

# Victaulic® VicFlex™ Sprinkler Fittings

## Series AH2 and AH2-CC Braided Flexible Hoses



Series AH2



Series AH2-CC

### 1.0 PRODUCT DESCRIPTION

#### Available Sizes by Component

- **Series AH2 1"/DN25 Nominal ID Braided Hose:** 31, 36, 48, 60, 72"/790, 915, 1220, 1525, 1830 mm.  
Note: length includes adapter nipple and 5.75"/140 mm straight reducer.
- **Series AH2-CC 1"/DN25 Nominal ID Braided Hose:** 31, 36, 48, 60, 72"/790, 915, 1220, 1525, 1830 mm.  
Note: length includes captured coupling and 5.75"/140 mm straight reducer.
- **Sprinkler Reducers:**
  - **Sprinkler Connections:** ½ and ¾"/15 and 20 mm
  - **Straight Lengths:** 5.75, 9, 13"/140, 230, 330 mm
  - **90° Elbows:**
    - Short (typically used with concealed sprinklers)
    - Long (typically used with recessed pendent sprinklers)
    - Low Profile Short (for use with Style AB5, AB11, AB12, ABBA and ABMM Bracket)
    - Low Profile Long (for use with Style AB5, AB11, AB12, ABBA and ABMM Bracket)
- **Inlet Connections:**
  - 1"/25 mm Grooved IGS
  - 1"/25 mm NPT or BSPT adapter nipples for attaching to pipe and fittings outlined in NFPA standards.
  - ¾"/20 mm NPT or BSPT adapter nipples available for VdS.
  - 1 ¼"/ 32 mm BSPT adapter nipples available for LPCB.

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	

## 1.0 PRODUCT DESCRIPTION (Continued)

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### • Brackets:

- Style AB1 for suspended and hard-lid ceilings and sidewalls, allows installation before most ceiling tiles in place
- Style AB2 for suspended and hard-lid ceilings and sidewalls, allows for vertical sprinkler adjustment, and installation before most ceiling tiles in place
- Style AB3 for surface mount applications, wood, metal and block walls, or ceilings
- Style AB4 for hard-lid ceilings with hat furring channel grid systems, allows for vertical sprinkler adjustment
- Style AB5 for hard-lid ceilings and sidewalls, allows for vertical sprinkler adjustment
- Style AB7 for suspended and hard-lid ceilings
- Style AB7 Adjustable for suspended and hard-lid ceilings
- Style AB8 for hard-lid ceilings with CD 60/27 profile metal studs (regionally available)
- Style AB9 for hard-lid ceilings with hat furring channel grid systems
- Style AB10 for Armstrong® TechZone™ ceilings
- Style AB11 for lay-in panel suspended t-grid ceilings or drywall suspended t-grid ceilings, allows for low profile installations (use only with 90° low profile elbows)
- Style AB12 for suspended and hard-lid ceilings, allows for vertical sprinkler adjustment, and allows for low profile installation down to 4"/100mm.
- Style ABBA bracket for suspended, exposed, and hard-lid ceilings
- Style ABMM bracket for surface mount and stand off-mount applications, wood, metal and block walls, or ceilings and hard-lid ceilings

### Maximum Working Temperature

- 225°F/107°C

### Maximum Working Pressure

- 200 psi/1375 kPa (FM Approval)
- 175 psi/1206 kPa (cULus Listed)
- 1600 kPa/232 psi (VdS/LPCB Approved)
- 1.4 MPa (CCCf Approved)

### Connections

- To adapter nipple (inlet) via
  - 1"/25.4 mm Grooved IGS
  - 1"/25.4 mm NPT or BSPT male thread
  - ¾"/20 mm BSPT male thread (VdS only)
  - 1 ¼"/32 mm BSPT male thread (LPCB only)
- To sprinkler head (outlet) via ½" or ¾"/15 mm or 20 mm

### Minimum Bend Radius

- 7"/178 mm (FM/CCCf Approval)
- 2"/51 mm (cULus Listed)
- 3"/76.2 mm (VdS/LPCB Approved)

### Maximum Allowable Sprinkler K-Factors

- FM (½"/15 mm reducer) K5.6/8,1 (S.I.), (¾"/20 mm reducer) K14.0/20,2 (S.I.)
- cULus (½"/15 mm reducer) K8.0/11,5 (S.I.), (¾"/20 mm reducer) K14.0/20,2 (S.I.)
- VdS/LPCB (½"/15 mm reducer) K5.6/8,1 (S.I.), (¾"/20 mm reducer) K8.0/11,5 (S.I.)

## 2.0 CERTIFICATION/LISTINGS



### NOTE

- The *VicFlex* Series AH2 Hose has been tested and evaluated by Spears® for acceptable use with Spears® CPVC Products and is therefore covered under the Spears® FlameGaurd® Installer Protection Plan.

## 3.0 SPECIFICATIONS – MATERIAL

### Series AH2

- **Flexible Hose:** 300-series Stainless Steel
- **Collar/Weld Fitting:** 300-series Stainless Steel
- **Gasket Seal:** Victaulic EPDM
- **Isolation Ring:** Nylon
- **Nut and Nipple:** Carbon Steel, Zinc Plated
- **Reducer (½"/15 mm or ¾"/20 mm):** Carbon Steel, Zinc-Plated
- **Low Profile Elbows:** Ductile Iron, Zinc-Plated

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

### Series AH2-CC

- **Flexible Hose:** 300-series Stainless Steel
- **Collar/Weld Fitting:** 300-series Stainless Steel
- **Gasket Seal:** Victaulic EPDM
- **Isolation Ring:** Nylon
- **Coupling Retainer Ring:** Polyethelene
- **Nut and Nipple:** Carbon Steel, Zinc Plated
- **Reducer (½"/15 mm or ¾"/20 mm):** Carbon Steel, Zinc-Plated
- **Housing:** Ductile iron conforming to ASTM A 536, Grade 65-45-12. Ductile iron conforming to ASTM A 395, Grade 65-45-15, is available upon special request.

#### Coupling Housing Coating:

- Orange enamel (North America, Asia Pacific).
- Red enamel (Europe).
- Hot dipped galvanized.

#### Gasket:<sup>1</sup>

- **Grade "E" EPDM (Type A)**

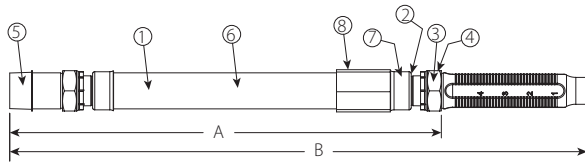
FireLock EZ products have been Listed by Underwriters Laboratories Inc., Underwriters Laboratories of Canada Limited, and Approved by Factory Mutual Research for wet and dry (oil free air) sprinkler services within the rated working pressure.

<sup>1</sup> Services listed are General Service Guidelines only. It should be noted that there are services for which these gaskets are not compatible. Reference should always be made to the latest [Victaulic Gasket Selection Guide](#) for specific gasket service guidelines and for a listing of services which are not compatible.

- **Bolts/Nut:** Zinc electroplated carbon steel, trackhead meeting the physical and chemical requirements of ASTM A 449 and physical requirements of ASTM A 183.
- **Linkage:** CrMo Alloy Steel zinc electroplated per ASTM B633 Zn/Fe 5, Type III Finish

## 4.0 DIMENSIONS

### Product Details - Series AH2 Braided Hose

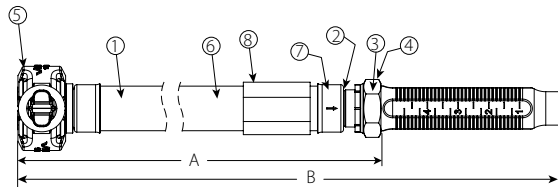


Item	Description
1	Flexible Hose
2	Isolation Ring
3	Gasket
4	Nut
5	Adapter Nipple
6	Braid
7	Collar/Weld Fitting
8	Sleeve

### Hose Length Dimensions

Hose Length	A	B
inches mm	inches mm	inches mm
31/790	25.3/641	31/790
36/915	31.3/794	36/915
48/1219	42.3/1073	48/1220
60/1525	54.3/1378	60/1525
72/1830	66.3/1683	72/1830

### Series AH2-CC Braided Hose

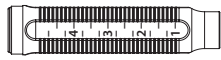


Item	Description
1	Flexible Hose
2	Isolation Ring
3	Gasket
4	Nut
5	Captured Coupling
6	Braid
7	Collar/Weld Fitting
8	Sleeve

Hose Length	A	B
inches mm	inches mm	inches mm
31/790	24.5/622	29.8/757
36/915	29.5/749	34.8/884
48/1219	41.5/1054	46.8/1189
60/1525	53.5/1359	58.8/1494
72/1830	65.5/1664	70.8/1798

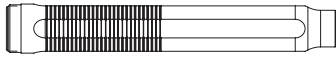
## 4.0 DIMENSIONS (Continued)

### Standard Reducer

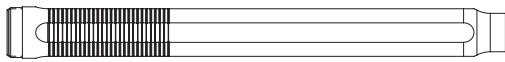


5.75"/140 mm straight reducer

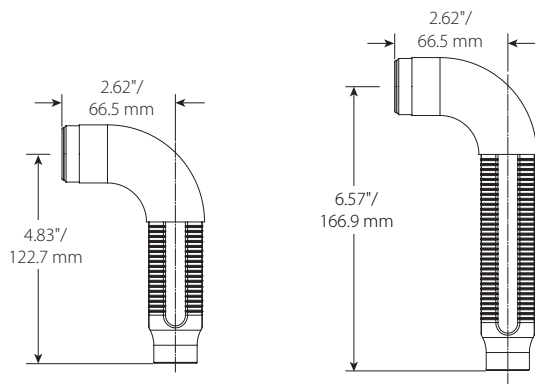
### Optional Reducers



9.0"/229 mm straight reducer



13.0"/330 mm straight reducer



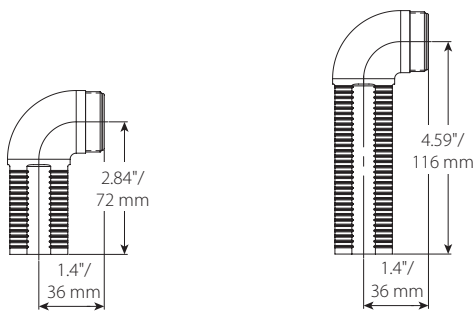
Short 90° elbow reducer

Long 90° elbow reducer

#### NOTE

- The Short 90° elbow reducer is typically used with concealed sprinklers while the longer 90 elbow is typically used in the installation of recessed pendent sprinklers.
- FM/VdS Approved only.

### Low Profile



Short 90° elbow reducer

Long 90° elbow reducer

#### NOTE

- Style AB11: When low profiles elbows are used with the Style AB11 bracket, the Low Profile Short Elbow is typically used with concealed sprinklers while the Low Profile Long Elbow is typically used in the installation of recessed pendent sprinklers.

## 4.1 DIMENSIONS

### VicFlex Brackets

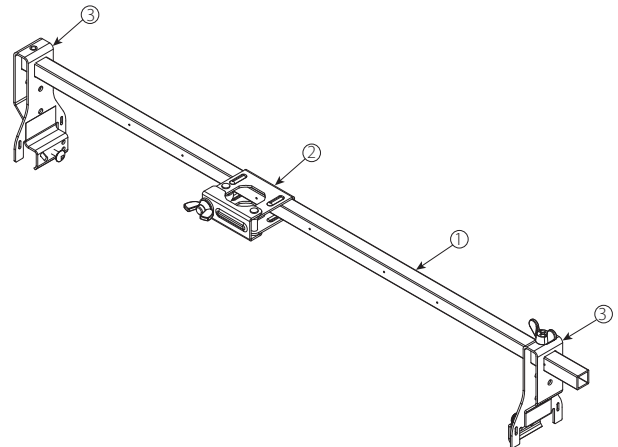
#### Style AB1

- Suspended Ceilings
- Hard-Lid Ceilings (FM Only)

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

**NOTE**

- Both sizes FM/VdS/LPCB Approved, cULus listed



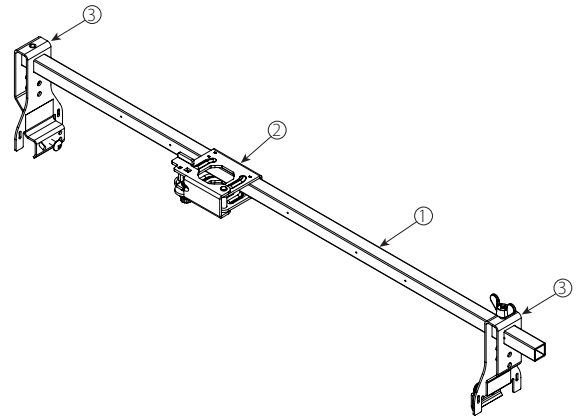
#### Style AB2

- 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

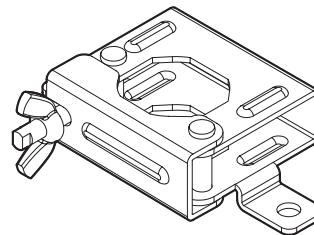
**NOTE**

- Both sizes FM/VdS/LPCB Approved, cULus listed



#### Style AB3

- Surface Mount Applications
- FM/LPCB Approved



## 4.2 DIMENSIONS

### VicFlex Brackets

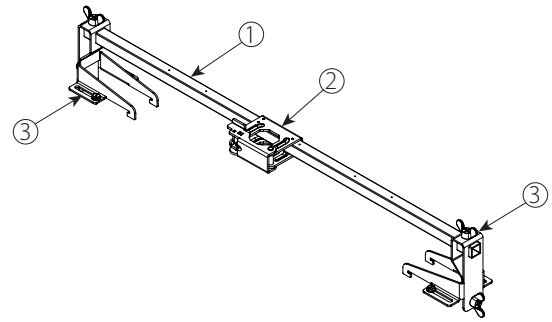
#### Style AB4

- 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

**NOTE**

- Both sizes FM/VdS/LPCB Approved, cULus listed.



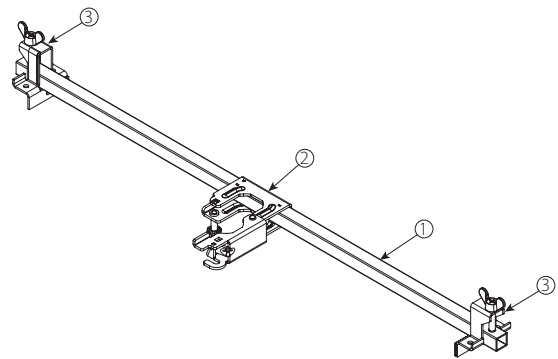
#### Style AB5

- Hard-Lid Ceilings

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

**NOTE**

- Both sizes FM/VdS/LPCB Approved, cULus listed.



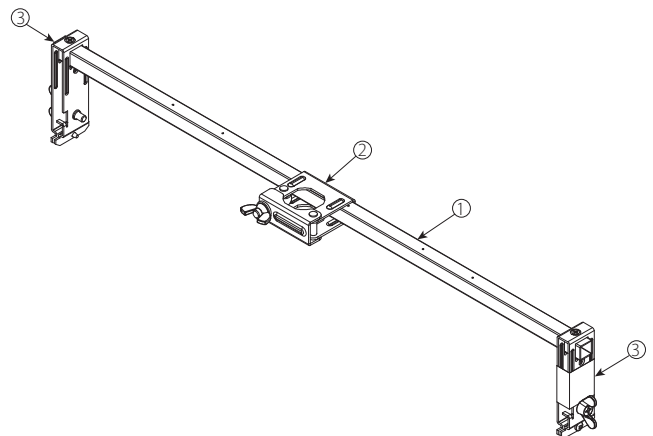
#### Style AB7

- 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

**NOTE**

- Both sizes FM/VdS/LPCB Approved.



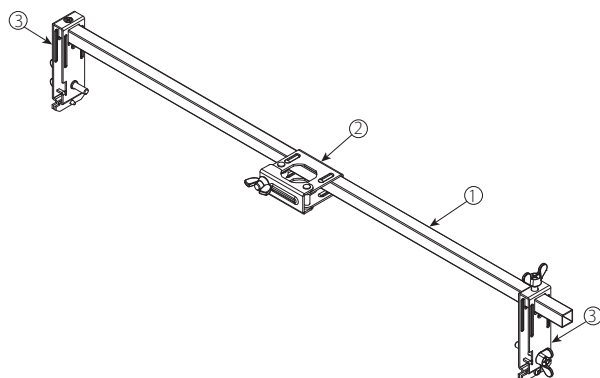
#### Style AB7 Adjustable

- 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)

**NOTE**

- Both sizes FM/VdS/LPCB Approved.



### 4.3 DIMENSIONS

#### VicFlex Brackets

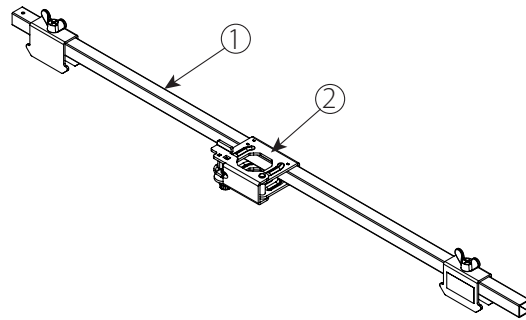
##### Style AB8

- Hard-Lid Ceilings

Item	Description
1	700 mm or 1400 mm Square Bar
2	Patented Vertically Adjustable Center Bracket
3	End Bracket

**NOTE**

- Both sizes FM/VdS/LPCB Approved.



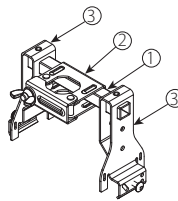
##### Style AB10

- Suspended ceilings
- Armstrong® TechZone™

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

**NOTE**

- FM/VdS/LPCB Approved, cULus listed.



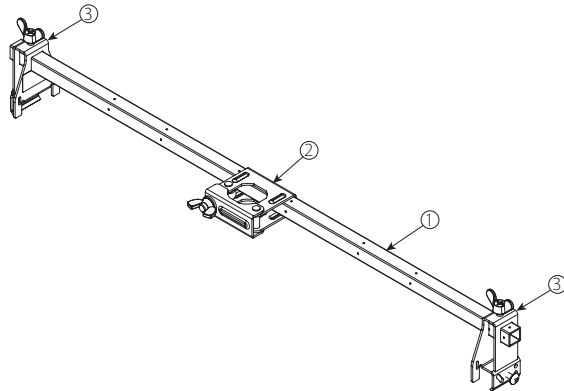
##### Style AB11

- 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

**NOTE**

- FM/VdS Approved, cULus listed.



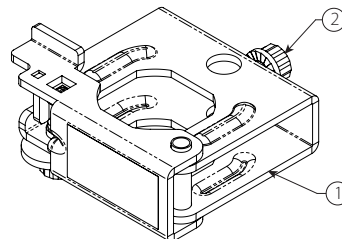
##### Style AB12

- Suspended ceilings
- Hard-Lid ceilings

Item	Description
1	Style AB12 Bracket Body
2	#2 Square Drive Set Screw

**NOTE**

- FM/VdS Approved.





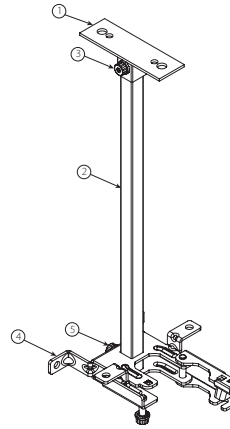
### 4.3 DIMENSIONS (CONTINUED)

#### VicFlex Brackets

##### Style ABBA

- Floor-above mount
- Cantilever mount
- Temporary mount in exposed ceilings

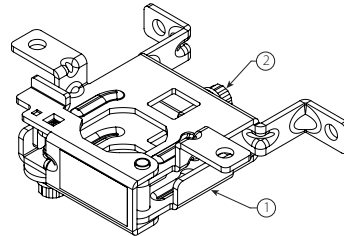
Item	Description
1	Style ABBA Mounting Plate
2	Style ABBA Square Bar
3	Cap Screw, Serated Flange, M6 x 1 x 20, T25 Torx Drive Recessed
4	Style ABMM Bracket Body
5	Cap Screw, Serated Flange, M6 x 1 x 15.24, T25 Torx Drive Recessed



##### Style ABMM

- Surface mount
- Stand-off mount

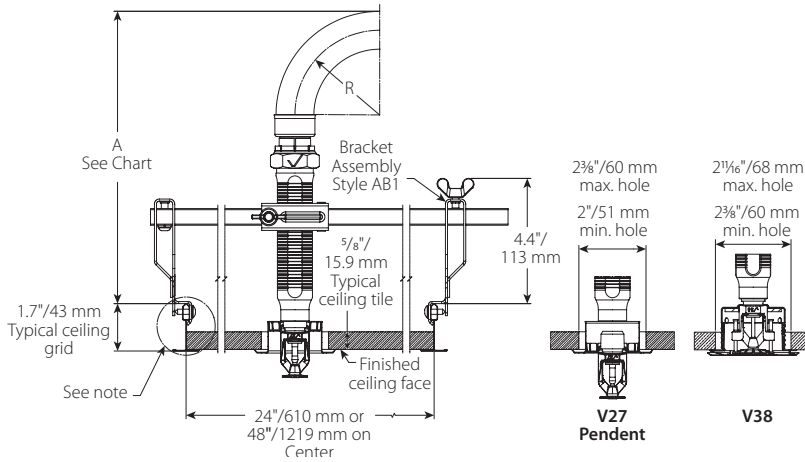
Item	Description
1	Style ABMM Bracket Body
2	Cap Screw, Serated Flange, M6 x 1 x 15.24, T25 Torx Drive Recessed



## 4.4 DIMENSIONS

### Clearances

Series AH2 Braided Hose and Style AB1 Bracket



Hose Clearance Chart								
	Straight Reducer						Long Elbow	Short Elbow
	V2707 3/4" Max Recess inches mm	V3802 1/2" Max Recess inches mm	V2707 3/4" Max Recess inches mm	V3802 1/2" Max Recess inches mm	V2707 3/4" Max Recess inches mm	V3802 1/2" Max Recess inches mm	V2707 3/4" Max Recess inches mm	V3802 1/2" Max Recess inches mm
"R" Minimum Bend Radius	2.0 50		3.0 80		7.0 175		-	
"A" Minimum Required Installation Space	8.6 218	10.1 269	9.6 244	11.1 281	13.6 345	15.1 383	5.8 147	5.8 147

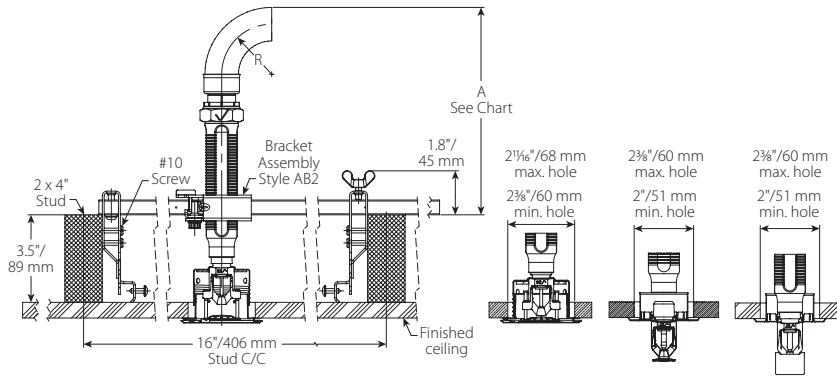
**NOTE**

- Variations of ceiling grids, sprinkler heads, brackets, and hoses are permitted but may result in clearance differences from the figures above.

## 4.5 DIMENSIONS

### Clearances

Series AH2 Braided Hose and Style AB2 Bracket



Hose Clearance Chart									
	Straight Reducer								
	V2707 3/4"   20 mm Max Recess" inches mm	V3802 1/2"   13 mm Max Recess inches mm	V2709 3/4"   20 mm Sidewall inches mm	V2707 3/4"   20 mm Max Recess inches mm	V3802 1/2"   13 mm Max Recess inches mm	V2709 3/4"   20 mm Sidewall inches mm	V2707 3/4"   20 mm Max Recess inches mm	V3802 1/2"   13 mm Max Recess inches mm	V2709 3/4"   20 mm Sidewall inches mm
"R" Minimum Bend Radius	2.0 50			3.0 80			7.0 175		
"A" Minimum Required Installation Space	6.2 158	7.6 193	6.1 155	7.2 183	8.6 218	7.1 180	11.2 285	12.6 320	11.1 282

Hose Clearance Chart			
	Long Elbow		Short Elbow
	V2707 3/4"   20 mm Max Recess inches mm	V2709 3/4"   20 mm Sidewall inches mm	V3802 1/2"   13 mm Max Recess inches mm
"R" Minimum Bend Radius	-		
"A" Minimum Required Installation Space	3.3 84	3.6 91	3.3 84

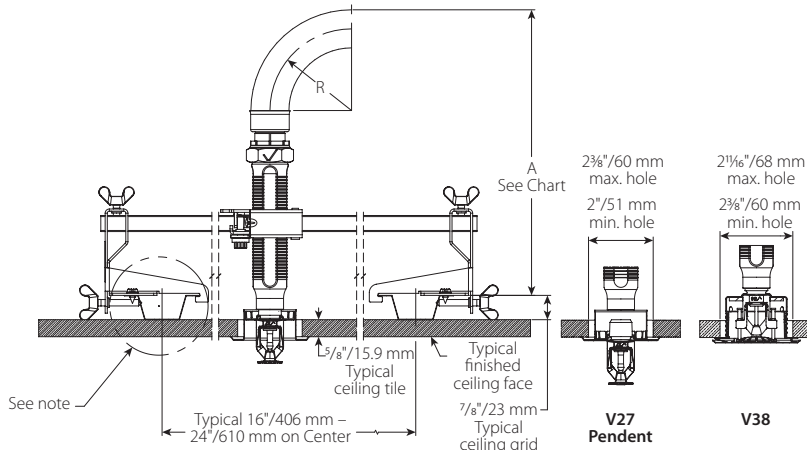
#### NOTE

- Variations of ceiling grids, sprinkler heads, brackets, and hoses are permitted but may result in clearance differences from the figures above.

## 4.6 DIMENSIONS

### Clearances

Series AH2 Braided Hose and Style AB4 Bracket



Hose Clearance Chart								
	Straight Reducer						Long Elbow	Short Elbow
	V2707 3/4" Max Recess inches mm	V3802 1/2" Max Recess inches mm	V2707 3/4" Max Recess inches mm	V3802 1/2" Max Recess inches mm	V2707 3/4" Max Recess inches mm	V3802 1/2" Max Recess inches mm	V2707 3/4" Max Recess inches mm	V3802 1/2" Max Recess inches mm
"R" Minimum Bend Radius	2.0 50	2.0 50	3.0 80	3.0 80	7.0 175	7.0 175	-	
"A" Minimum Required Installation Space	8.8 224	10.2 259	9.8 249	11.2 285	13.8 351	15.2 386	8.0 203	5.9 150

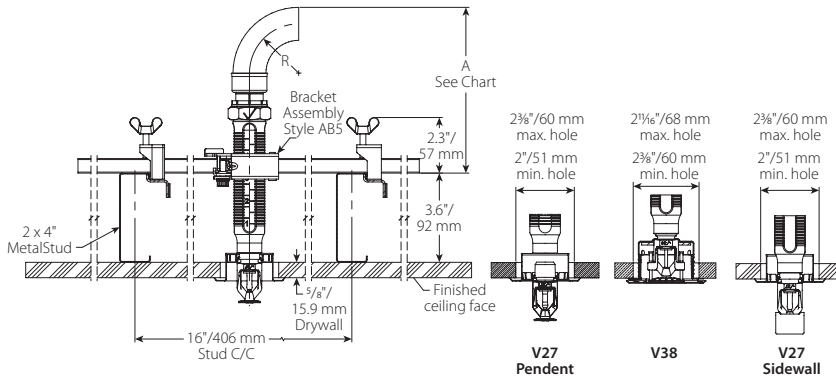
**NOTE**

Variations of ceiling grids, sprinkler heads, brackets, and hoses are permitted but may result in clearance differences from the figures above.

## 4.7 DIMENSIONS

### Clearances

Series AH2 Braided Hose and Style AB5 Bracket



Hose Clearance Chart									
	Straight Reducer								
	<b>"V2707 3/4"   20 mm Max Recess"</b> inches mm	<b>V3802 1/2"   13 mm Max Recess</b> inches mm	<b>V2709 3/4"   20 mm Sidewall</b> inches mm	<b>V2707 3/4"   20 mm Max Recess</b> inches mm	<b>V3802 1/2"   13 mm Max Recess</b> inches mm	<b>V2709 3/4"   20 mm Sidewall</b> inches mm	<b>V2707 3/4"   20 mm Max Recess</b> inches mm	<b>V3802 1/2"   13 mm Max Recess</b> inches mm	<b>V2709 3/4"   20 mm Sidewall</b> inches mm
"R" Minimum Bend Radius		2.0 50			3.0 80			7.0 175	
"A" Minimum Required Installation Space	6.0 158	7.7 196	6.1 155	7.0 178	8.7 221	7.1 180	11.0 279	12.7 323	11.1 282

Hose Clearance Chart					
	Long Elbow			Low-Profile Long Elbow	Short Elbow
	<b>V2707 3/4"   20 mm Max Recess</b> inches mm	<b>V3802 1/2"   13 mm Max Recess</b> inches mm	<b>V2709 3/4"   20 mm Sidewall</b> inches mm	<b>V3802 1/2"   13 mm Max Recess</b> inches mm	<b>V3802 1/2"   13 mm Max Recess</b> inches mm
"R" Minimum Bend Radius	-				
"A" Minimum Required Installation Space	3.5 89	4.9 124	3.6 91	2.9 74	3.3 84

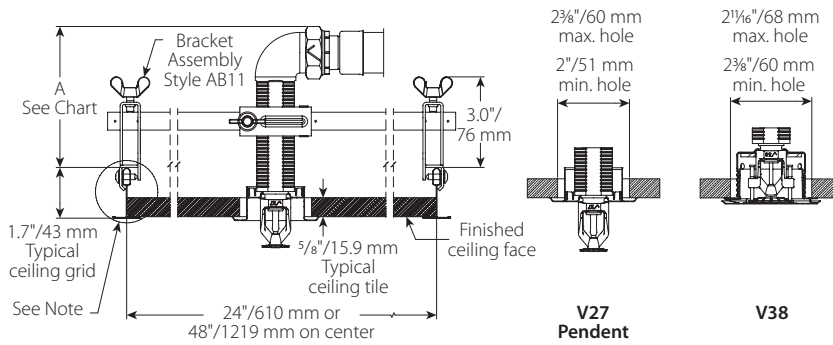
**NOTE**

- Variations of ceiling grids, sprinkler heads, brackets, and hoses are permitted but may result in clearance differences from the figures above.

## 4.8 DIMENSIONS

### Clearances

Series AH2 Braided Hose and Style AB11 Bracket (LOW PROFILE SOLUTION)



Hose Clearance Chart		
	Low-Profile Long Elbow	Low-Profile Short Elbow
	<b>V2707</b> 3/4"   20 mm Max Recess"	<b>V3802</b> 1/2"   13 mm Max Recess
	inches mm	inches mm
"A" Minimum Required Installation Space	4.0 102	3.9 99

#### NOTE

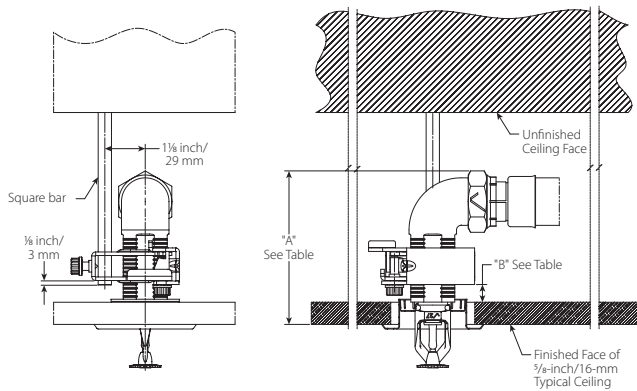
- Variations of ceiling grids, sprinkler heads, brackets, and hoses are permitted but may result in clearance differences from the figures above.

## 4.9 DIMENSIONS

### Clearances

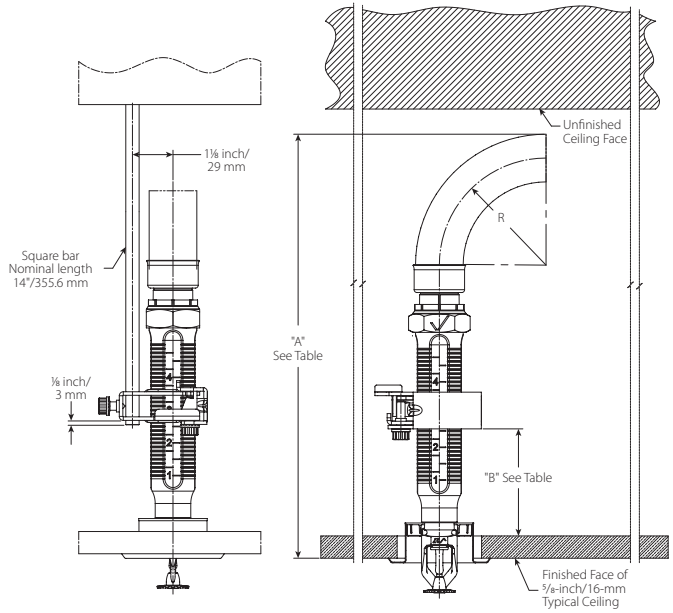
#### Style AB12 and ABBA Bracket

Suspended Ceiling Grid with Recessed Sprinkler with Low Profile Short Elbow



V2707 1/2"/12.7 mm MAX. RECESS

Suspended Ceiling Grid with Recessed Sprinkler and Straight 5.75"/140 mm Reducer



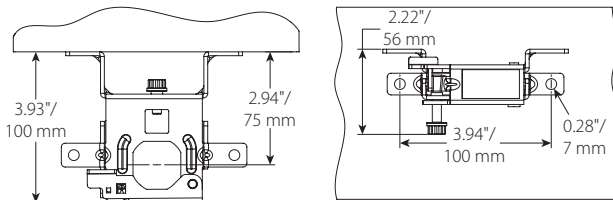
V2707 3/4"/19 mm MAX. RECESS

Dimension	Low Profile Short Elbow		Low Profile Long Elbow		Standard Short Elbow		Standard Long Elbow		Standard Straight Reducer		
	3/4"/19 mm Recessed*	Concealed	3/4"/19 mm Recessed	Concealed	3/4"/19 mm Recessed	Concealed	3/4"/19 mm Recessed	Concealed	3/4"/19 mm Recessed	Concealed	
	inches	inches	inches	inches	inches	inches	inches	inches	inches	inches	
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	
A	Minimum Required Installation Space	4.0 101.6	5.5 139.7	5.6 142.2	7.2 182.9	5.9 149.9	7.5 190.5	7.7 195.6	9.3 236.2	15.0 381.0	16.6 421.6
B	Distance from Top of Typical Ceiling Tile to Bottom of Gate	0.5 12.7	2.0 50.8	1.5 38.1	1.5 38.1	1.5 38.1	1.5 38.1	3.0 76.2	3.0 76.2	3.0 76.2	3.0 76.2

\* Adjustability will be limited

#### Style ABMM Bracket

#### Stand-off Dimensions

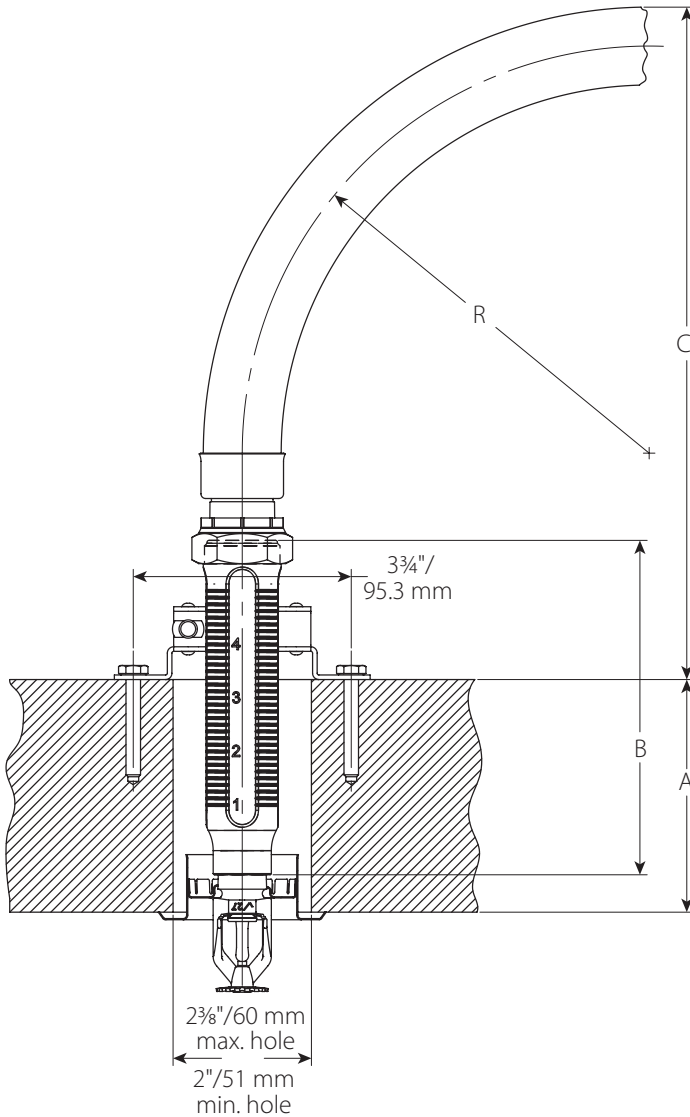


## 4.10 DIMENSIONS

### Clearances

#### Style AB3 and ABMM Bracket

Surface Mount Application with Recessed Sprinkler



Hose Clearances																				
Dimension	inches mm			inches mm			inches mm		inches mm		inches mm			inches mm			inches mm		inches mm	
Wall Thickness "A"	2			4			6	8	10				2			4	6	8	10	
	50			100			150	200	250				50			100	150	200	250	
Outlet Length "B"	5.75	9	13	5.75	9	13	9	13	13	13	5.75	9	13	5.75	9	13	9	13	13	13
	146.1	228.6	330.2	146.1	228.6	330.2	228.6	330.2	330.2	330.2	146.1	228.6	330.2	146.1	228.6	330.2	228.6	330.2	330.2	330.2
Hose Clearance "C"	11.6	14.8	18.8	9.6	12.8	16.8	10.8	14.8	12.8	10.8	12.6	15.8	19.8	10.6	13.8	17.8	11.8	15.8	13.8	11.8
	294	376	478	243	325	427	275	376	325	275	319	402	503	268	351	452	300	402	351	300
Bend Radius "R"	7									8										
	175									200										

**NOTE**

- Variations of ceiling grids, sprinkler heads, brackets, and hoses are permitted but may result in clearance differences from the figures above.



5.0 PERFORMANCE – FRICTION LOSS DATA



Series AH2 and AH2-CC Braided Hoses with Straight 5.75"/140 mm Reducers  
Style AB1, AB2, AB4, AB5 and AB10 Brackets

inches/mm	inches/mm/type	Equivalent Length of 1"/33.7 mm Sch. 40 Pipe (C=120) feet/meters	Maximum Number of 90° Bends at 2"/51 mm Bend Radius
31/790	1/2"/15/Straight	16/4.9	4
	3/4"/20/Straight	17/5.2	4
36/915	1/2"/15/Straight	21/6.4	5
	3/4"/20/Straight	23/7.0	5
48/1220	1/2"/15/Straight	32/9.8	8
	3/4"/20/Straight	37/11.3	8
60/1525	1/2"/15/Straight	46/14.0	10
	3/4"/20/Straight	46/14.0	10
72/1830	1/2"/15/Straight	55/16.8	12
	3/4"/20/Straight	53/16.2	12



Series AH2 and AH2-CC Braided Hose with 90° Low Profile Elbows  
Style AB11 VicFlex Bracket

inches/mm	inches/mm	Equivalent Length of 1"/33.7 mm Sch. 40 Pipe feet/meters	Maximum Number of 90° Bends at 2"/51 mm Bend Radius
31/790	1/2"/15	24/7.3	4
	3/4"/20	24/7.3	4
36/915	1/2"/15	26/7.9	5
	3/4"/20	28/8.5	5
48/1220	1/2"/15	43/13.1	8
	3/4"/20	42/12.8	8
60/1525	1/2"/15	49/14.9	10
	3/4"/20	50/15.2	10
72/1830	1/2"/15	65/19.8	12
	3/4"/20	63/19.2	12

**5.0 PERFORMANCE – FRICTION LOSS DATA (CONTINUED)**

**Series AH2 and AH2-CC Braided Hoses Equivalent Length Design Guide**

Equivalent length values at various numbers of 90 degree bends at 2"/51 mm center line bend radius

Length of Stainless Steel Flexible Hose inches/ mm	Outlet Size inches/ mm	1 Bend feet/ meters	2 Bends feet/ meters	3 Bends feet/ meters	4 Bends feet/ meters	5 Bends feet/ meters	6 Bends feet/ meters	7 Bends feet/ meters	8 Bends feet/ meters	9 Bends feet/ meters	10 Bends feet/ meters	11 Bends feet/ meters	12 Bends feet/ meters
31/790	1/2"/15	8.5/2.6	11.0/3.4	13.0/4.0	16.0/4.9	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
	3/4"/20	10.0/3.0	12.5/3.8	14.0/4.3	17.0/5.2	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
36/915	1/2"/15	13.5/4.1	16.0/4.9	18.0/5.5	19.0/5.8	21.0/6.4	N.A	N.A	N.A	N.A	N.A	N.A	N.A
	3/4"/20	14.0/4.3	17.0/5.2	19.5/5.9	20.0/6.1	23.0/7.0	N.A	N.A	N.A	N.A	N.A	N.A	N.A
48/1220	1/2"/15	15.5/4.7	17.0/5.2	19.5/5.9	20.0/6.1	21.0/6.4	22.0/6.7	28.0/8.5	32.0/9.8	N.A	N.A	N.A	N.A
	3/4"/20	17.0/5.2	19.0/5.8	21.5/6.6	24.5/7.5	26.0/7.9	27.0/8.2	30.0/9.1	37.0/11.3	N.A	N.A	N.A	N.A
60/1525	1/2"/15	21.5/6.6	24.0/7.3	27.0/8.2	28.5/8.7	30.0/9.1	31.0/9.4	37.0/11.3	42.0/12.8	44.0/13.4	46.0/14.0	N.A	N.A
	3/4"/20	23.0/7.0	24.0/7.3	28.0/8.5	29.5/9.0	30.5/9.3	31.0/9.4	38.0/11.6	42.0/12.8	44.0/13.4	46.0/14.0	N.A	N.A
72/1830	1/2"/15	30.0/9.1	32.0/9.8	36.5/11.1	37.5/11.4	40.5/12.5	41.0/12.8	42.0/12.8	46.0/14.0	49.0/14.9	52.0/15.8	54.0/16.5	55.0/16.8
	3/4"/20	32.0/9.8	32.5/9.9	35.0/10.7	35.5/10.8	40.0/12.3	40.5/12.3	41.0/12.5	46.0/14.0	50.0/15.2	51.0/15.5	52.0/15.8	53.0/16.2

**NOTES:**

- Values for use with 5.75"/140mm straight reducers.

How to use this Design Guide:

- For some systems, it may be advantageous for the designer to calculate the system hydraulics using shorter equivalent lengths associated with fewer than the maximum allowable number of bends. In this case, the designer may select a design number of bends for the job and use the associated equivalent length from the design guide to determine the system hydraulics.
- It is possible that the actual installed condition of some of the flexible drops may have more bends than the designer selected. When this happens, the design guide may be used to find equivalent lengths based on the actual installed number of bends for particular sprinkler installations. The system hydraulics can be recalculated using actual equivalent lengths to verify the performance of the system.

5.1 PERFORMANCE – FRICTION LOSS DATA



Series AH2 and AH2-CC Braided Hoses  
 Style AB1, AB2, AB3, AB4, AB5, AB7, AB7 Adj., AB8, AB10, AB12, ABBA and ABMM *VicFlex* Brackets

Length of Stainless Steel Flexible Hose	K-Factor	Outlet Size	Equivalent	Maximum Number of 90° Bends at 7"/178 mm Bend Radius
			Length of 1"/33.7 mm Sch. 40 Pipe	
inches/mm	Imperial/S.I.	inches/mm/type	feet/meters	
31/790	5.6/8.1	1/2"/15/Straight	13.8/4.2	2
		1/2"/15/90° Elbow	23.5/7.1	
36/915	5.6/8.1	1/2"/15/Straight	16.6/5.1	2
		1/2"/15/90° Elbow	25.6/7.8	
48/1220	5.6/8.1	1/2"/15/Straight	23.4/7.1	3
		1/2"/15/90° Elbow	30.7/9.3	
60/1525	5.6/8.1	1/2"/15/Straight	30.2/9.2	4
		1/2"/15/90° Elbow	35.9/10.9	
72/1830	5.6/8.1	1/2"/15/Straight	37.0/11.3	4
		1/2"/15/90° Elbow	41.1/12.5	
31/790	8.0/11.5	3/4"/20/Straight	16.8/5.1	2
		3/4"/20/90° Elbow	16.8/5.1	
36/915	8.0/11.5	3/4"/20/Straight	20/6.0	2
		3/4"/20/90° Elbow	19.7/6.0	
48/1220	8.0/11.5	3/4"/20/Straight	27.8/8.4	3
		3/4"/20/90° Elbow	26.6/8.1	
60/1525	8.0/11.5	3/4"/20/Straight	35.7/10.9	4
		3/4"/20/90° Elbow	33.6/10.2	
72/1830	8.0/11.5	3/4"/20/Straight	43.5/13.2	4
		3/4"/20/90° Elbow	40.6/12.2	
31/790	11.2/16.1	3/4"/20/Straight	16.5/5.0	2
		3/4"/20/90° Elbow	17.8/5.4	
36/915	11.2/16.1	3/4"/20/Straight	19.5/5.9	2
		3/4"/20/90° Elbow	20.7/6.3	
48/1220	11.2/16.1	3/4"/20/Straight	26.7/8.1	3
		3/4"/20/90° Elbow	27.9/8.5	
60/1525	11.2/16.1	3/4"/20/Straight	33.9/10.3	4
		3/4"/20/90° Elbow	35/10.7	
72/1830	11.2/16.1	3/4"/20/Straight	41.3/12.5	4
		3/4"/20/90° Elbow	42.2/12.8	
31/790	14.0/20.2	3/4"/20/Straight	14.9/4.5	2
		3/4"/20/90° Elbow	15.5/4.72	
36/915	14.0/20.2	3/4"/20/Straight	19.4/5.9	2
		3/4"/20/90° Elbow	19.6/5.9	
48/1220	14.0/20.2	3/4"/20/Straight	30.3/9.2	3
		3/4"/20/90° Elbow	29.5/8.9	
60/1525	14.0/20.2	3/4"/20/Straight	33.9/10.3	4
		3/4"/20/90° Elbow	34.1/10.4	
72/1830	14.0/20.2	3/4"/20/Straight	37.5/11.4	4
		3/4"/20/90° Elbow	38.6/11.7	

FM NOTES:

- The Series AH2 hose has been tested and Approved by FM Global for use in wet, dry and preaction systems per NFPA 13, 13R, and 13D and FM data sheets 2-0, 2-5, and 2-8. FM 1637 standard for safety include, but are not limited to, pressure cycling, corrosion resistance, flow characteristics, vibration resistance, leakage, mechanical and hydrostatic strength.
- EXAMPLE: A 48-inch hose installed with two 30° bends and two 90° bends is permitted and considered equivalent to the data in the table shown above. In this example, the total number of degrees is 240°, which is less than the allowable 270°.

5.2 PERFORMANCE – FRICTION LOSS DATA



Series AH2 Braided Hose with 90° Low Profile Elbows  
Style AB5, AB11, AB12, ABBA and ABMM *VicFlex* Bracket

Length of Stainless Steel Flexible Hose	K-Factor	Outlet Size	Equivalent Length of 1"/33.7mm Sch. 40 Pipe	Maximum Number of 90° Bends at 7"/178mm Bend Radius
inches/mm	Imperial/S.I.	inches/mm	feet/meters	
31/790	5.6/8.1	½"/15	13.7/4.2	2
36/915	5.6/8.1	½"/15	17.0/5.2	2
48/1220	5.6/8.1	½"/15	25.0/7.6	3
60/1525	5.6/8.1	½"/15	33.0/10.1	4
72/1830	5.6/8.1	½"/15	41.1/12.5	4
31/790	8.0/11.5	¾"/20	13.6/4.14	2
36/915	8.0/11.5	¾"/20	16.9/5.2	2
48/1220	8.0/11.5	¾"/20	27.8/8.5	3
60/1525	8.0/11.5	¾"/20	32.6/9.9	4
72/1830	8.0/11.5	¾"/20	40.6/12.4	4
31/790	11.2/16.1	¾"/20	13.7/4.2	2
36/915	11.2/16.1	¾"/20	17.0/5.2	2
48/1220	11.2/16.1	¾"/20	24.9/7.6	3
60/1525	11.2/16.1	¾"/20	32.9/10.0	4
72/1830	11.2/16.1	¾"/20	40.9/12.5	4
31/790	14.0/20.2	¾"/20	13.5/4.1	2
36/915	14.0/20.2	¾"/20	16.8/5.1	2
48/1220	14.0/20.2	¾"/20	24.7/7.5	3
60/1525	14.0/20.2	¾"/20	32.7/9.9	4
72/1830	14.0/20.2	¾"/20	40.7/12.4	4

FM NOTES:

- The Series AH2 hose has been tested and Approved by FM Global for use in wet, dry and preaction systems per NFPA 13, 13R, and 13D and FM data sheets 2-0, 2-5, and 2-8. FM 1637 standard for safety include, but are not limited to, pressure cycling, corrosion resistance, flow characteristics, vibration resistance, leakage, mechanical and hydrostatic strength.
- EXAMPLE: A 48-inch hose installed with two 30° bends and two 90° bends is permitted and considered equivalent to the data in the table shown above. In this example, the total number of degrees is 240°, which is less than the allowable 270°.

### 5.3 PERFORMANCE – FRICTION LOSS DATA



**Series AH2 and AH2-CC Braided Hose**  
**Style AB1, AB2, AB4, AB5, AB7, AB7 Adj., AB8, AB10, AB11 and AB12 Brackets**

Length of Stainless Steel Flexible Hose	Outlet Size	Equivalent Length of steel pipe according to EN 10255 DN 25 (33,7 x 3,25)	Maximum Number of 90° Bends at 3"/76.2mm Bend Radius
mm/inches	mm/inches	meters/feet	meters/feet
31/790	15 mm/1/2"	5.5/18.0	3
	20 mm/3/4"		
36/915	15 mm/1/2"	6.4/21.0	3
	20 mm/3/4"		
48/1220	15 mm/1/2"	8.5/27.9	3
	20 mm/3/4"		
60/1525	15 mm/1/2"	10.7/35.1	4
	20 mm/3/4"		
72/1830	15 mm/1/2"	12.8/42.0	4
	20 mm/3/4"		

**VDS CEILING MANUFACTURERS LIST**

- |                                  |                      |                 |
|----------------------------------|----------------------|-----------------|
| <b>AB1, AB2, AB7, AB10 ,AB11</b> | <b>AB4</b>           | <b>AB5, AB8</b> |
| 1. AMF                           | No specific approval | 1. Hilti        |
| 2. Armstrong                     |                      | 2. Knauf        |
| 3. Chicago Metallic              |                      | 3. Lafarge      |
| 4. Dipling                       |                      | 4. Lindner      |
| 5. Durlum                        |                      | 5. Rigips       |
| 6. Geipel                        |                      |                 |
| 7. Gema-Armstrong                |                      |                 |
| 8. Hilti                         |                      |                 |
| 9. Knauf                         |                      |                 |
| 10. Lafarge                      |                      |                 |
| 11. Linder                       |                      |                 |
| 12. Odenwald                     |                      |                 |
| 13. Richter                      |                      |                 |
| 14. Rigips                       |                      |                 |
| 15. Rockfon Pagos                |                      |                 |
| 16. Suckow & Fischer             |                      |                 |
| 17. USG Donn                     |                      |                 |



**Series AH2 and AH2-CC Braided Hose**  
**Style AB1, AB2, AB3, AB4, AB5, AB7, AB8, and AB10 Brackets**

Length of Stainless Steel Flexible Hose	Outlet Size	Equivalent Length of steel pipe according to EN 10255 DN 25 (33,7 x 3,25)	Maximum Number of 90° Bends at 3"/76.2mm Bend Radius
mm/inches	mm/inches/type	meters/feet	
790/31	15 mm/1/2"/Straight	1.8/6.0	2
	20 mm/3/4"/Straight		
915/36	15 mm/1/2"/Straight	3.6/11.9	3
	20 mm/3/4"/Straight		
1220/48	15 mm/1/2"/Straight	4.3/14.0	3
	20 mm/3/4"/Straight		
1525/60	15 mm/1/2"/Straight	4.1/13.6	3
	20 mm/3/4"/Straight		
1830/72	15 mm/1/2"/Straight	5.5/18.1	3
	20 mm/3/4"/Straight		



**Series AH2 Braided Hose**  
**Style AB1, AB2, AB3, AB4, AB5, AB7, AB8, AB10 and AB12 Brackets**

Length of Flexible Hose	Equivalent Length of 1"/33.7mm Sch. 40 Pipe	
	Straight Configuration	Bend Configuration
mm inches		
790 31	0.87	2.70
	2.9	8.9
915 36	1.00	2.80
	3.3	9.2
1220 48	2.23	4.66
	7.3	15.3
1525 60	2.90	6.5
	9.5	21.3
1830 72	3.31	7.16
	10.9	23.5

**CCCF NOTE**

- Friction loss data is in accordance with GB5135.16 tested at a flow rate of 114 liters per minute (30 gallons per minute).

## 6.0 NOTIFICATIONS

### WARNING



- Read and understand all instructions before attempting to install, remove, adjust, or maintain any Victaulic piping 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.

### 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 within the piping system and external environments.
- 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.

## 7.0 REFERENCE MATERIALS – CHARACTERISTICS

### VicFlex Maximum Load Values

#### Series AH2 Hose with 24" Bracket

Model Size	Actual Length ft m	Total Load		Max. Uniform Load	
		lb	N	lb/linear ft	N/linear m
31/790	2.6 0.8	5.2	23	2.6	38
36/915	3 0.9	5.5	25	2.8	40
48/1220	4 1.2	6.3	28	3.1	46
60/1525	5 1.5	7.0	31	3.5	51
72/1830	6 1.8	7.7	34	3.9	57

#### Series AH2 Hose with 48" Bracket

Model Size	Actual Length ft m	Total Load		Max. Uniform Load	
		lb	N	lb/linear ft	N/linear m
31/790	2.6 0.8	6.1	27	1.5	22
36/915	3 0.9	6.4	29	1.6	23
48/1220	4 1.2	7.2	32	1.8	26
60/1525	5 1.5	7.9	35	2.0	29
72/1830	6 1.8	8.7	39	2.2	32

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

- water-filled flexible sprinkler hose with threaded end fittings, including a typical fire sprinkler
- bracket assembly (any applicable Victaulic bracket model of the relevant associated size)

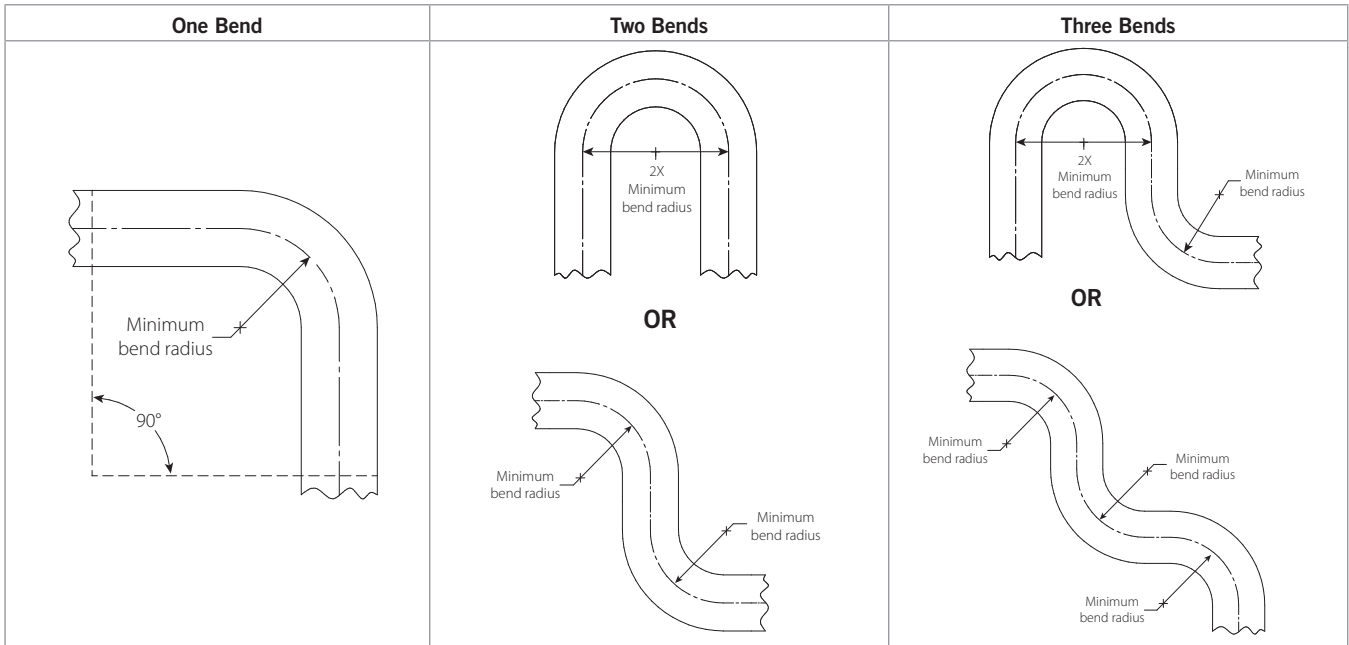
#### ASTM C 635: Suspension System Load-Carrying Capabilities (excerpted)

Suspension System	Actual Length ft/m	Min. Allowable Uniform Load	
		lb/linear ft	N/linear m
Direct Hung	Light	5.0	75.7
	Intermediate	12.0	181.0
	Heavy	16.0	241.7

SUMMARY: All direct-hung suspension system duty classifications per ASTM C 635 are able to withstand the maximum water-filled weight of the VicFlex sprinkler hose and bracket.

7.0 REFERENCE MATERIALS – CHARACTERISTICS (CONTINUED)

Flexible Hose In-Plane Bend Characteristics



**NOTE**

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

[I-VicFlex-AB1-AB2-AB10](#)

[I-VicFlex-AB3](#)

[I-VicFlex-AB4](#)

[I-VicFlex-AB7](#)

[I-VicFlex-AB8](#)

[I-VicFlex-AB12](#)

[I-VicFlex-ABBA](#)

[I-VicFlex-ABMM](#)

**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 I-VICFLEX-AB1-AB2-AB10, I-VICFLEX-AB4, I-VICFLEX-AB7, or I-VICFLEX-AB8 for the product you are installing. Handbooks are included with each shipment of Victaulic products for 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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