

Victaulic® Vic-Flex™ Sprinkler Fittings

Series AH2 Braided Flexible Hose



1.0 PRODUCT DESCRIPTION

Available Sizes by Component

- **Series AH2 Braided Hose:** 31, 36, 48, 60, 72"/790, 914, 1220, 1525, 1830 mm. Note: length includes adapter nipple and 5.75"/140 mm straight reducer.
- **Sprinkler Reducers:** ½" and ¾"/15 and 20 mm sprinkler connections and 5.75"/140 mm, 9"/230 mm, 13"/330 mm straight lengths and short, long 90° elbows. Note: The short 90° elbow is typically used with concealed sprinklers while the long 90° elbow is typically used in the installation of recessed pendent sprinklers.
- **Adapter Nipples:** 1"/25 mm NPT or BSPT adapter nipples for attaching to pipe and fittings outlined in NFPA standards. ¾"/20 mm NPT or BSPT available for VdS. 1 ¼"/ 32mm BSPT available for LPCB.
- **Brackets:**
 - Style AB1 for suspended and hard-lid ceilings, allows installation before most ceiling tiles in place
 - Style AB2 for suspended and hard-lid ceilings, allows for vertical sprinkler adjustment, and installation before most ceiling tiles in place
 - Style AB3 for surface mount applications, wood, metal and block walls
 - Style AB4 for hard-lid ceilings with hat furring channel grid systems, 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

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)

This product is not listed in the construction documents for use on this project. Contractor has elected to incorporate into the delegated design.

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)

Connections

- To adapter nipple (inlet) via 1"/25.4 mm NPT or BSPT male thread

OR

- To adapter nipple (inlet) via ¾"/20 mm BSPT male thread (VdS only)
- To sprinkler head (outlet) via ½" or ¾"/15 mm or 20 mm

Minimum Bend Radius

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

Maximum Allowable Sprinkler K-Factors

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

2.0 CERTIFICATION/LISTINGS



3.0 SPECIFICATIONS – MATERIAL

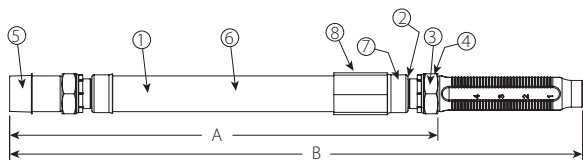
Series AH2

- **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 or ¾"):** Carbon Steel, Zinc-Plated

Brackets: Carbon Steel, Zinc-Plated

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 inches mm	A inches mm	B inches mm
31/790	25.25/641	31/790
36/915	31.25/794	36/915
48/1220	42.25/1073	48/1220
60/1525	54.25/1378	60/1525
72/1830	66.25/1683	72/1830

Standard Reducer

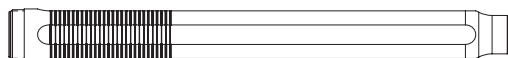


5.75"/140 mm straight reducer

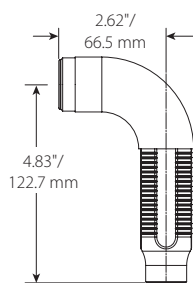
Optional Reducers



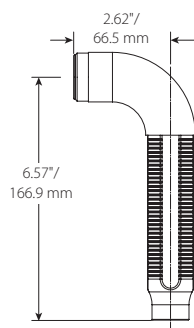
9.0"/229 mm straight reducer



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.

4.1 DIMENSIONS

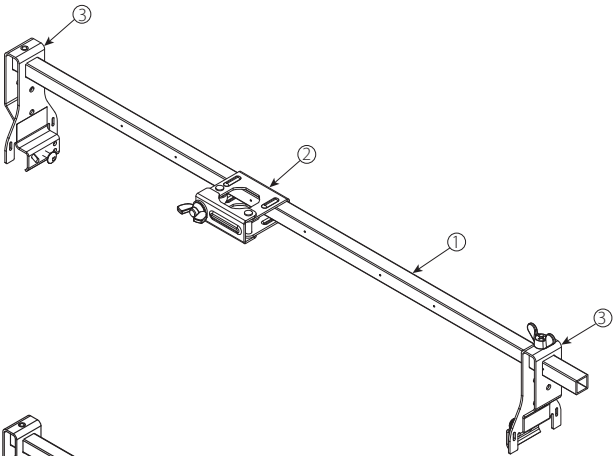
VicFlex Brackets

Style AB1

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

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

*Both sizes FM/VdS/LPCB approved, cULus listed

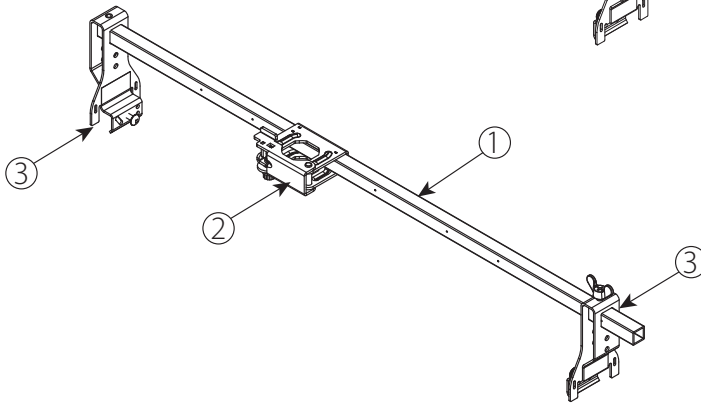


Style AB2

- Suspended Ceilings
- Hard-Lid Ceilings

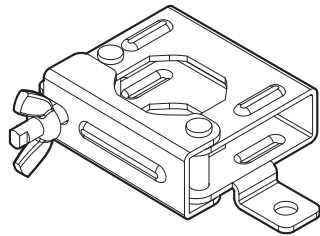
Item	Description
1	24"/610 mm or 48"/1220 mm Square Bar*
2	Patent-Pending adjustable Center bracket
3	End Bracket

*Both sizes FM/VdS/LPCB approved, cULus listed



Style AB3

- Surface Mount Applications
- FM Approved



4.2 DIMENSIONS

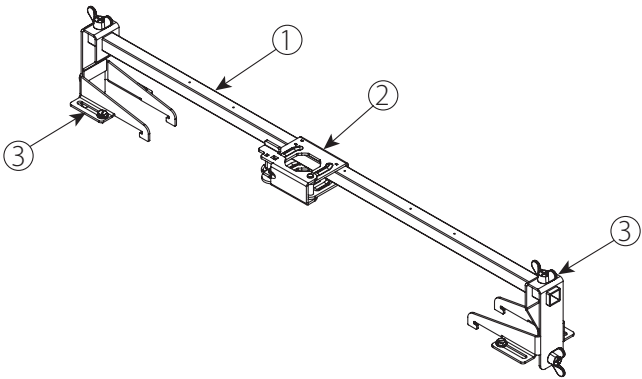
VicFlex Brackets

Style AB4

- Hard-Lid Ceilings with Hat furring channel grid system

Item	Description
1	24"/610 mm or 48"/1220 mm Square Bar*
2	Patent-Pending adjustable Center bracket
3	End Bracket for Hat Furring Channel

*Both sizes FM/VdS approved, cULus listed

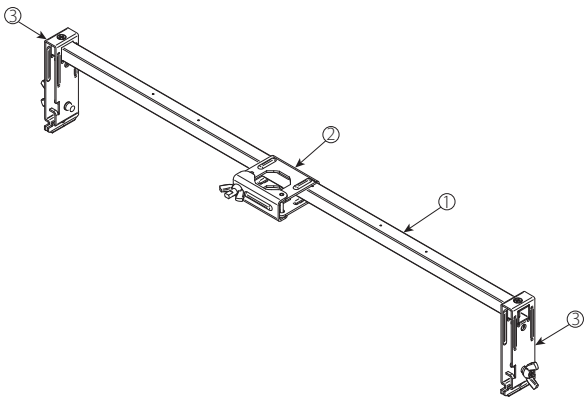


Style AB7

- Suspended Ceilings
- Hard-Lid Ceilings

Item	Description
1	24"/610 mm or 48"/1220 mm Square Bar*
2	Patented 1-Bee2® Center Bracket
3	End Bracket

*Both sizes FM/VdS approved.

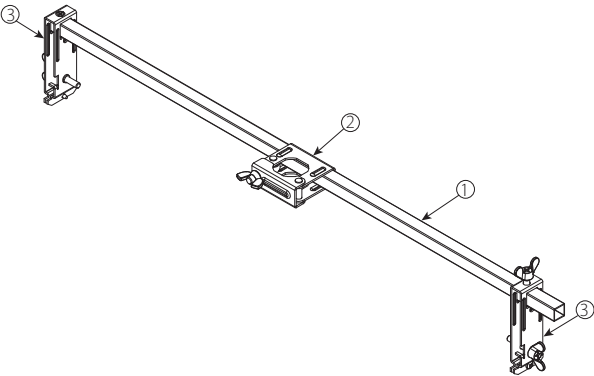


Style AB7 Adjustable

- 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)

*Both sizes FM/VdS approved.



4.3 DIMENSIONS

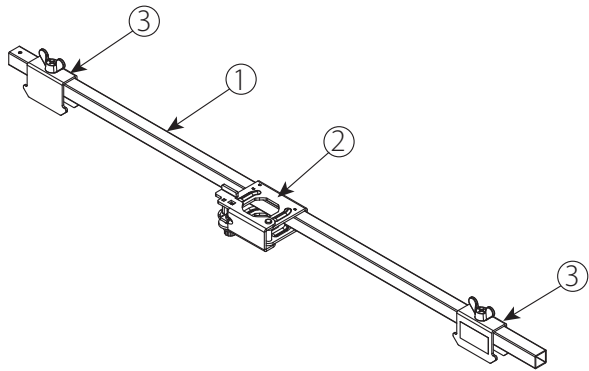
VicFlex Brackets

Style AB8

- Hard-Lid Ceilings

Item	Description
1	700 mm or 1400 mm Square Bar*
2	Patent-pending adjustable center bracket
3	*Both sizes FM/VdS

*Both sizes FM/VdS approved.

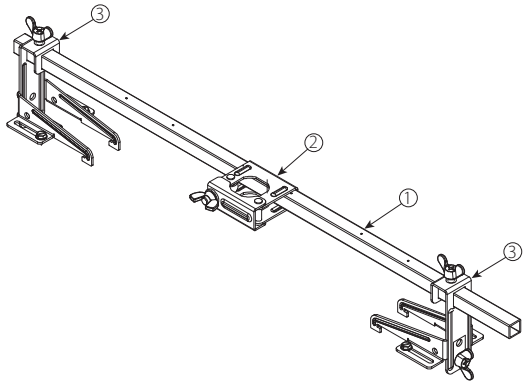


Style AB9

- Hard-Lid ceilings with Hat furring channel grid system

Item	Description
1	24"/610 mm or 48"/1220 mm Square Bar*
2	Patented 1-Bee2® Center Bracket
3	End Bracket for Hat Furring Channel

*Both sizes FM/VdS approved.

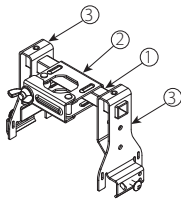


Style AB10

- Suspended ceilings
- Armstrong® TechZone™

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

*FM/VdS approved, cULus listed.

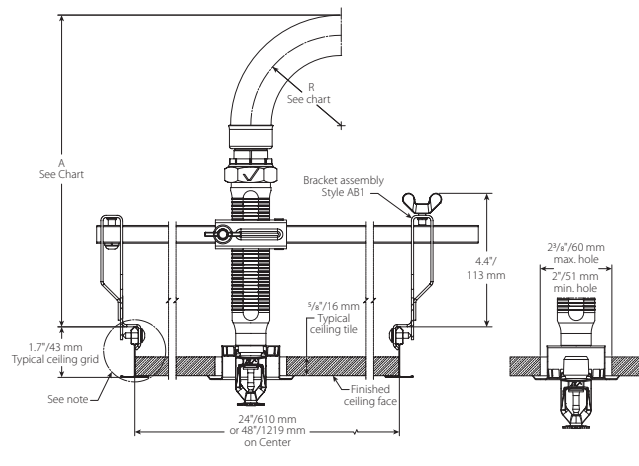


4.4 DIMENSIONS

CLEARANCES ABOVE CEILING

Series AH2 Braided Hose and Style AB1 Bracket

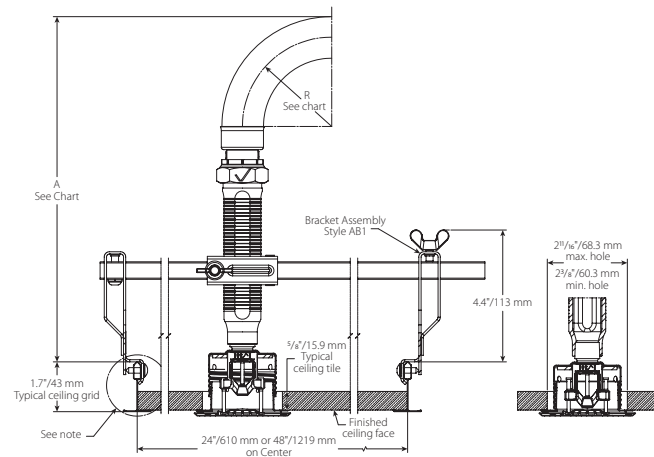
Suspended Ceiling Grid with Recessed Sprinkler



V2707 ¾\"/>

Hose Clearance Chart						
Dimension		inches	inches	inches	inches	inches
		mm	mm	mm	mm	mm
R	Minimum Bend Radius	2	3	4	5	6
		50	80	100	125	150
A	Min.	10.75	11.75	12.75	13.75	14.75
		273	298.5	324	349	375

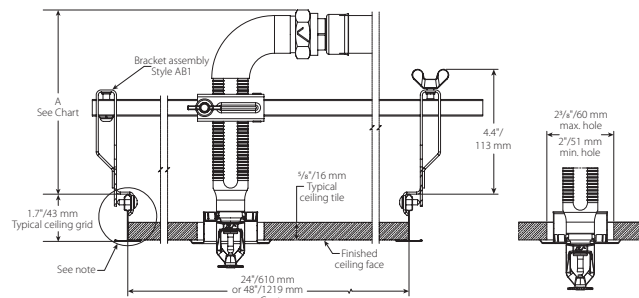
Suspended Ceiling Grid with Concealed Sprinkler



V3802 ½\"/>

Hose Clearance Chart						
Dimension		inches	inches	inches	inches	inches
		mm	mm	mm	mm	mm
R	Minimum Bend Radius	2	3	4	5	6
		50	80	100	125	150
A	Min.	10.1	11.1	12.1	13.1	14.1
		269	281	307	333	358

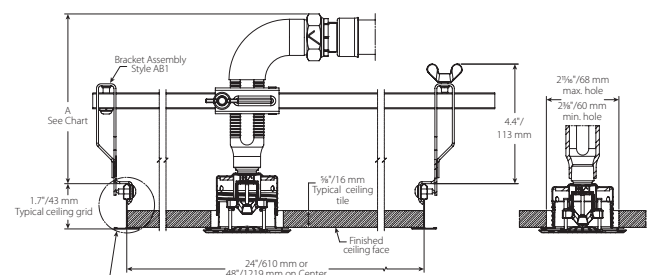
Suspended Ceiling Grid with Recessed Sprinkler with 90° Elbow (Long)



V2707 ¾\"/>

Hose Clearance Chart		
Dimension		inches
		mm
A	Min.	8
		200

Suspended Ceiling Grid with Concealed Sprinkler with 90° Elbow (Short)



V3802 ½\"/>

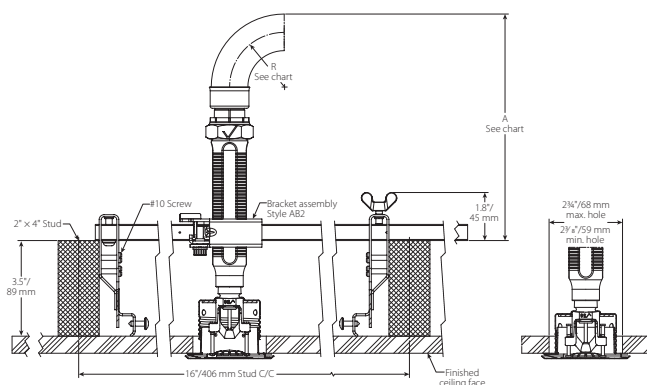
Hose Clearance Chart		
Dimension		inches
		mm
A	Min.	5.8
		147

4.4 DIMENSIONS (Continued)

CLEARANCES ABOVE CEILING

Series AH2 Braided Hose and Style AB2 Bracket

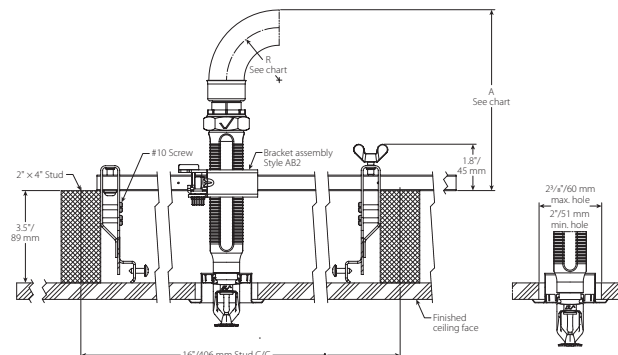
Hard-lid Ceiling with Concealed Sprinkler



V3802 1/2\"/>

Hose Clearance Chart							
Dimension		inches	inches	inches	inches	inches	inches
		mm	mm	mm	mm	mm	mm
R	Minimum Bend Radius	2	3	4	5	6	7
		50	80	100	125	150	175
A	Min.	7.63	8.63	9.63	10.63	11.63	12.63
		193	218	244	269	295	320

Hard-lid Ceiling with Recessed Sprinkler



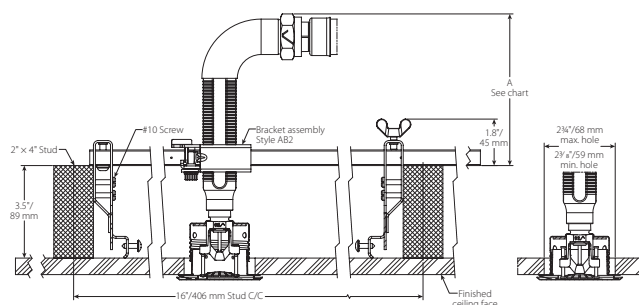
V2707 3/4\"/>

Hose Clearance Chart							
Dimension		inches	inches	inches	inches	inches	inches
		mm	mm	mm	mm	mm	mm
R	Minimum Bend Radius	2	3	4	5	6	7
		50	80	100	125	150	175
A	Min.	6.13	7.13	8.13	9.13	10.13	11.13
		155	180	206	231	256	282

NOTE

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

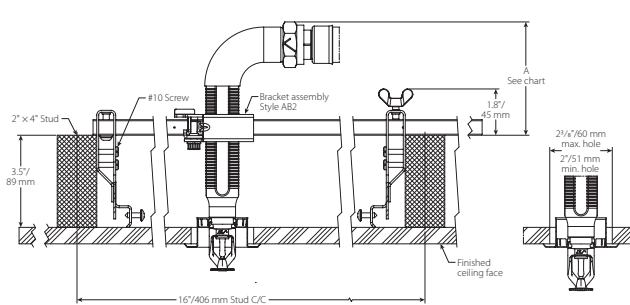
Hard-lid Ceiling Grid with Concealed Sprinkler with 90° Elbow (Short)



V3802 1/2\"/>

Hose Clearance Chart		
Dimension		inches
		mm
A	Min.	5
		127

Hard-lid Ceiling with Recessed Sprinkler with 90° Elbow (Long)



V2707 3/4\"/>

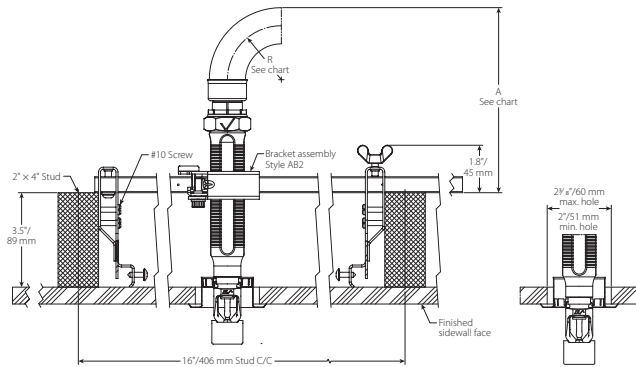
Hose Clearance Chart		
Dimension		inches
		mm
A	Min.	3.63
		91

4.5 DIMENSIONS

CLEARANCES WITHIN SIDEWALL

Series AH2 Braided Hose and Style AB2 Bracket

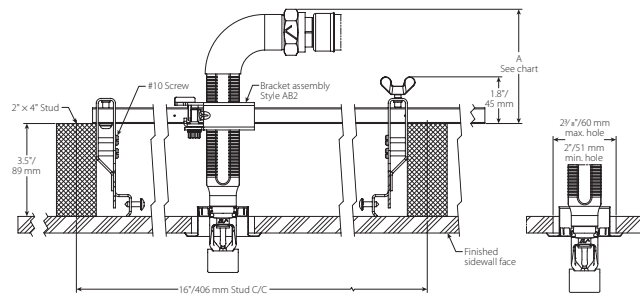
Horizontal Sidewall Sprinkler



V2707 3/4"/19mm Max. Recess

Hose Clearance Chart							
Dimension		inches mm	inches mm	inches mm	inches mm	inches mm	inches mm
R	Minimum Bend Radius	2 50	3 80	4 100	5 125	6 150	7 175
A	Min.	6.13 155	7.13 180	8.13 206	9.13 231	10.13 256	11.13 282

Horizontal Sidewall Sprinkler with 90° Elbow (Long)



V2707 3/4"/19mm Max. Recess

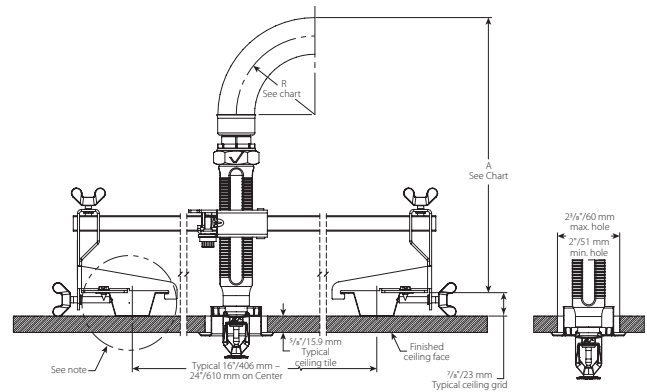
Hose Clearance Chart		
Dimension		inches mm
A	Min.	3.63 91

4.6 DIMENSIONS

CLEARANCES ABOVE CEILING

Series AH2 Braided Hose and Style AB4 Bracket

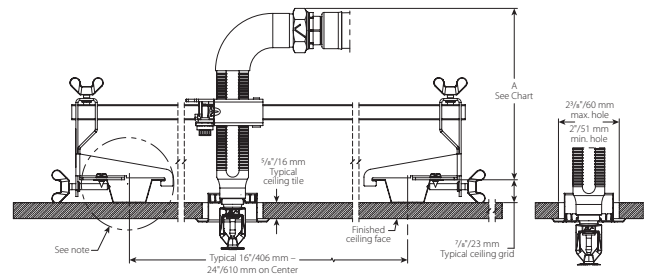
Hat Furring Channel Grid with Recessed Sprinkler



V2707 3/4"19mm Max. Recess

Hose Clearance Chart							
Dimension		inches	inches	inches	inches	inches	inches
		mm	mm	mm	mm	mm	mm
R	Minimum Bend Radius	2 50	3 80	4 100	5 125	6 150	7 175
A	Min.	10.3 262	11.3 287	12.3 313	13.3 338	14.3 363.5	15.3 389

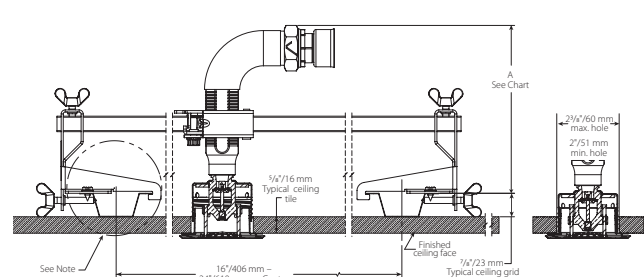
Hat Furring Channel Grid with Recessed Sprinkler with 90° Elbow (Long)



V2707 3/4"19mm Max. Recess

Hose Clearance Chart		
Dimension		inches
		mm
A	Min.	8 200

Hat Furring Channel Grid with Concealed Sprinkler with 90° Elbow (Short)



V2707 3/4"19mm Max. Recess

Hose Clearance Chart		
Dimension		inches
		mm
A	Min.	5.9 149

NOTE

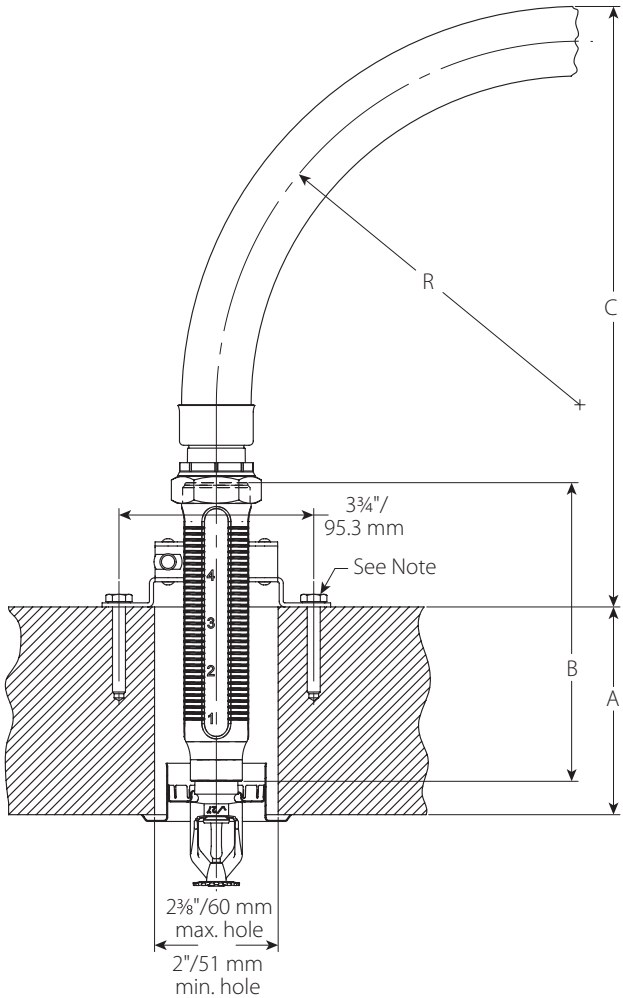
- Variations of ceiling grids, sprinkler heads, brackets, and hoses are permitted but may result in clearance differences from the figures above.

4.6 DIMENSIONS (Continued)

CLEARANCES ABOVE CEILING

Series AH2 Braided Hose and Style AB3 Bracket

Surface Mount Application with Recessed Sprinkler



Hose Clearances																													
Wall Thickness "A"																													
	2 50			4 100			6 150			8 200			10 250			2 50			4 100			6 150			8 200			10 250	
Outlet Length "B"	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									
Hose Clearance "C"	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									
Bend Radius "R"	7 175										8 200																		

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.

5.0 PERFORMANCE – FRICTION LOSS DATA



Series AH2 Braided Hose with Straight 5.75" Reducers Style AB1, AB2, AB4, and AB10 Brackets

Length of Stainless Steel Flexible Hose inches/mm	Outlet Size inches/mm/type	Series AH2 Hose	
		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
31/775	½" / 15 / Straight	16 / 4.9	4
	¾" / 20 / Straight	17 / 5.2	4
36/900	½" / 15 / Straight	21 / 6.4	5
	¾" / 20 / Straight	23 / 7.0	5
48/1200	½" / 15 / Straight	32 / 9.8	8
	¾" / 20 / Straight	37 / 11.3	8
60/1500	½" / 15 / Straight	46 / 14.0	10
	¾" / 20 / Straight	46 / 14.0	10
72/1800	½" / 15 / Straight	55 / 16.8	12
	¾" / 20 / Straight	53 / 16.2	12

Series AH2 Braided Hose 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
31/775	½" / 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
	¾" / 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
36/900	½" / 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
	¾" / 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
48/1200	½" / 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
	¾" / 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
60/1500	½" / 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
	¾" / 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
72/1800	½" / 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
	¾" / 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" 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 Braided Hose

Style AB1, AB2, AB3, AB4, AB7, AB7 Adj., AB8, AB9 and AB10 VicFlex Brackets

Length of Stainless Steel Flexible Hose inches/mm	K-Factor Imperial/S.I.	Outlet Size inches/mm/type	Series AH2 Hose	
			Equivalent Length of 1"/33.7mm Sch. 40 Pipe feet/meters	Maximum Number of 90° Bends at 7"/178mm Bend Radius
31/775	5.6/8.1	1/2"/15/Straight	23.5/7.1	2
		1/2"/15/90° Elbow	23/7.0	
36/900	5.6/8.1	1/2"/15/Straight	27.8/8.5	2
		1/2"/15/90° Elbow	27.7/8.4	
48/1200	5.6/8.1	1/2"/15/Straight	38.2/11.6	3
		1/2"/15/90° Elbow	37.4/11.4	
60/1500	5.6/8.1	1/2"/15/Straight	42.4/12.9	4
		1/2"/15/90° Elbow	43/13.1	
72/1800	5.6/8.1	1/2"/15/Straight	46.6/14.2	4
		1/2"/15/90° Elbow	48.5/14.7	
31/775	8.0/11.5	3/4"/20/Straight	20.7/6.3	2
		3/4"/20/90° Elbow	20.5/6.2	
36/900	8.0/11.5	3/4"/20/Straight	25.0/7.6	2
		3/4"/20/90° Elbow	24.6/7.5	
48/1200	8.0/11.5	3/4"/20/Straight	35.5/10.8	3
		3/4"/20/90° Elbow	34.7/10.6	
60/1500	8.0/11.5	3/4"/20/Straight	39.6/12.1	4
		3/4"/20/90° Elbow	40.1/12.2	
72/1800	8.0/11.5	3/4"/20/Straight	43.5/13.2	4
		3/4"/20/90° Elbow	45.2/13.7	
31/775	11.2/16.1	3/4"/20/Straight	17.8/5.4	2
		3/4"/20/90° Elbow	18/5.5	
36/900	11.2/16.1	3/4"/20/Straight	22.2/6.7	2
		3/4"/20/90° Elbow	22.1/6.7	
48/1200	11.2/16.1	3/4"/20/Straight	32.9/10.0	3
		3/4"/20/90° Elbow	32.1/9.8	
60/1500	11.2/16.1	3/4"/20/Straight	36.8/11.2	4
		3/4"/20/90° Elbow	37.1/11.3	
72/1800	11.2/16.1	3/4"/20/Straight	40.5/12.3	4
		3/4"/20/90° Elbow	41.9/12.7	
31/775	14.0/20.2	3/4"/20/Straight	14.9/4.5	2
		3/4"/20/90° Elbow	15.5/4.72	
36/900	14.0/20.2	3/4"/20/Straight	19.4/5.9	2
		3/4"/20/90° Elbow	19.6/5.9	
48/1200	14.0/20.2	3/4"/20/Straight	30.3/9.2	3
		3/4"/20/90° Elbow	29.5/8.9	
60/1500	14.0/20.2	3/4"/20/Straight	33.9/10.3	4
		3/4"/20/90° Elbow	34.1/10.4	
72/1800	14.0/20.2	3/4"/20/Straight	37.5/11.4	4
		3/4"/20/90° Elbow	38.6/11.7	

FM NOTES:

- Series AH2 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 and Vds standards for safety include, but are not limited to, pressure cycling, corrosion resistance, flow characteristics, vibration resistance, leakage, mechanical and hydrostatic strength.
- Differences in equivalent lengths are due to varying test methods, per FM 1637 and Vds standards. Refer to these standards for additional information regarding friction loss test methods.
- EXAMPLE: A 48-inch hose installed with two 30° bends and two 90° bends at a 7-inch bend radius 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

VdS

Series AH2 Braided Hose

Style AB1, AB2, AB4, AB7, AB7 Adj., AB8, AB9, and AB10 Brackets

Length of Stainless Steel Flexible Hose mm/inches	Outlet Size mm/inches type	Series AH2 Hose	
		Equivalent Length of steel pipe according to EN 10255 DN 25 (33,7 x 3,25) meters/feet	Maximum Number of 90° Bends at 3"/76.2mm Bend Radius meters/feet
775/31	15mm/1/2"/Straight	5.5/18.0	3
	20 mm/3/4"/Straight		
900/36	15mm/1/2"/Straight	6.4/21.0	3
	20 mm/3/4"/Straight		
1200/48	15mm/1/2"/Straight	8.5/27.9	3
	20 mm/3/4"/Straight		
1500/60	15mm/1/2"/Straight	10.7/35.1	4
	20 mm/3/4"/Straight		
1800/72	15mm/1/2"/Straight	12.8/42.0	4
	20 mm/3/4"/Straight		

VDS CEILING MANUFACTURERS LIST

AB1, AB2, AB7, AB10

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

AB4/9

No specific approval

AB8

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

LPCB

Series AH2 Braided Hose

Style AB1 Bracket

Length of Stainless Steel Flexible Hose mm/inches	Outlet Size mm/inches/type	Series AH2 Hose	
		Equivalent Length of steel pipe according to EN 10255 DN 25 (33,7 x 3,25) meters/feet	Maximum Number of 90° Bends at 3"/76.2mm Bend Radius
775/31	15mm/1/2"/Straight	1.8/6.0	2
	20 mm/3/4"/Straight		
900/36	15mm/1/2"/Straight	3.6/11.9	3
	20 mm/3/4"/Straight		
1200/48	15mm/1/2"/Straight	4.3/14.0	3
	20 mm/3/4"/Straight		
1500/60	15mm/1/2"/Straight	4.1/13.6	3
	20 mm/3/4"/Straight		
1800/72	15mm/1/2"/Straight	5.5/18.1	3
	20 mm/3/4"/Straight		

Length of Stainless Steel Flexible Hose mm/inches	Outlet Size mm/inches/type	Series AH2 Hose	
		Equivalent Length of steel pipe according to EN 10255 DN 25 (33,7 x 3,25) meters/feet	Maximum Number of 90° Bends at 3"/76.2mm Bend Radius
775/31	15mm/1/2"/90° Elbow	1.3/4.3	2
	20 mm/3/4"/90° Elbow		
900/36	15mm/1/2"/90° Elbow	2.8/9.1	3
	20 mm/3/4"/90° Elbow		
1200/48	15mm/1/2"/90° Elbow	4.1/13.4	3
	20 mm/3/4"/90° Elbow		
1500/60	15mm/1/2"/90° Elbow	4.6/15.2	3
	20 mm/3/4"/90° Elbow		
1800/72	15mm/1/2"/90° Elbow	5.3/17.4	3
	20 mm/3/4"/90° Elbow		

6.0 NOTIFICATIONS

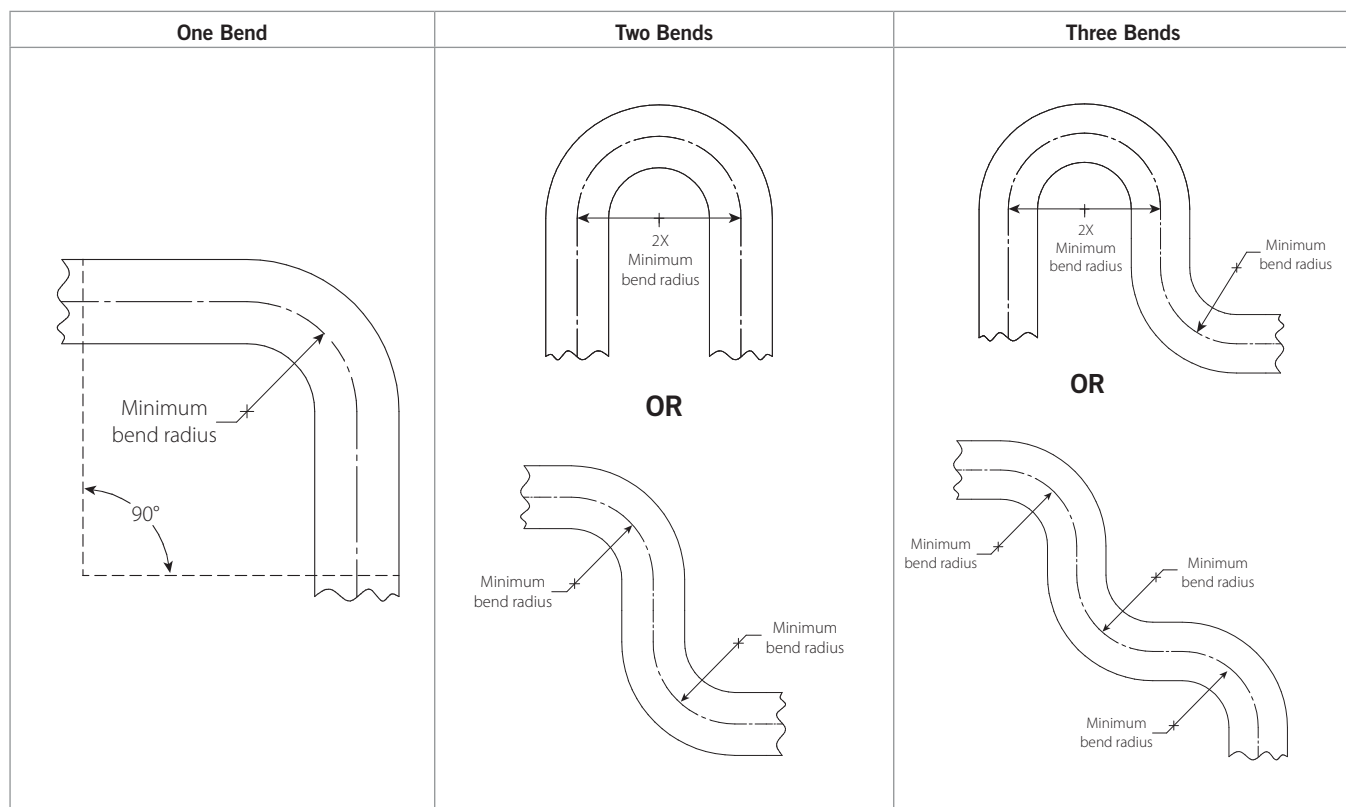
WARNING

- 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 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

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.

User Responsibility for Product Selection and Suitability

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

Intellectual Property Rights

No statement contained herein concerning a possible or suggested use of any material, product, service, or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Victaulic or any of its subsidiaries or affiliates covering such use or design, or as a recommendation for the use of such material, product, service, or design in the infringement of any patent or other intellectual property right. The terms "Patented" or "Patent Pending" refer to design or utility patents or patent applications for articles and/or methods of use in the United States and/or other countries.

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-AB9, 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.

Warranty

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

Trademarks

Victaulic and all other Victaulic marks are the trademarks or registered trademarks of Victaulic Company, and/or its affiliated entities, in the U.S. and/or other countries.

Shop Drawing Submittal Review

Transmitted To: Cannon Design

Date: December 20, 2016

Attention: stl-cac@cannondesign.com

Contact Person / WTA Field Inspector:
Patrick Garner

Project Name: Webster University-**ISB**

Reviewed by: Mike Whitworth (WES)

Project No. WT 14127.01
WES 607

☐

UPS

☐

Courier

☒

Email

Copies	No.	Description
1 PDF	211313F02	(Submittal No.'s:)
		(Cannon #211313-015) - (Paric #15051-0349) - (WES #607)
		➤ Wet Pipe Sprinkler System Product Data

***Remarks: See Submittal Review from Webb Engineering.**

c: Kelvin Patel
Kpatel@cannondesign.com

☒

***Reviewed**

☒

***No Exceptions Taken -**

☒

***Amend and Resubmit**

☒

***Make Corrections As Noted,
No Resubmittal Required**

Corrections or comments made on shop drawings during this review do not relieve contractor from compliance with requirements of drawings and specifications. This check is only for review of general conformance with the design concept of project and general compliance with information given in contract documents. Contractor is responsible for: confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of all other trades; and performing his work in a safe and satisfactory manner.



1400 S. 3rd Street, Suite 201
St. Louis, Missouri 63104
Phone: (314) 588-0600
Fax: (314) 588-0604

Letter of Transmittal

To: wtashop@wmtao.com

From: Mike Whitworth

Date: December 20, 2016

Re: Webster University ISB

WES No: 607

☐ For your Files

☐ For Review

☐ Please Comment

☐ Please Reply

Item No.	Description	No. of Copies	Date
1	Shop Drawing Review – (213113-015) 211313 Wet Pipe Sprinkler System	1	12/20/16

•Signature: Mike Whitworth

The review of this submittal is limited to the general conformance with the designated design concept and intent of this project and with the general compliance of the information provided in the contract documents. All comments, remarks and notations made on the submittal(s) as a result of this review do not relieve the contractor from full compliance with requirements of the contract documents. Approval for a specific item shall not include approval of an assembly of which the item is not a component. The contractor is solely responsible for rough-in and installation confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordination of this work with that of other trades on this project; and in a safe and satisfactory manner. All work shall be installed in full compliance with the manufacturer's recommendation, Federal, State and Local rules and regulation and the Authority Having Jurisdiction (AHJ) and applicable adopted codes and standards.

PROJECT NAME: Webster University I

LOCATION: St. Louis Missouri

CLIENT PROJ. NO.: N/A

WES PROJ. NO.: 607

SPECIFICATION 211313
SECTION: Wet Pipe Sprinkler System

SUBMITTAL ITEM: See Below -

CONTRACTOR: J.F. Ahern Co.
CTR. SUBMITTAL #: 21 1313-015
SUBMITTAL DATE: November 29, 2016
DATE RECEIVED: December 07, 2016
RECEIVED VIA: E-Mail
RECEIVED FROM: WTA
DATE RETURNED: DECEMBER 20, 2016
RETURNED VIA: E-MAIL
RETRURNED TO: WTASHOP@WMTAO.COM

STATUS KEY:

NO EXCEPTION TAKEN

MAKE CORRECTIONS NOTED, NO RESUBMITTAL:

AMEND AND RESUBMIT

REJECTED, SEE REMARKS:

REVIEWED ONLY

NEC	MCN	AAR	REJ	REV	ITEM	REMARKS
Pages numbers have been added to cut sheets for referencing						
X					Page 001 Schedule 10 Pipe Various Manufacturers	
X					Page 002 Schedule 40 Pipe Various Manufacturers	
X					Pages 003 – 004 Test and Drain Valve AGF Manufacture ring Model – 1011A	
X					Pages 005 – 006 Backflow Preventer Zurn Industries Model – 350A	
X					Pages 007 – 008 Standard Duty Loop Hanger Caddy Model – 115 Series	

X				Pages 009 – 010 Universal Beam Clamp Caddy Model – 300 Series	
X				Pages 011 – 016 Carbon Steel Anchor Screw Hilti Model – 3.3.5 KWIK HUS- EZ (KH-EZ1)	
X				Page 017 Riser Clamp PHD Manufacturing Model – Fig. 550-551-553	
X				Page 018 Universal Restraining Strap Afcon Model - 162	
X				Pages 019 – 027 Sleeve Expansion Anchors Powers Fasteners Model – Lok-Bolt Hex Head and Rod Hanger	
X				Pages 028 – 031 Strut Channel Gregory Strut Products Model – G712OS, G712A, G5820S, G582A and G1320OS	
X				Page 032 Surge Restraint 115 Caddy Model – SR6	
X				Page 033 Screw Anchor/Hanger ITW Model – Sammy X-Press	
		X		Pages 034 – 039 Quick Response Dry Pendent Sprinkler Viking Model - SIN Not Specified	1. SIN numbers listed in submittal (VK172, VK176, VK180 on pages 037/038) is not listed on the FP drawings in the Sprinkler schedule.
X				Pages 040 -043 Microfast Quick Response Upright Sprinkler Viking Model – SIN VK300	
		X		Pages 044 -049 Microfast Quick Response Pendent Sprinkler Viking Model – SIN VK302	1. SIN number listed in submittal (VK302 on pages 047/048) is not listed on the FP drawings in the Sprinkler schedule.

X				Pages 050 – 055 Microfast Quick Response Horizontal Sidewall Sprinkler Viking Model – SIN VK305	
X				Pages 056 – 059 Microfast Quick Response Upright Sprinkler Viking Model – SIN VK350	
		X		Pages 060 – 065 Microfast Quick Response Pendent Sprinkler Viking Model – SIN VK352 (K8.0)	1. SIN number listed in submittal (VK352 on pages 063/064) is not listed on the FP drawings in the Sprinkler schedule.
		X		Pages 066 – 071 Microfast Quick Response Pendent Sprinkler Viking Model – SIN VK352 (K8.0)	1. SIN number listed in submittal (VK352 on pages 069/070) is not listed on the FP drawings in the Sprinkler schedule.
X				Pages 072 – 077 Mirage Standard and QR Concealed Pendent Sprinkler Viking Model – SIN VK462	
X				Page 078 Spare Sprinkler Head Cabinet FPPI Model – Not indicated	
X				Page 079 – 089-091 Spare Sprinkler Head Cabinet TYCO Model – Not Indicated	
X				Pages 080 – 088 Sprinkler Escutcheons Viking Model -	
X				Pages 092 – 094 Sprinkler Guards Viking Model – D-1	
X				Pages 095 – 100 Standard / QR Extended Coverage Upright Sprinkler Viking Model – SIN VK532	
X				Pages 101 – 106 Standard / QR Extended Coverage Pendent Sprinkler Viking Model – SIN VK534	

X				Pages 107 – 112 Mirage QR Extended Coverage Concealed Pendent Sprinkler Viking Model – SIN VK634	
		X		Pages 113 – 120 Concealed Dry Pendent Sprinkler Reliable Model – G5-56 Dry (SIN RA5114)	1. Manufacturer and model/SIN number listed in submittal is not listed on the FP drawings in the Sprinkler schedule. 2. Color/finish of cover plate to be submitted to the Architect for review and approval.
X				Pages 121 - 124 Flexible Coupling Victaulic Model – Style 75	
X				Pages 125 - 128 Reducing Coupling Victaulic Model – Style 750	
X				Pages 129 – 131 FireLock Fittings Victaulic Model – Fire lock	
X				Pages 132 – 134 FireLock Rigid Coupling Victaulic Model – Style 005H	
X				Pages 135 – 136 Fire lock Flange Adapter Victaulic Model – Style 744	
X				Pages 137 – 144 Mechanical T Bolted Branch Outlets Victaulic Model – Styles 920 and 920N	
X				Pages 145 – 149 Firelock Rigid Coupling Victaulic Model – Style 009N	
X				Pages 150 – 151 Threaded Mechanical Branch Tee Anvil Model – Fig. MT-30	
X				Pages 152 – 153 Grooved Welded Steel Pipe Outlets Vandewater International Inc. Model - Various	
X				Pages 154 – 155 Welded Steel Pipe Outlets Vandewater International Inc. Model - Various	

X					Page 156 DI Threaded Fitting – 90 Elbow Anvil Model – Fig 3201	
X					Page 157 DI Threaded Fitting – 45 Elbow Anvil Model – Fig 3202	
X					Page 158 DI Threaded Fitting – Reducing 90 Elbow Anvil Model – Fig 3201R	
X					Page 159 DI Threaded Fitting – Straight T Anvil Model – Fig 3205	
X					Pages 160 - 161 DI Threaded Fitting – Reducing T Anvil Model – Fig 3205R	
X					Page 162 DI Threaded Fitting Anvil Model – Bull Head T	
X					Page 163 DI Threaded Fitting Cross Anvil Model - 3207	
X					Page 164 DI Threaded Fitting Anvil Model – 3221R	
X					Page 165 DI Threaded Fitting Anvil Anvil Model - 3121	
X					Page 166 DI Threaded Fitting Cap Anvil Model - 3224	
X					Page 167-168 DI Threaded Fitting Bushing Anvil Model - 3283	

				X	Pages 169 – 183 Flexible Sprinkler Hose Victaulic Model – Series AH2 Bracket AB1, AB7 and AB7 Adjustable	1. This product is not listed in the construction documents for use on this project. Contractor has elected to incorporate into the delegated design.
X					Pages 184 – 185 Water Flow Detector System Sensor Model – WFD Series	
X					Pages 186 – 192 Supervisory Switch Potter Electrical Model – PCVS Series	
	X				Pages 193 – 194 Electric Bell Potter Electric Model – Not Indicated	1. Specified to be 10 inch diameter. Refer to specification section 211313, part 2.6, B4 and B-7.
X					Page 195 Service Gauge Ashcroft Model – 35W1005PH02LXUL300	
X					Pages 196 – 199 Intumescent Sealant STI Model - Series LCI	
X					Page 200 Fire Pump Suction and Discharge Gauges Alenco Series AG-1000L	
X					Page 201 Suction and Discharge Gauge Assembly A-C Fire Pump systems Model – Not Indicated	
	X				Pages 202 – 203 Fire Pump Test Header Potter Roemer Model – 5864-x-x-6-D- NST	1. Assembly to be mounted vertically, in space available.
Note: Fire protection drawings list sprinkler Viking model Mirage, SIN VK464 (31 total) and Viking model Dry, Sin VK194, (24 total) in the Sprinkler Schedule. These two sprinkler heads are not included in this submittal.						

REVIEWED BY: Michael R. Whitworth DATE: December 20, 2016

THESE COMMENTS ARE TO BE ATTACHED TO ALL COPIES OF THE SHOP DRAWING REFERENCED ABOVE.

SUBMITTAL IDENTIFICATION SHEET

To be completed by Contractor/CM

PROJECT NAME	
ADDRESS	
NUMBER	
OWNER	
ARCHITECT / ENGINEER	
SUBMITTED BY	
CONTRACTOR / CM SUBMITTAL NO.	CANNON DESIGN SUBMITTAL NO.
DRAWING / DETAIL REFERENCE	SPECIFICATION SECTION / PARAGRAPH
MANUFACTURER / SUPPLIER	ITEM / PRODUCT ID
REQUIRED DATE	PRIORITY
CRITICALITY	

To be completed by Reviewer

CANNON DESIGN SUBMITTAL NUMBER
RECEIVED DATE

- ☐ **A. No Exceptions Taken**
No further review of submittal is required.
- ☐ **B. Make Corrections Noted**
Incorporate corrections in work;
resubmission is not required.
- ☐ **C. Revise and Resubmit**
Revise as noted, and resubmit for review.
- ☐ **D. Rejected**
Submittal is not in compliance with Contract Documents;
provide new submittal.
- ☐ **E. For Record / Information Only**
Submittal was reviewed for Record / Information
purposes only.
- ☐ **F. Not Required for Review**
Submittal is not required by Contract Documents
and has not been reviewed.

Review is for conformance with the design concept of this project and for general compliance with contract documents. Contractor is responsible for quantities, dimensions and compliance with contract documents and for information that pertains to fabrication processes, construction techniques and coordination of this work with all trades which will be affected thereby. This review is null and void if submittal deviates from contract documents and does not indicate or note deviations.

ITEM BEING SUBMITTED (check only one)

- ☐ Shop Drawings ☐ Certification / Qualifications ☐ Coordination Drawing
☐ Samples ☐ Record Documents ☐ Calculations
 (_____ copies) ☐ Product Data ☐ Schedules
☐ LEED Submittal ☐ O&M Manuals
☐ Other

ITEM BEING SUBMITTED FOR (check only one)

- ☐ Action ☐ Information Only ☐ Record

REMARKS OR DEVIATIONS

CONTRACTOR / CM CERTIFICATION
(SUBMITTALS NOT CERTIFIED WILL BE RETURNED WITHOUT REVIEW)



PARIC CORPORATION
SUBMITTAL STAMP

THIS SHOP DRAWING HAS BEEN REVIEWED BY PARIC CORPORATION

Subcontractor remains responsible for dimensions, quantities, coordination with other trades and compliance with contract documents.

Ry:

By:
Devin D. Gates

REVIEWED BY	DATE

A/E COMMENTS

- ☐
- See attached sheet(s) for additional comments

REVIEWED BY	DATE



77 Westport Plaza
Suite 250
St. Louis, MO 63146

TRANSMITTAL

No. 15051-0349

Paric Corporation

PROJECT: 15051-Webster University Interdisciplinary Science Building

DATE: 11/29/2016

TO: Cannon Design
1100 Clark Ave
St Louis MO 63102

Fax;
314-241-2203

RE: Wet Pipe Sprinkler System Product Data

ATTN: Kelvin Patel

JOB: 15051

WE ARE SENDING:	SUBMITTED FOR:	ACTION TAKEN:
☐ Shop Drawings	☒ Approval	☐ Approved as Submitted
☐ Letter	☐ Your Use	☐ Approved as Noted
☐ Prints	☐ As Requested	☐ Returned After Loan
☐ Change Order	☐ Review and Comment	☐ Resubmit
☐ Plans		☐ Submit
☐ Samples	SENT VIA:	☐ Returned
☐ Specifications	☐ Attached	☐ Returned for Corrections
☒ Other: Product Data	☐ Separate Cover Via:	☐ Due Date:

Item	Package	Code	Rev.	Copies	Date	Description	Status
Submittal		211313-015	1		11/29/2016	Wet Pipe Sprinkler System Product Data	Submitted

NOTES:

CC:

Signed: _____
Devin Gates