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"/790 mm, 36"/915 mm, 48"/1220 mm, 60"/1525 mm, 72"/1830 mm Note: length includes adapter nipple and 5.75"/146 mm straight reducer.
- **Series AH2-CC 1"/DN25 Nominal ID Braided Hose:** 31"/790 mm, 36"/915 mm, 48"/1220 mm, 60"/1525 mm, 72"/1830 mm Note: length includes captured coupling and 5.75"/146 mm straight reducer.

Connections

- **From Branchline**
  - ¾"/20 mm BSPT Female Thread (VdS only)
  - 1"/25 mm NPT or BSPT Female Thread
  - 1"/25 mm Grooved IGS (refer to Publication 10.54 for additional IGS connections)
    - No. 116 CPVC Adapter (1"/25 mm Female CPVC Socket x 1"/25 mm Grooved IGS)
    - No. 142 Welded Outlet
    - Style 922 Outlet-T
    - Style 920N Mechanical-T Outlet
    - No. 65 Grooved End of Run Fitting
  - 1 ¼"/32 mm BSPT Female Thread (LPCB only)
- **Hose Inlet**
  - ¾"/20 mm BSPT Male Thread (VdS only)
  - 1"/25 mm Grooved IGS
  - 1"/25 mm NPT or BSPT Male Thread
  - 1 ¼"/32 mm BSPT Male Thread (LPCB only)
- **Sprinkler Reducer**
  - Sprinkler Connection: ½"/15 mm, ¾"/20 mm NPT or BSPT Female Thread
  - Straight Lengths: 5.75"/146 mm, 9"/230 mm, 13"/330 mm
  - 90° Elbows: Short elbows typically used with concealed sprinklers; Long elbows typically used with recessed pendent sprinklers.
    - Standard Short
    - Low-Profile Short
    - Standard Long
    - Low-Profile Long

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

1.0 PRODUCT DESCRIPTION (CONTINUED)

Brackets

- Style AB2 for suspended and hard-lid ceilings and sidewalls: allows for vertical sprinkler adjustment and installation before most ceiling tiles are 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 / Adjustable AB7 for suspended and hard-lid ceilings
- 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 installation (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"/100 mm.
- 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
- Strut channel and pipe clamp, not supplied by Victaulic

Maximum Working Temperature

- 225°F/107°C
- 150°F/65°C (No. 116 CPVC Adapter)

Maximum Working Pressure

- 200 psi/1375 kPa (FM)
- 175 psi/1206 kPa (cULus)
- 232 psi/1600 kPa (VdS/LPCB)
- 203 psi/1.4 MPa (CCC)
- 175 psi/1206 kPa (No. 116 CPVC Adapter)

Minimum Bend Radius

- 7"/178 mm (FM/CCC)
- 2"/51 mm (cULus)
- 3"/76.2 mm (VdS/LPCB)

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 CERTIFICATIONS/LISTINGS

LPS 1261: Issue 1.2
Cert/LPCB Ref. 104I/01
104I/04

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® FlameGuard® 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: Carbon Steel, Zinc-Plated
Low-Profile Elbows: Ductile Iron, Zinc-Plated or Carbon Steel, 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: Polyethylene
Nut: Carbon Steel, Zinc-Plated
Reducer: Carbon Steel, Zinc-Plated
Low-Profile Elbows: Ductile Iron, Zinc-Plated or 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[1]:

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.

[1] 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 Seal Selection Guide for specific gasket service guidelines and for a listing of services which are not compatible.

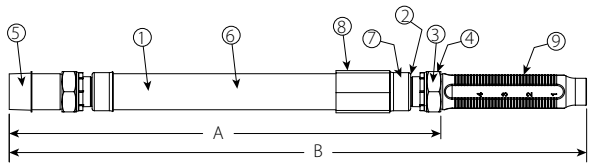
Bolts/Nut: Zinc electroplated carbon steel, trackhead meeting the physical and chemical requirements of ASTM A 449 and physical requirements of ASTM A 183.

Linkage: CrMo Alloy Steel zinc electroplated per ASTM B633 Zn/Fe 5, Type III Finish

No. 116 Adapter Fitting: CPVC and Brass
Seal: Victaulic EPDM

4.0 DIMENSIONS

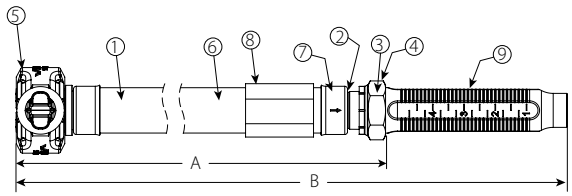
Product Details - Series AH2 Braided Hose



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

Hose	Dimensions	
	A	B
Series	inches mm	inches mm
AH2-31	25.6 650	31.0 790
AH2-36	31.6 803	36.0 915
AH2-48	42.6 1082	48.0 1220
AH2-60	54.6 1387	60.0 1525
AH2-72	66.6 1692	72.0 1830

Series AH2-CC Braided Hose

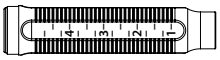


Item	Description
1	Flexible Hose
2	Isolation Ring
3	Gasket
4	Nut
5	Captured Coupling
6	Braid
7	Collar/Weld Fitting
8	Sleeve
9	Reducer

Hose	Dimensions	
	A	B
Series	inches mm	inches mm
AH2-CC-31	24.5 622	29.8 760
AH2-CC-36	29.5 749	34.8 885
AH2-CC-48	41.5 1054	46.8 1190
AH2-CC-60	53.5 1359	58.8 1495
AH2-CC-72	65.5 1664	70.8 1800

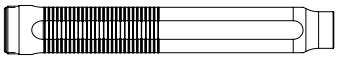
4.1 DIMENSIONS

Standard Reducer

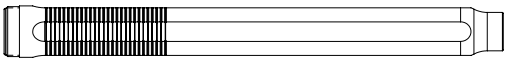


5.75"/146 mm straight reducer

Optional Reducers

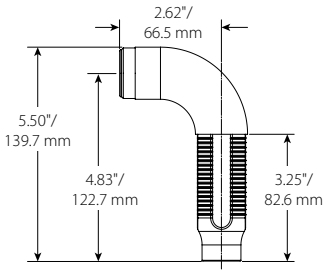


9.0"/230 mm straight reducer

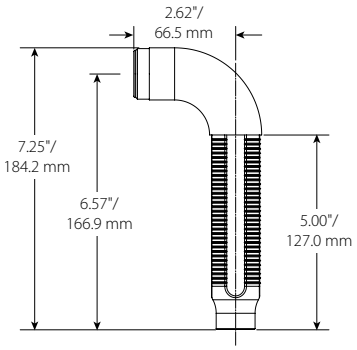


13.0"/330 mm straight reducer

Standard Elbow Reducers



Short 90°
Elbow Reducer

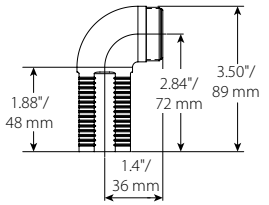


Long 90°
Elbow Reducer

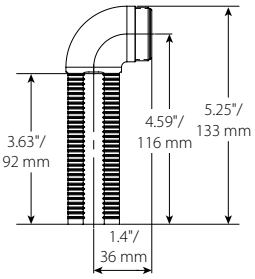
NOTES

- The Short 90° Elbow Reducer is typically used with concealed sprinklers while the Long 90° Elbow Reducer is typically used in the installation of recessed pendent sprinklers.
- FM/VdS/LPCB Approved only

Low-Profile Elbow Reducers



Short 90° Low-Profile
Elbow Reducer

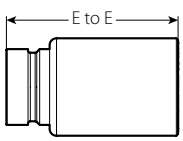


Long 90° Low-Profile
Elbow Reducer

NOTE

- Style AB11: When Low-Profile 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.

No. 116 CPVC Adapter



NOTES

- E to E is 3.0"/76.0 mm
- The No. 116 CPVC Adapter has 2 ft. (0.6 m) EQL of 1" Schedule 40 pipe.

4.2 DIMENSIONS

VicFlex™ Brackets

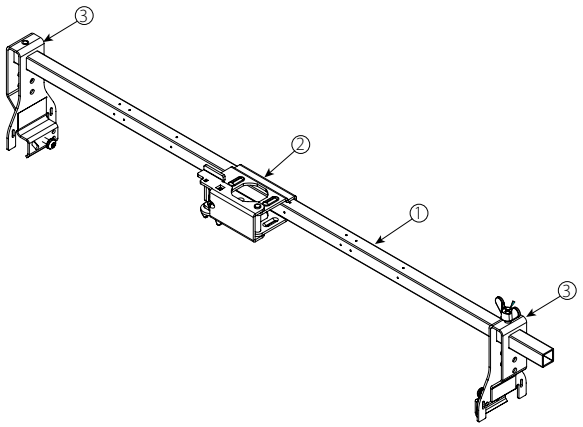
Style AB2

- 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

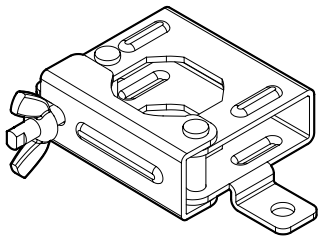
NOTE

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



Style AB3

- Surface Mount Applications
- FM/LPCB Approved



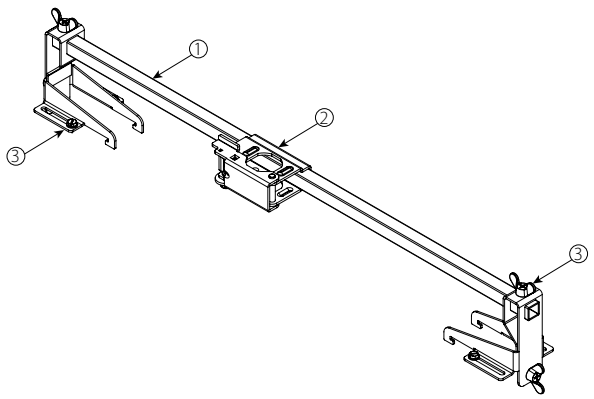
Style AB4

- 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

NOTE

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



4.2 DIMENSIONS (CONTINUED)

VicFlex™ Brackets

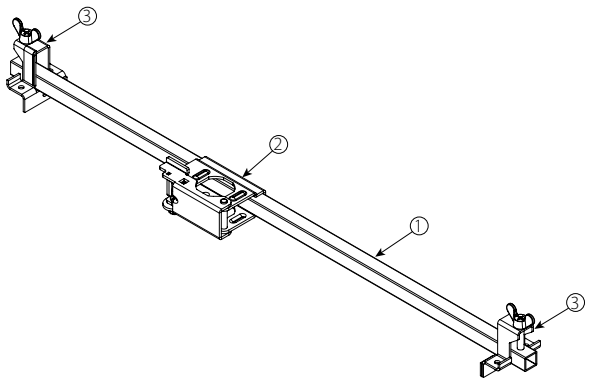
Style AB5

- Hard-Lid Ceilings

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

NOTE

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



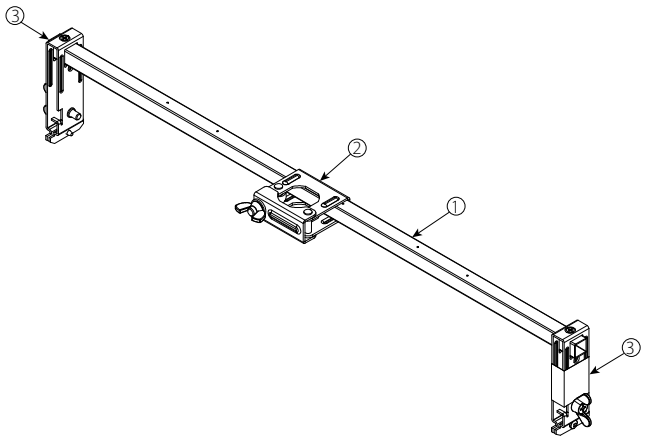
Style AB7

- 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



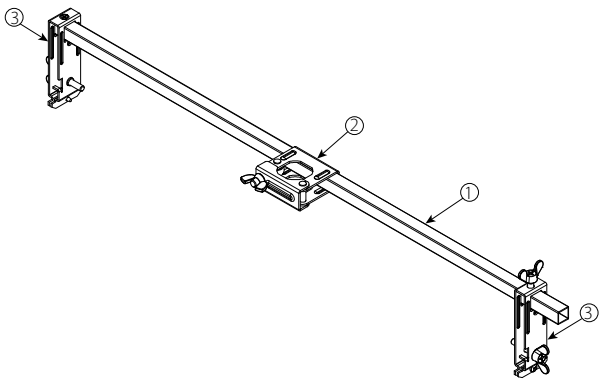
Style AB7 Adjustable

- 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

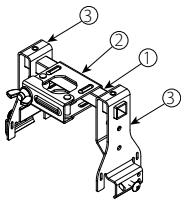


4.2 DIMENSIONS (CONTINUED)

VicFlex™ Brackets

Style AB10

- Suspended Ceilings
- Armstrong® TechZone™



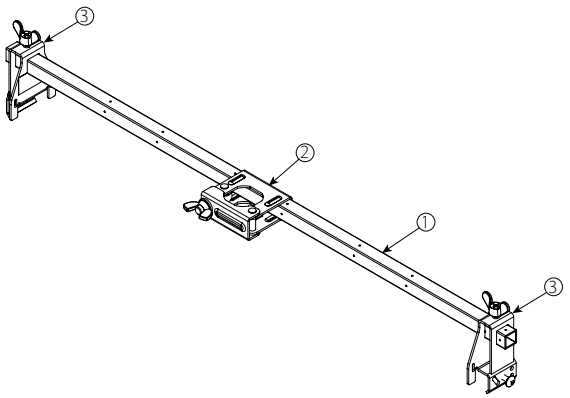
Item	Description
1	6"/152 mm Square Bar
2	Patented 1-Bee2® Center Bracket
3	End Bracket

NOTE

- FM/VdS/LPCB Approved, cULus Listed

Style AB11

- Suspended Ceilings
- Hard-Lid Ceilings



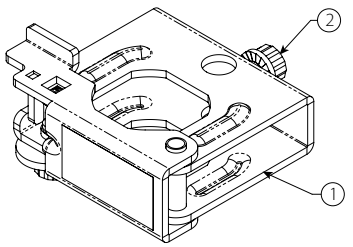
Item	Description
1	24"/610 mm or 48"/1219 mm Square Bar
2	Patented 1-Bee2® Center Bracket
3	End Bracket

NOTE

- FM/VdS/LPCB Approved, cULus Listed

Style AB12

- Suspended Ceilings
- Hard-Lid Ceilings



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

NOTE

- FM/VdS/LPCB Approved

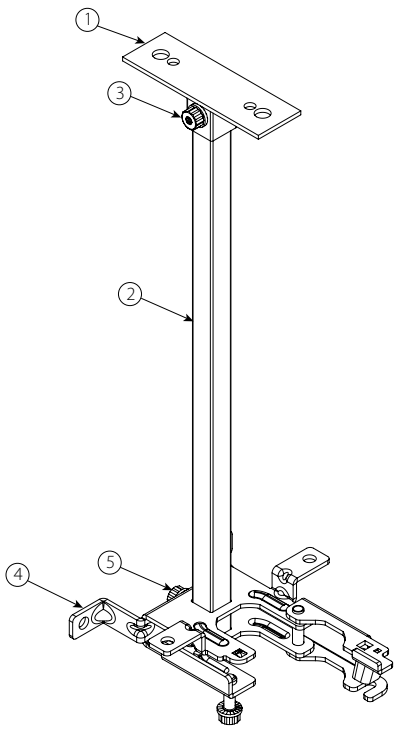
4.2 DIMENSIONS (CONTINUED)

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



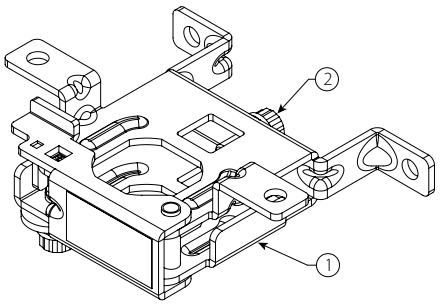
NOTE

- FM/LPCB Approved

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



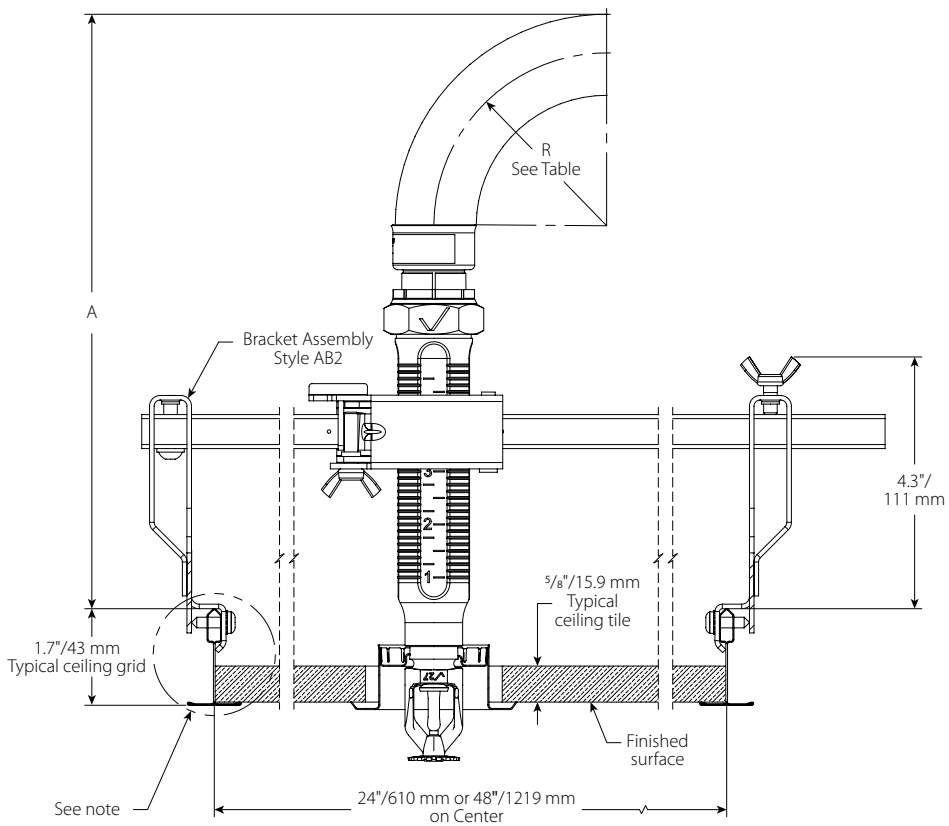
NOTE

- FM/LPCB Approved

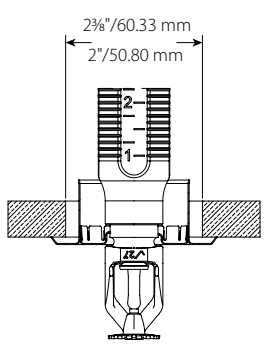
4.3 DIMENSIONS

Clearances

Series AH2 Braided Hose and Style AB2 Bracket with Suspended T-grid Ceilings



V2707 ¾"/19 MM MAX. RECESS



V2707 MAX. EXTENSION

Dimension		Hose Clearance							
		Straight Reducer						Long Elbow	Short Elbow
		V2707 ¾" Max Recess inches mm	**V3802 ½" Max Recess** inches mm	**V2707 ¾" Max Recess** inches mm	**V3802 ½" Max Recess** inches mm	**V2707 ¾" Max Recess** inches mm	**V3802 ½" Max Recess** inches mm	**V2707 ¾" Max Recess** inches mm	**V3802 ½" Max Recess** inches mm
R	Bend Radius	2.0 51		3.0 76.2		7.0 178		—	
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

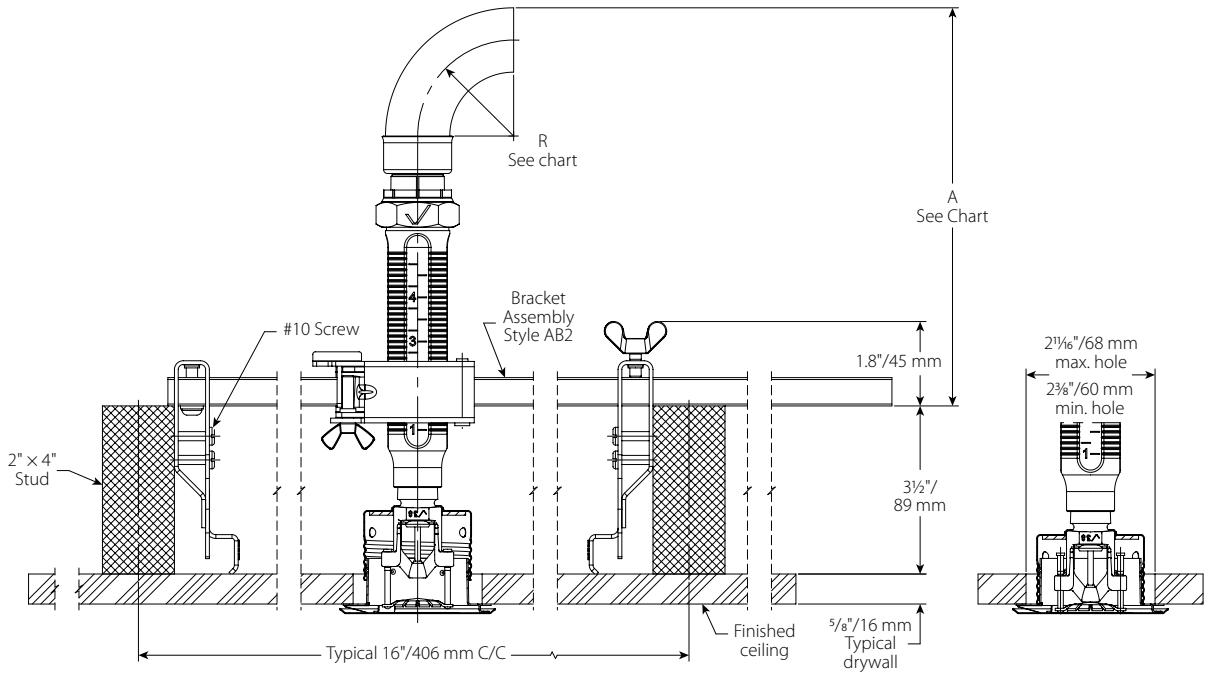
NOTE

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

4.4 DIMENSIONS

Clearances

Series AH2 Braided Hose and Style AB2 Bracket with Wood/Metal Joist Ceilings



V38 ½"/13 mm MAX. RECESS **V38 MAX. EXTENSION**

Dimension		Hose Clearance								
		Straight Reducer								
		V2707 ¾" / 20 mm Max Recess inches mm	V3802 ½" / 13 mm Max Recess inches mm	V2709 ¾" / 20 mm Sidewall inches mm	V2707 ¾" / 20 mm Max Recess inches mm	V3802 ½" / 13 mm Max Recess inches mm	V2709 ¾" / 20 mm Sidewall inches mm	V2707 ¾" / 20 mm Max Recess inches mm	V3802 ½" / 13 mm Max Recess inches mm	V2709 ¾" / 20 mm Sidewall inches mm
R	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

Dimension		Hose Clearance		
		Long Elbow		Short Elbow
		V2707 ¾" / 20 mm Max Recess inches mm	V2709 ¾" / 20 mm Sidewall inches mm	V3802 ½" / 13 mm Max Recess inches mm
R	Bend Radius	—		—
A	Minimum Required Installation Space	3.3 84	3.6 91	3.3 84

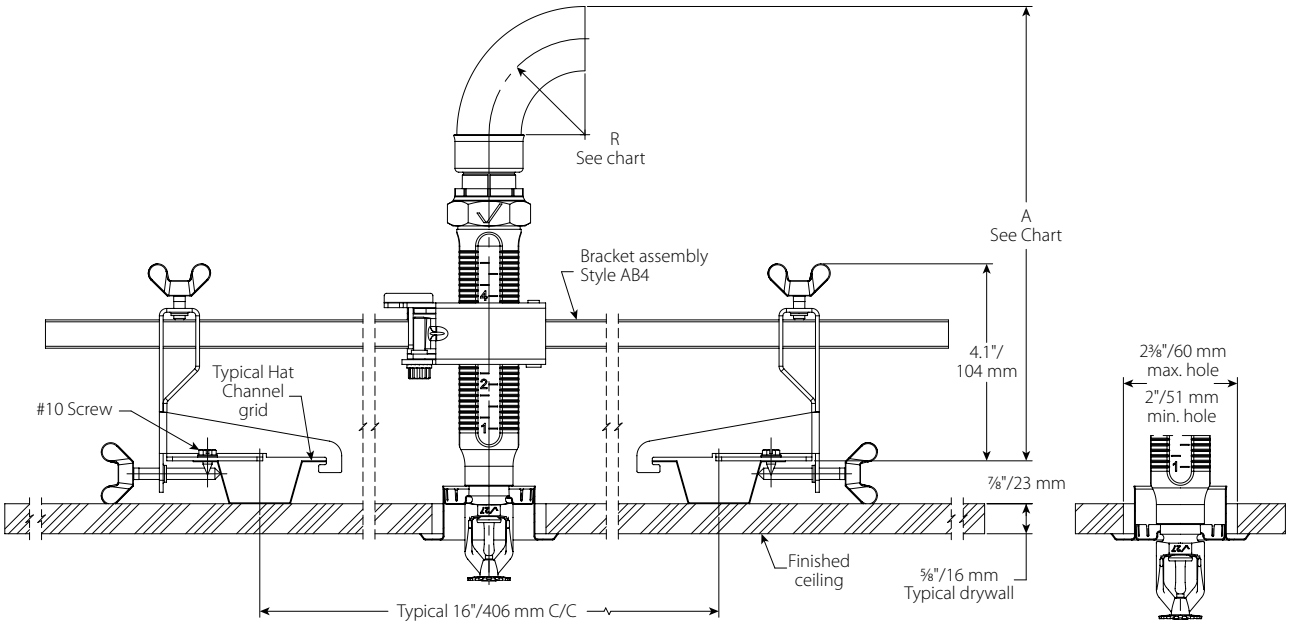
NOTE

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

4.5 DIMENSIONS

Clearances

Series AH2 Braided Hose and Style AB4 Bracket with Hat Furring Channel Ceiling



V27 ¾"/19 mm MAX. RECESS

V27 MAX. EXTENSION

Dimension		Hose Clearance							
		Straight Reducer						Long Elbow	Short Elbow
		V27 Pendent inches mm	**V38** inches mm	**V27 Pendent** inches mm	**V38** inches mm	**V27 Pendent** inches mm	**V38** inches mm	**V27 Pendent** inches mm	**V38** inches mm
R	Bend Radius	2.0 50		3.0 80		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

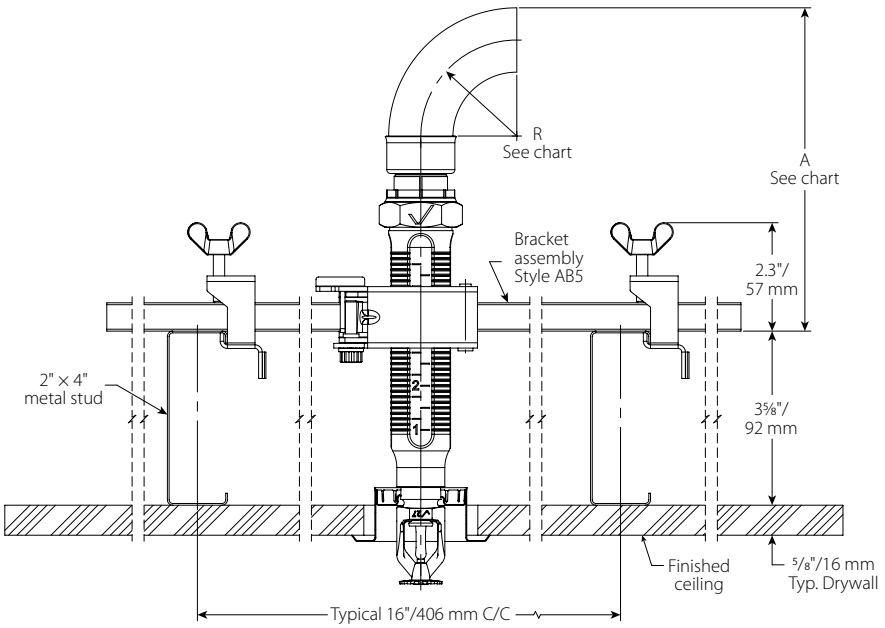
NOTE

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

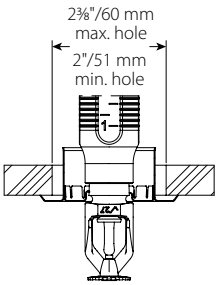
4.6 DIMENSIONS

Clearances

Series AH2 Braided Hose and Style AB5 Bracket with Metal Joist Ceiling



V27 ¾"/19 mm MAX. RECESS



V27 MAX. EXTENSION

	Dimension	Hose Clearance								
		Straight Reducer								
		"V2707 ¾" / 20 mm Max Recess inches mm	V3802 ½" / 13 mm Max Recess inches mm	V2709 ¾" / 20 mm Sidewall inches mm	V2707 ¾" / 20 mm Max Recess inches mm	V3802 ½" / 13 mm Max Recess inches mm	V2709 ¾" / 20 mm Sidewall inches mm	V2707 ¾" / 20 mm Max Recess inches mm	V3802 ½" / 13 mm Max Recess inches mm	V2709 ¾" / 20 mm Sidewall inches mm
R	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

	Dimension	Hose Clearance				
		Long Elbow			Low-Profile Long Elbow	Short Elbow
		V2707 ¾" / 20 mm Max Recess inches mm	V3802 ½" / 13 mm Max Recess inches mm	V2709 ¾" / 20 mm Sidewall inches mm	V3802 ½" / 13 mm Max Recess inches mm	V3802 ½" / 13 mm Max Recess inches mm
R	Bend Radius		—		—	—
A	Minimum Required Installation Space	3.5 89	4.9 124	3.6 91	2.9 74	3.3 84

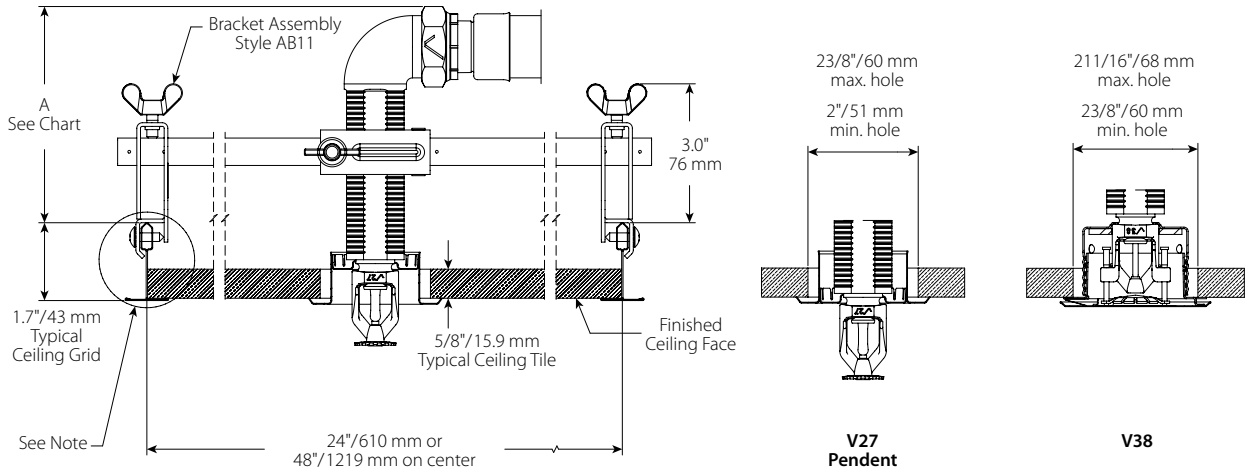
NOTE

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

4.7 DIMENSIONS

Clearances

Series AH2 Braided Hose and Style AB11 Bracket (LOW-PROFILE SOLUTION) with Suspended T-Grid Ceilings



Dimension		Hose Clearance	
		Low-Profile Long Elbow	Low-Profile Short Elbow
		V2707 ¾" / 20 mm Max Recess" inches mm	V3802 ½" / 13 mm Max Recess inches mm
A	Minimum Required Installation Space	4.0 102	3.9 99

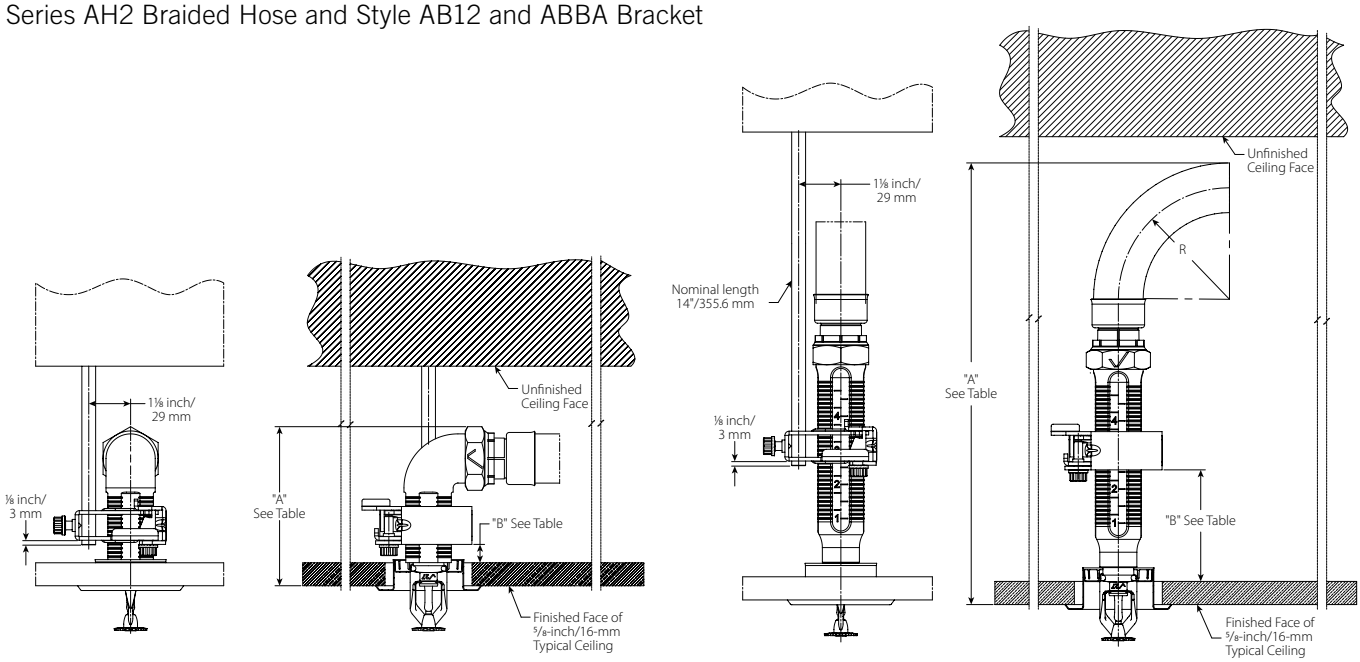
NOTE

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

4.8 DIMENSIONS

Clearances

Series AH2 Braided Hose and Style AB12 and ABBA Bracket



V2707 ½"/12.7 mm MAX. RECESS

V2707 ¾"/19 mm MAX. RECESS

Dimension		Hose Clearance									
		Low-Profile Short Elbow		Low-Profile Long Elbow		Standard Short Elbow		Standard Long Elbow		Standard Straight Reducer	
		¾"/19 mm Recessed* inches mm	Concealed inches mm	¾"/19 mm Recessed inches mm	Concealed inches mm	¾"/19 mm Recessed inches mm	Concealed inches mm	¾"/19 mm Recessed inches mm	Concealed inches mm	¾"/19 mm Recessed inches mm	Concealed inches mm
R	Bend Radius	—		—		—		—		7 175.0	
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	101.6 12.7	139.7 50.8	142.2 38.1	182.9 38.1	149.9 38.1	190.5 38.1	195.6 76.2	236.2 76.2	381.0 76.2	421.6 76.2

* Adjustability will be limited

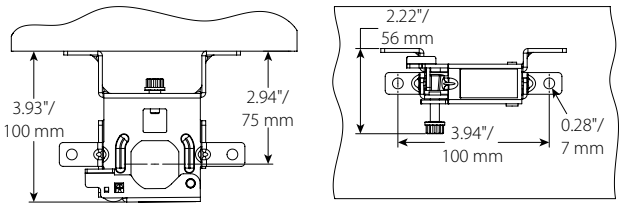
NOTE

- For Style AB12 Bracket Sprinkler location relative to 3/8" threaded rod is 1 1/8"/29 mm center-to-center.
- Variations of ceiling grids, sprinkler heads, brackets, and hoses are permitted but may result in clearance differences from the figures above.

4.9 DIMENSIONS

Stand-off Dimensions

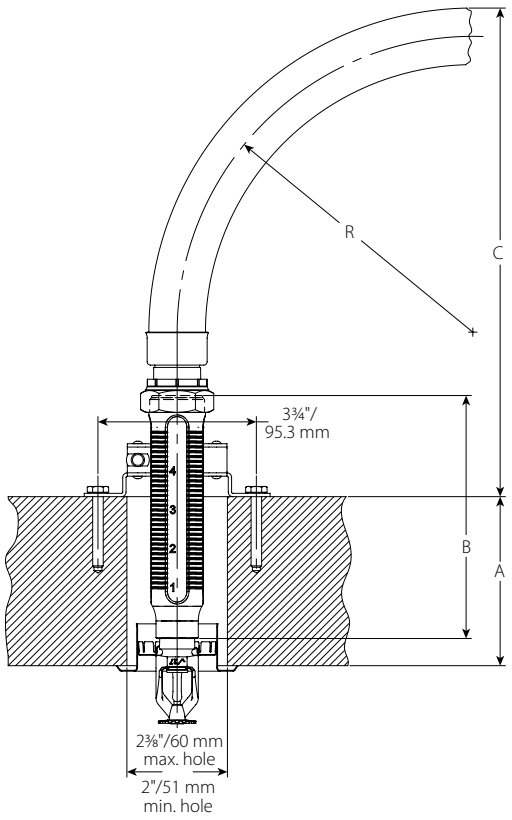
Style ABMM Bracket



4.10 DIMENSIONS

Clearances

Series AH2 Braided Hose and Style AB3 and ABMM Bracket for Surface Mount Application



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

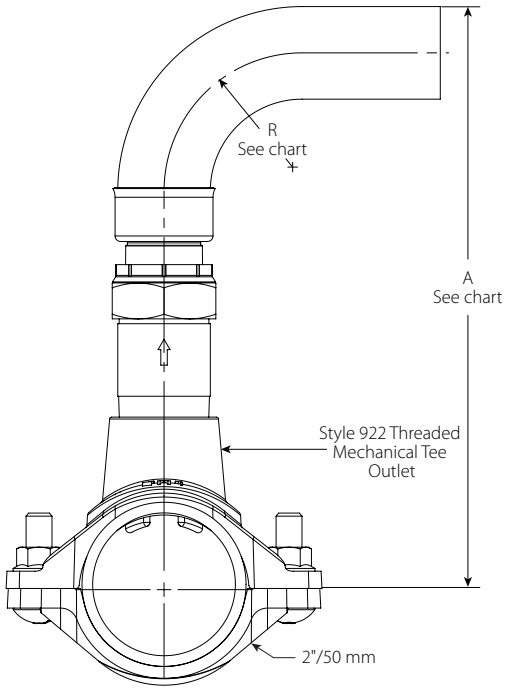
NOTE

- Variations of ceiling grids, sprinkler heads, brackets, and hoses are permitted but may result in clearance differences from the figures above.
- See installation instructions for mounting screw type and size.

4.11 DIMENSIONS

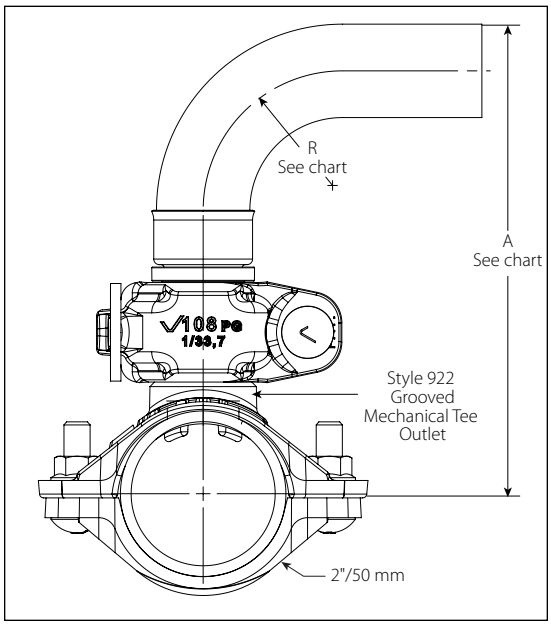
Branchline Clearances

Series AH2 Braided Hose with Style 922 Threaded Outlet



Dimension		Hose Clearance inches mm					
R	Bend Radius	2 51	3 80	4 100	5 125	6 150	7 175
A	Min.	8.4 212	9.4 238	10.4 263	11.4 289	12.4 314	13.4 339

Series AH2-CC Braided Hose with Style 922 Grooved Outlet

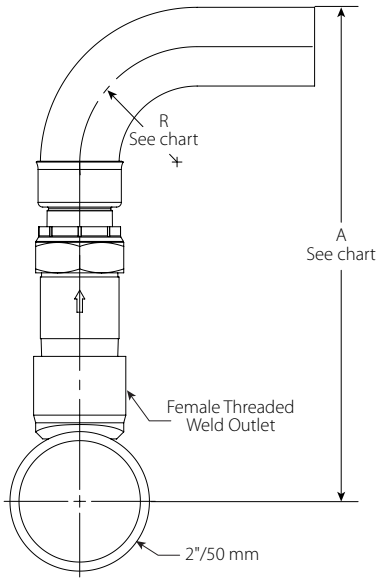


Dimension		Hose Clearance inches mm					
R	Bend Radius	2 51	3 80	4 100	5 125	6 150	7 175
A	Min.	6.7 171	7.7 197	8.7 222	9.7 247	10.7 273	11.7 298

4.12 DIMENSIONS

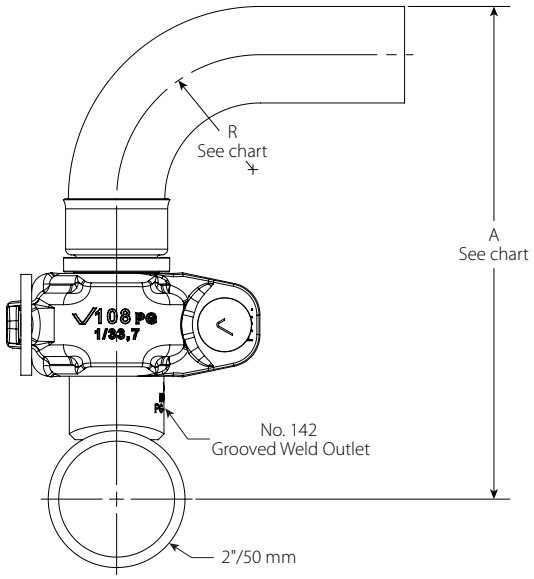
Branchline Clearances

Series AH2 Braided Hose with Female Threaded Outlet



Dimension		Hose Clearance inches mm					
R	Bend Radius	2 51	3 80	4 100	5 125	6 150	7 175
A	Min.	8.4 214	9.4 239	10.4 264	11.4 290	12.4 315	13.41 341

Series AH2-CC Braided Hose with Grooved Outlet



Dimension		Hose Clearance inches mm					
R	Bend Radius	2 51	3 80	4 100	5 125	6 150	7 175
A	Min.	7.1 180	8.1 205	9.1 231	10.1 256	11.1 281	12.1 307

5.0 PERFORMANCE – FRICTION LOSS DATA

Series AH2 and AH2-CC Braided Hoses with Straight 5.75"/146 mm Reducers Style AB2, AB4, AB5 and AB10 VicFlex™ Brackets

Hose	Reducer		UL	
Length inches mm	**Type**	**Nominal Outlet Size** inches DN	**Equivalent Length of 1"/33.7mm Sch. 40 pipe** feet meters	**Maximum Bends**
31 790	Straight	½ DN15	15.0 4.6	3
			16.0 4.9	4
		¾ DN20	19.0 5.8	3
			20.0 6.1	4
36 915	Straight	½ DN15	18.0 5.5	3
			21.0 6.4	5
		¾ DN20	21.0 6.4	3
			23.0 7.0	5
48 1220	Straight	½ DN15	21.0 6.4	3
			32.0 9.8	8
		¾ DN20	26.0 7.9	3
			37.0 11.3	8
60 1525	Straight	½ DN15	27.0 8.2	3
			46.0 14.0	10
		¾ DN20	27.0 8.2	3
			46.0 14.0	10
72 1830	Straight	½ DN15	31.0 9.4	3
			55.0 16.8	12
		¾ DN20	30.0 9.1	3
			60.0 18.3	12

5.1 PERFORMANCE – FRICTION LOSS DATA

Series AH2 and AH2-CC Braided Hoses with 90° Low-Profile Elbow Style AB11 VicFlex™ Bracket

Hose	Reducer		UL	
Length inches mm	**Type**	**Nominal Outlet Size** inches DN	**Equivalent Length of 1"/33.7mm Sch. 40 pipe** feet meters	**Maximum Bends**
31 790	LP Elbow	½ DN15	18.0 5.5	3
			24.0 7.3	4
		¾ DN20	21.0 6.4	3
			24.0 7.3	4
36 915	LP Elbow	½ DN15	19.0 5.8	3
			26.0 7.9	5
		¾ DN20	23.0 7.0	3
			28.0 8.5	5
48 1220	LP Elbow	½ DN15	23.0 7.0	3
			43.0 13.1	8
		¾ DN20	30.0 9.1	3
			42.0 12.8	8
60 1525	LP Elbow	½ DN15	28.0 8.5	3
			49.0 14.9	10
		¾ DN20	31.0 9.4	3
			50.0 15.2	10
72 1830	LP Elbow	½ DN15	31.0 9.4	3
			65.0 19.8	12
		¾ DN20	36.0 11.0	3
			63.0 19.2	12

5.2 PERFORMANCE – FRICTION LOSS DATA

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

Hose		Equivalent Length of 1"/33.7 mm Sch. 40 pipe									
Length inches mm	**Nominal Outlet Size** inches DN	**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	½ DN15	15.0 4.6	16.0 4.9	–	–	–	–	–	–	–	–
	¾ DN20	19.0 5.8	20.0 6.1								
36 915	½ DN15	18.0 5.5	20.0 6.1	21.0 6.4	–	–	–	–	–	–	–
	¾ DN20	21.0 6.4	22.0 6.7	23.0 7.0							
48 1220	½ DN15	21.0 6.4	24.0 7.3	26.0 7.9	28.0 8.5	30.0 9.1	32.0 9.8	–	–	–	–
	¾ DN20	26.0 7.9	29.0 8.8	31.0 9.4	33.0 10.1	35.0 10.7	37.0 11.3				
60 1525	½ DN15	27.0 8.2	30.0 9.1	33.0 10.1	36.0 11.0	38.0 11.6	41.0 12.5	44.0 13.4	46.0 14.0	–	–
	¾ DN20	27.0 8.2	30.0 9.1	33.0 10.1	36.0 11.0	38.0 11.6	41.0 12.5	44.0 13.4	46.0 14.0		
72 1830	½ DN15	31.0 9.4	34.0 10.4	37.0 11.3	39.0 11.9	42.0 12.8	45.0 13.7	47.0 14.3	50.0 15.2	53.0 16.2	55.0 16.8
	¾ DN20	30.0 9.1	34.0 10.4	37.0 11.3	40.0 12.2	44.0 13.4	47.0 14.3	50.0 15.2	54.0 16.5	57.0 17.4	60.0 18.3

NOTES

- Values at 2"/51 mm center line bend radius for use with 5.75"/146 mm 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.

5.3 PERFORMANCE – FRICTION LOSS DATA

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

Hose	Sprinkler	Reducer		FM	
Length inches mm	**K-factor** Imperial S.I.	**Nominal Outlet Size** inches DN	**Type**	**Equivalent Length of 1"/33.7 mm Sch. 40 Pipe** feet meters	**Maximum Bends**
31 790	5.6 8.1	½ DN15	Straight	13.8 4.2	2
			Elbow	23.5 7.2	
	8.0 11.5	¾ DN20	Straight	16.8 5.1	
			Elbow	16.8 5.1	
	11.2 16.1	¾ DN20	Straight	16.5 5.0	
			Elbow	17.8 5.4	
	14.0 20.2	¾ DN20	Straight	14.9 4.5	
			Elbow	15.5 4.7	
36 915	5.6 8.1	½ DN15	Straight	16.6 5.1	2
			Elbow	25.6 7.8	
	8.0 11.5	¾ DN20	Straight	20.0 6.1	
			Elbow	19.7 6.0	
	11.2 16.1	¾ DN20	Straight	19.5 5.9	
			Elbow	20.7 6.3	
	14.0 20.2	¾ DN20	Straight	19.4 5.9	
			Elbow	19.6 6.0	
48 1220	5.6 8.1	½ DN15	Straight	23.4 7.1	3
			Elbow	30.7 9.4	
	8.0 11.5	¾ DN20	Straight	27.8 8.5	
			Elbow	26.6 8.1	
	11.2 16.1	¾ DN20	Straight	26.7 8.1	
			Elbow	27.9 8.5	
	14.0 20.2	¾ DN20	Straight	30.3 9.2	
			Elbow	29.5 9.0	

FM NOTES

- The Series AH2 and AH2-CC hoses have 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 (CONTINUED)

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

Hose	Sprinkler	Reducer		FM	
Length inches mm	**K-factor** Imperial S.I.	**Nominal Outlet Size** inches DN	**Type**	**Equivalent Length of 1"/33.7 mm Sch. 40 Pipe** feet meters	**Maximum Bends**
60 1525	5.6 8.1	½ DN15	Straight	30.2 9.2	4
			Elbow	35.9 10.9	
	8.0 11.5	¾ DN20	Straight	35.7 10.9	
			Elbow	33.6 10.2	
	11.2 16.1	¾ DN20	Straight	33.9 10.3	
			Elbow	35.0 10.7	
	14.0 20.2	¾ DN20	Straight	33.9 10.3	
			Elbow	34.1 10.4	
72 1830	5.6 8.1	½ DN15	Straight	37.0 11.3	4
			Elbow	41.1 12.5	
	8.0 11.5	¾ DN20	Straight	43.5 13.3	
			Elbow	40.6 12.4	
	11.2 16.1	¾ DN20	Straight	41.3 12.6	
			Elbow	42.2 12.9	
	14.0 20.2	¾ DN20	Straight	37.5 11.4	
			Elbow	38.6 11.8	

FM NOTES

- The Series AH2 and AH2-CC hoses have 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°.

5.4 PERFORMANCE – FRICTION LOSS DATA

Series AH2 and AH2-CC Braided Hoses with 90° Low-Profile Elbows Style AB5, AB11, AB12, ABBA and ABMM VicFlex™ Brackets

Hose	Reducer		Sprinkler	FM	
Length inches mm	**Type**	**Nominal Outlet Size** inches DN	**K-factor** Imperial S.I.	**Equivalent Length of 1"/33.7mm Sch. 40 pipe** feet meters	**Maximum Bends**
31 790	LP Elbow	½ DN15	5.6 8.1	13.7 4.2	2
		¾ DN20	8.0 11.5	13.6 4.14	
			11.2 16.1	13.7 4.2	
			14.0 20.2	13.5 4.1	
36 915	LP Elbow	½ DN15	5.6 8.1	17.0 5.2	2
		¾ DN20	8.0 11.5	16.9 5.2	
			11.2 16.1	17.0 5.2	
			14.0 20.2	16.8 5.1	
48 1220	LP Elbow	½ DN15	5.6 8.1	25.0 7.6	3
		¾ DN20	8.0 11.5	27.8 8.5	
			11.2 16.1	24.9 7.6	
			14.0 20.2	24.7 7.5	
60 1525	LP Elbow	½ DN15	5.6 8.1	33.0 10.1	4
		¾ DN20	8.0 11.5	32.6 9.9	
			11.2 16.1	32.9 10.0	
			14.0 20.2	32.7 9.9	
72 1830	LP Elbow	½ DN15	5.6 8.1	41.1 12.5	4
		¾ DN20	8.0 11.5	40.6 12.4	
			11.2 16.1	40.9 12.5	
			14.0 20.2	40.7 12.4	

FM NOTES

- The Series AH2 and AH2-CC hoses have 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°.

5.5 PERFORMANCE – FRICTION LOSS DATA

Series AH2 and AH2-CC Braided Hoses
Style AB2, AB4, AB5, AB7, AB7 Adj., AB8, AB10, AB11 and AB12 VicFlex™ Brackets

Hose	Reducer	VdS	
Length mm inches	Nominal Outlet Size DN inches	Equivalent Length according to EN 10255 DN25 (33.7 x 3.25 mm) meters feet	Maximum Bends
790 31	DN15 ½	5.5 18.0	3
	DN20 ¾		
915 36	DN15 ½	6.4 21.0	3
	DN20 ¾		
1220 48	DN15 ½	8.5 27.9	3
	DN20 ¾		
1525 60	DN15 ½	10.7 35.1	4
	DN20 ¾		
1830 72	DN15 ½	12.8 42.0	4
	DN20 ¾		

VDS CEILING MANUFACTURERS LIST

AB2, AB7, AB10, AB11, AB12

1. AMF
2. Armstrong
3. Chicago Metallic
4. Dipling
5. Durlum
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

AB4

No specific approval

AB5

1. Hilti
2. Knauf
3. Lafarge
4. Lindner
5. Rigips

5.6 PERFORMANCE – FRICTION LOSS DATA

LPS 1261: Issue 1.2
Cert/LPCB Ref. 104I/02
104I/03

Series AH2 and AH2-CC Braided Hoses
Style AB2, AB3, AB4, AB5, AB7, AB8 and AB10 VicFlex™ Brackets

Hose	Reducer	LPCB	
Length mm inches	**Nominal Outlet Size** DN inches	**Equivalent Length according to EN 10255 DN25 (33.7 x 3.25 mm)** meters feet	**Maximum Bends**
790 31	DN15 ½ DN20 ¾	1.8 6.0	2
915 36	DN15 ½ DN20 ¾	3.6 11.9	3
1220 48	DN15 ½ DN20 ¾	4.3 14.0	3
1525 60	DN15 ½ DN20 ¾	4.1 13.6	3
1830 72	DN15 ½ DN20 ¾	5.5 18.1	3

5.7 PERFORMANCE – FRICTION LOSS DATA

Series AH2 Braided Hose

Hose	CCC	
	Equivalent Length of 1"/33.7mm Sch. 40 pipe according to G5135.16 tested at 114 lpm (30 gpm)	
Length mm inches	**Straight Configuration** meters feet	**Bend Configuration** meters feet
790 31	0.87 2.9	2.70 8.9
915 36	1.00 3.3	2.80 9.2
1220 48	2.23 7.3	4.66 15.3
1525 60	2.90 9.5	6.5 21.3
1830 72	3.31 10.9	7.16 23.5

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.

Victaulic VicFlex™ Braided Hoses 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.

Victaulic VicFlex™ Braided Hoses 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 – CHARACTERISTICS

VicFlex™ Maximum Load Values

Series AH2 Hose with 24" Bracket

Hose Length inches mm	Total Load		Maximum Uniform Load	
	lb	N	lb/linear ft	N/linear m
31 790	5.2	23	2.6	38
36 915	5.5	25	2.8	40
48 1220	6.3	28	3.1	46
60 1525	7.0	31	3.5	51
72 1830	7.7	34	3.9	57

Series AH2 Hose with 48" Bracket

Hose Length inches mm	Total Load		Maximum Uniform Load	
	lb	N	lb/linear ft	N/linear m
31 790	6.1	27	1.5	22
36 915	6.4	29	1.6	23
48 1220	7.2	32	1.8	26
60 1525	7.9	35	2.0	29
72 1830	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)

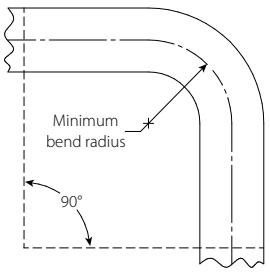
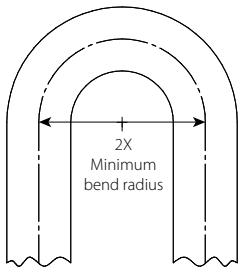
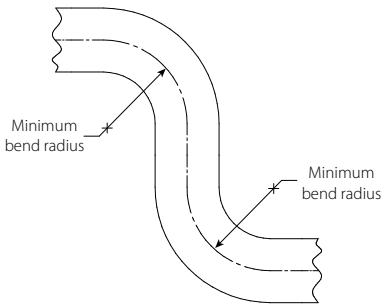
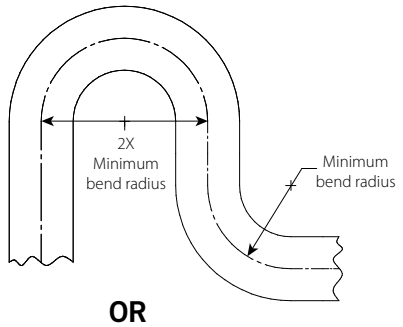
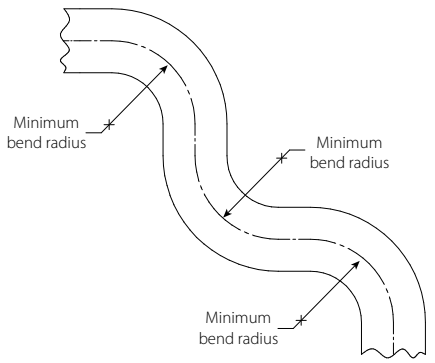
ASTM C 635: Suspension System Load-Carrying Capabilities (excerpted)

Suspension System	Actual Length	Minimum Allowable Uniform Load	
	ft/m	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

One Bend	Two Bends	Three Bends
	 **OR** 	 **OR** 

NOTE

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

I-*VICFLEX*: Field Installation Handbook

I-RES: Field Installation Handbook

