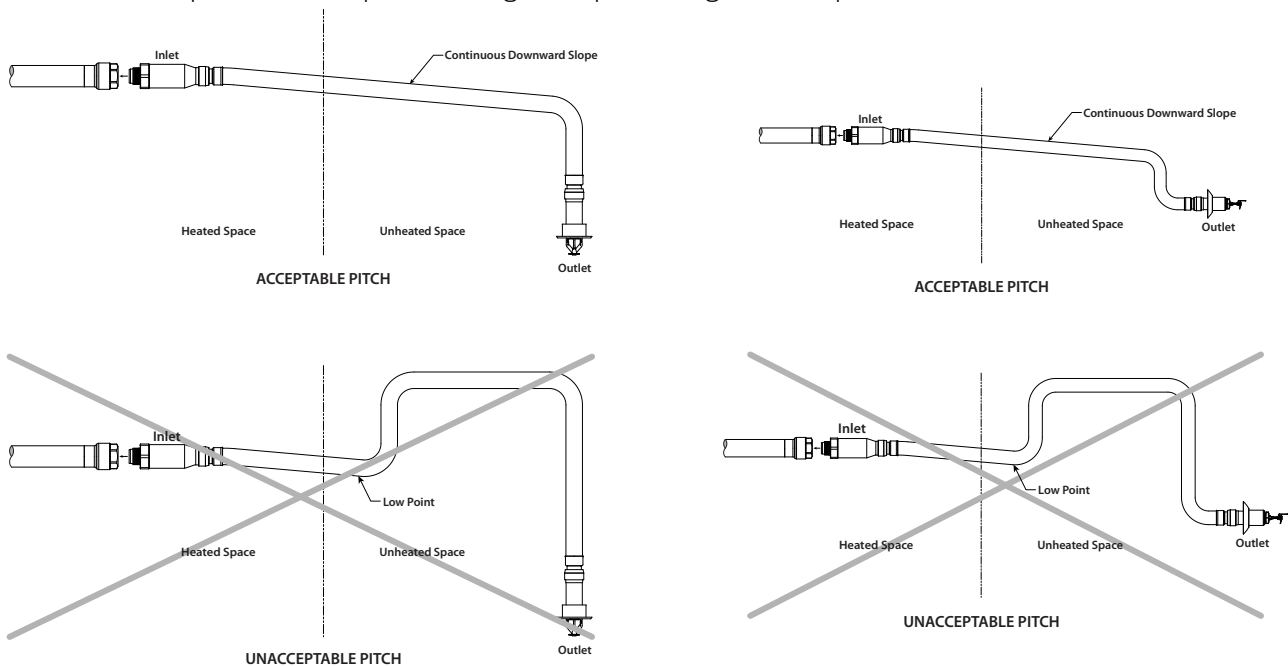
The Style VS1 Dry Sprinkler's inlet MUST be installed only into the outlet of a cast or malleable iron tee that meets the dimensional requirements of ANSI B16.3 and ANSI B16.4, Class 125 and Class 150. Use a sample fitting to confirm proper engagement.

Style VS1 Dry Sprinklers in dry systems must be installed with a continuous downward slope along its entire length from the branch line fitting to the sprinkler. No localized low points shall be present along the length of the Style VS1 Dry Sprinkler.

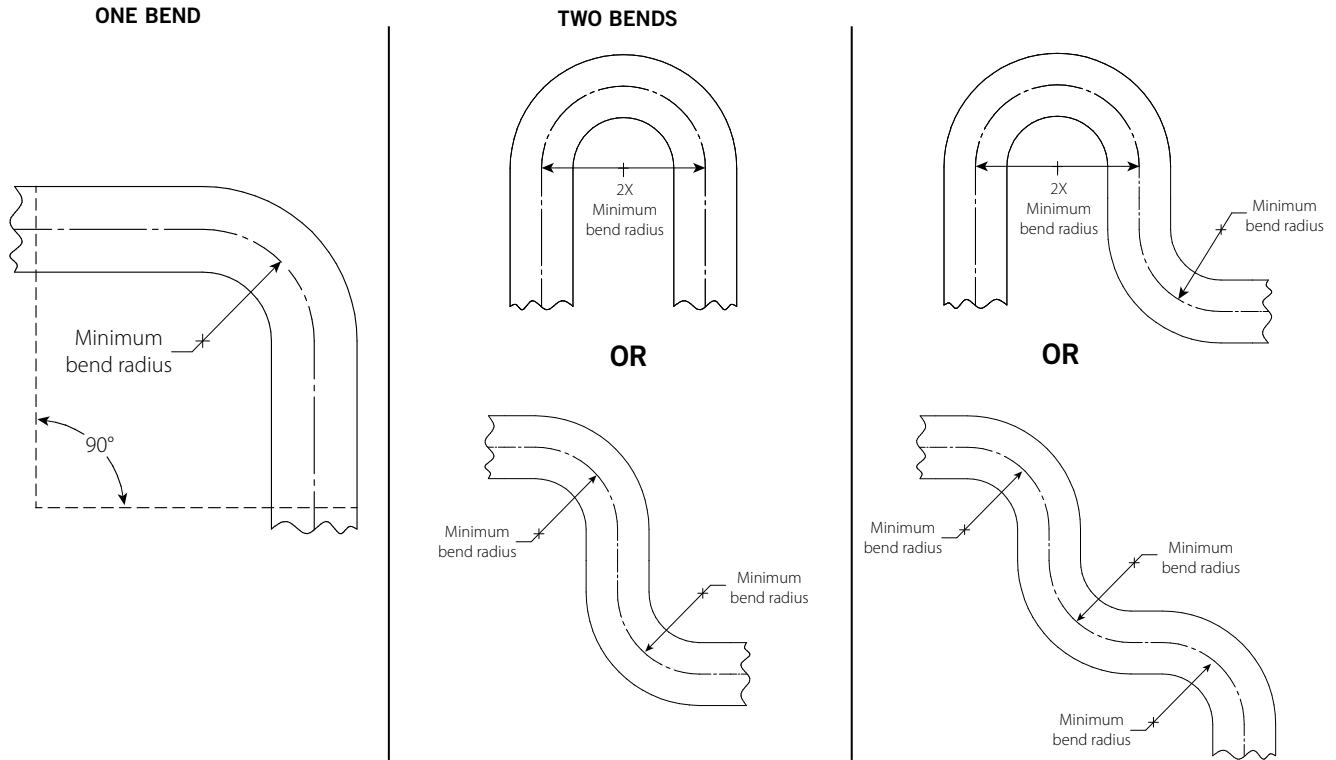
Style VS1 Dry Sprinklers are not permitted to be installed into the top of the branch line piping. Style VS1 Dry Sprinklers must be installed into the side or from the bottom of the branch line piping.

FOR WET SYSTEMS ONLY:

Style VS1 Dry Sprinklers in wet systems, installed where a portion extends into an unconditioned space, must be installed with a continuous downward slope along the entire exposed length from the inside wall to the sprinkler. No localized low points shall be present along the exposed length of the sprinkler.



7.0 REFERENCE MATERIALS



NOTE

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

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, and the applicable building codes and related regulations 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.

Warranty

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

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