Victaulic® VicFlex™ Flexible Hose with Fittings for Fire Protection Service

Style AB7 Bracket

⚠ WARNING

- **Read and understand all instructions before attempting to install any Victaulic® VicFlex™ products.**
- **Wear safety glasses, hardhat, and foot protection.**
- **These installation instructions are intended for an experienced, trained installer.**
- **The user shall understand the purpose of these products, common industry standards for safety, and the potential consequences of improper product installation.**
- **It is the system designer's responsibility to verify suitability of stainless steel flexible hose for use with the intended fluid media within the piping system and external environment.**
- **The effect of chemical composition, pH level, operating temperature, chloride level, oxygen level, and flow rate on the stainless steel flexible hose shall be evaluated by the material specifier to confirm system life will be acceptable for the intended service.**

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

Flexible Hose Listing and Approval Information

Flexible Hose	c UL us LISTED	FM APPROVED	VdS G412024	LPCB 1041	CCCf
AH1	–	With AB7	With AB7	With AB7	With AB7
AH1-CC	–	With AB7	With AB7	–	–
AH2	–	With AB7	With AB7	With AB7	With AB7
AH2-CC	–	With AB7	With AB7	–	–
AH2-300	–	With AB7	–	–	–
AH2-638	–	With AB7	–	–	–
AH3*	–	With AB7	With AB7	–	With AB7
AH4	–	With AB7	With AB7	–	–
AH5	With AB7	–	–	–	–

* SERIES AH3 – REGIONAL AVAILABILITY ONLY

NOTES: Victaulic® VicFlex™ flexible hoses are City of Los Angeles (RR5659) Approved, accepted for use by the City of New York Department of Buildings (MEA 60-05-E), and have the OSHPD Pre-Approval (OPA-2255-07).
Flexible hoses are available in lengths from 31 - 72 inches/787 - 1829 mm with either ½-inch/DN15 or ¾-inch/DN20 NPT or BSPT threaded outlets.

Maximum Working Pressure Rating of Flexible Hose:

200 psi/14 Bar/1379 kPa (FM)
175 psi/12 Bar/1207 kPa (UL)
16 Bar/1600 kPa/232 psi (VdS)
16 Bar/1600 kPa/232 psi (LPCB – Series AH1, AH2)
1.4 MPa/1400 kPa/203 psi (CCCf – Series AH1, AH2, AH3)
300 psi/21 Bar/2068 kPa (FM – Series AH2-300)

Maximum Ambient Temperature Rating of Flexible Hose:

225° F/107° C (UL, FM, VdS, LPCB)
135° C/275° F (CCCf – Series AH3)

Connection to Sprinkler Piping:

1 inch/DN25 NPT/BSPT (UL, FM, CCCf)
1 inch/DN25 IGS (FM, VdS)
DN20/¾ inch BSPT (VdS)
DN32/1 ¼ inch BSPT (LPCB)

Minimum Bend Radius of Flexible Hose:

4 inch/102 mm (UL – Series AH5)
7 inch/178 mm (FM – Series AH1, AH1-CC, AH2, AH2-CC, AH3, AH4, AH2-638)
76 mm/3 inch (VdS – Series AH1, AH1-CC, AH2, AH2-CC, AH3, AH4)
76 mm/3 inch (LPCB – Series AH1, AH2)
178 mm/7 inch (CCCf – Series AH1, AH2, AH3)
8 inch/203 mm (FM – Series AH2-300)

Maximum K-Factor of Sprinkler to be Connected to Sprinkler Reducing Nipple:

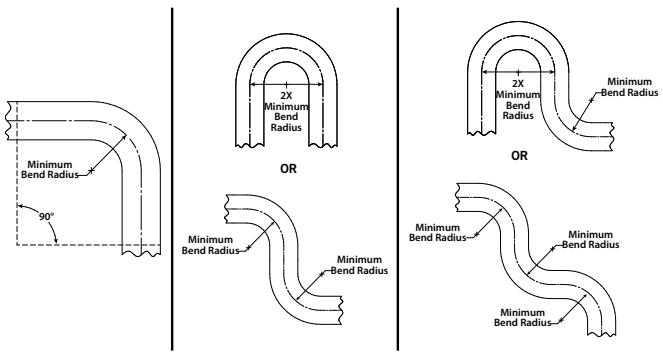
K8.0 US/K115 metric for ½ inch/DN15
K14.0 US/K200 metric for ¾ inch/DN20
K115 metric/K8.0 US for ¾ inch/DN20 (VdS and LPCB)

Maximum Number of 90° Bends Per Flexible Hose:

Refer to the "Friction Loss Data" section. **NOTE FOR SERIES AH5 FLEXIBLE HOSES:** The flexible hose shall not be bent within 2 ½ inches/64 mm of the connection nut at both ends.

Flexible Hose Bend Characteristics:

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



INTRODUCTION

Victaulic® VicFlex™ Sprinkler Fittings connect the sprinkler piping directly to the sprinkler using a flexible hose and fittings and are designed for use in ceiling suspension systems. Each drop assembly comes with one flexible hose, one adapter nipple or captured coupling, one sprinkler reducing nipple, and the Style AB7 Bracket.

IMPORTANT INSTALLATION INFORMATION

- Victaulic® VicFlex™ products shall be installed according to current, applicable National Fire Protection Association (NFPA 13, 13D, 13R, etc.) standards or equivalent standards. Victaulic® VicFlex™ products are intended to be installed in wet, dry, or preaction actuated systems. Deviations from these standards or alterations to Victaulic® VicFlex™ products or sprinklers will void any Victaulic warranty and will impact system integrity. Installations shall meet the provisions of the local authority having jurisdiction and local codes, as applicable.
- Drop ceiling construction shall meet the requirements of ASTM C635 and shall be installed in accordance with ASTM C636.
- Victaulic® VicFlex™ Sprinkler Fittings and Style AB7 Brackets shall not be intermixed with other manufacturer's flexible sprinkler products.
- **SHORT 90° ELBOW REDUCERS ARE TYPICALLY USED WITH CONCEALED SPRINKLERS.**
- **Refer to the specific product submittal for applications and listing information. These submittals are located in Sections 10 and 40 of the Victaulic G-100 Catalog or on the Victaulic website at victaulic.com. In addition, when installing Victaulic FireLock® Automatic Sprinklers with Victaulic® VicFlex™ Sprinkler Fittings, refer to the I-40 Installation and Maintenance Instructions for details on sprinkler installation requirements.**
- Size the piping system to provide at least the minimum required flow rate for the sprinkler system.
- Per NFPA requirements, flush the system to remove foreign material. Continue to flush the system until water runs clear.
- **DO NOT** install sprinkler system piping through heating ducts.
- **DO NOT** connect sprinkler system piping to domestic hot water systems.
- **DO NOT** install sprinklers and sprinkler fittings where they will be exposed to temperatures that exceed the maximum ambient temperature rating for the sprinkler and sprinkler fittings.
- The flexible hose shall not be bent or fluctuated up-and-down or side-to-side when it is pressurized.
- **Flexible hose and fittings have limited flexibility* and are intended only to be installed with bends not less than their respective minimum bend radii. DO NOT install flexible hose in a straight configuration.**
- Protect wet piping systems from freezing temperatures.
- If construction is altered, refer to applicable standards to determine if additional sprinklers are required.
- The owner is responsible for maintaining the fire protection system in proper operating condition.
- For minimum maintenance and inspection requirements, refer to NFPA 25 and any other applicable NFPA standards that describe the care and maintenance of sprinkler systems. In addition, the authority having jurisdiction may have additional maintenance, testing, and inspection requirements that shall be followed.

⚠ WARNING

- **Relocation of Victaulic® VicFlex™ products SHALL be performed by qualified personnel familiar with the system's original design criteria, sprinkler listings/approvals, and state and local codes (including NFPA 13 standards).**

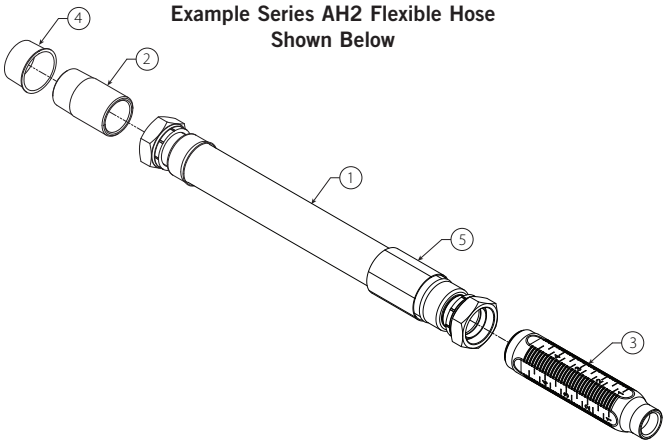
Failure to relocate this Victaulic® VicFlex™ product properly could affect its performance during a fire, resulting in serious personal injury and property damage.

* Reference UL 2443: Section 25.1

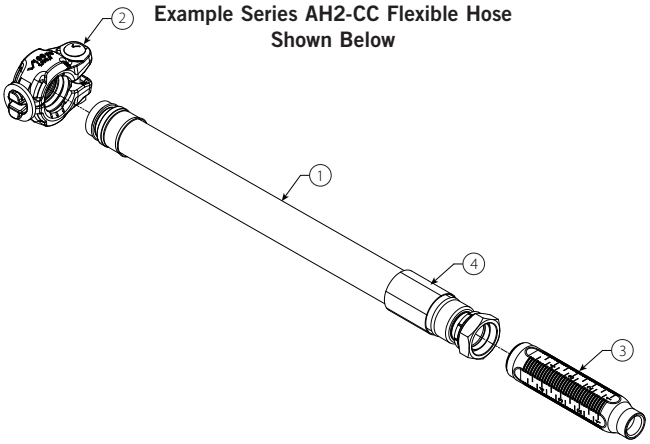
FLEXIBLE HOSE ASSEMBLY DRAWINGS

Refer to pages 13 – 18 of this manual for flexible hose technical data.

Example Series AH2 Flexible Hose Shown Below



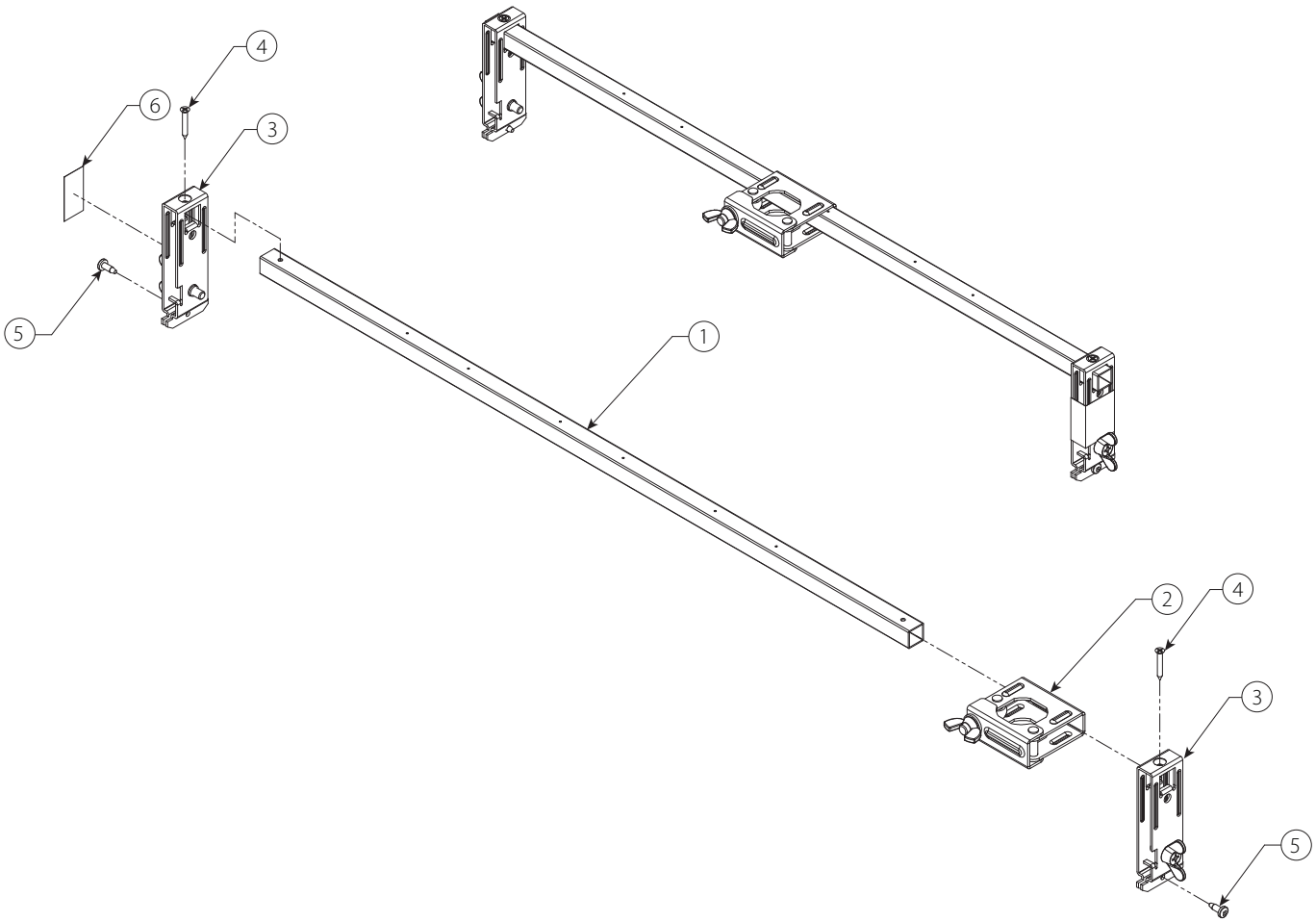
Example Series AH2-CC Flexible Hose Shown Below



Item	Example Series AH2 Description	Example Series AH2-CC Description
1	Flexible Hose Assembly	Flexible Hose Assembly
2	Adapter Nipple	Coupling Assembly
3	Reducer (Flexible Hose to Sprinkler)	Reducer (Flexible Hose to Sprinkler)
4	Shipping Cap	Identification Sleeve
5	Identification Sleeve	–

STYLE AB7 BRACKET ASSEMBLY DRAWING

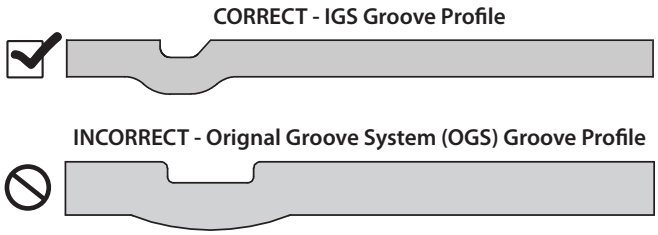
Refer to pages 7 – 11 of this manual for bracket installation instructions.



Item	Description
1	24-inch/610-mm or 48-inch/1219-mm Square Bar*
2	Center Gate Assembly with Wing Nut
3	Style AB7 End Bracket with Wing Screw
4	Sheet Metal Screw
5	#8 x ½-inch Self-Drilling Screw
6	Relocation Warning Label

* Reference submittal document 10.85 for listing information.
Square bar length is in reference to nominal ceiling grid spacing.

1-INCH/DN25 IGS CONNECTION TO THE SPRINKLER PIPING USING A SERIES AH1-CC OR SERIES AH2-CC FLEXIBLE HOSE



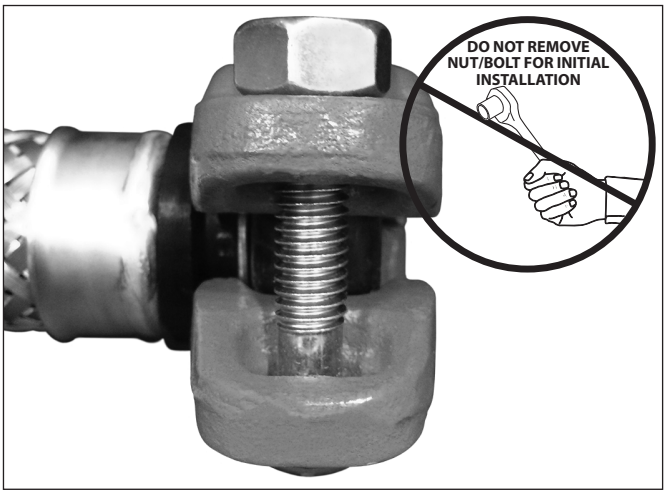
Pipe and grooves are not shown to scale

The Style 108 Coupling assembly of the Series AH1-CC and AH2-CC shall be used **ONLY** with sprinkler piping connections that are prepared to Victaulic IGS proprietary groove specifications. **DO NOT** attempt to install the coupling on sprinkler piping connections that are prepared to any other groove specification. Refer to Victaulic publication 25.14 for the IGS groove specification, which can be downloaded at victaulic.com.

⚠ WARNING

- **The flexible hose shall not be bent or fluctuated up-and-down or side-to-side when it is pressurized for test.**

Failure to follow this instruction could cause improper sprinkler operation, serious personal injury, and/or property damage.



1. **DO NOT DISASSEMBLE THE COUPLING:** The Style 108 Coupling assembly of the Series AH1-CC and AH2-CC is designed so that the installer does not need to remove the bolt and nut for installation. This design facilitates installation by allowing the installer to directly insert the sprinkler piping's grooved end into the coupling.
2. **CHECK GROOVED END OF SPRINKLER PIPING:** The outside surface of the sprinkler piping, between the groove and the end of the sprinkler piping, shall be smooth and free from indentations, projections, weld seams, and roll marks to ensure a leak-tight seal. All oil, grease, loose paint, dirt, and cutting particles shall be removed.

The sprinkler piping's outside diameter ("OD"), groove dimensions, and maximum allowable flare diameter shall be within the tolerances published in current Victaulic IGS specifications, publication 25.14, which can be downloaded at victaulic.com.

3. **CHECK GASKET:** Check the gasket to ensure that it is suitable for the intended service. The color code identifies the gasket grade. Refer to Victaulic publication 05.01 for the color code chart, which can be downloaded at victaulic.com.

3a. **REFER TO THE NOTICE BELOW FOR IMPORTANT GASKET INFORMATION.**

NOTICE

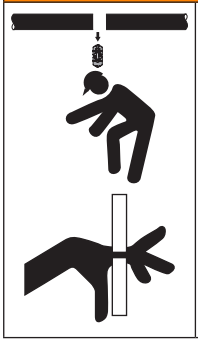
- **Series AH1-CC and AH2-CC flexible hoses are designed for use ONLY in wet, dry, and preaction actuated fire protection systems (temperatures greater than –40°F/–40°C).**
- **Style 108 Coupling assemblies of Series AH1-CC and AH2-CC flexible hoses are provided with the *Vic-Plus* gasket system. Additional lubrication is not required for the initial installation of wet pipe systems that are installed at or continuously operating above 0°F/–18°C. Refer to Victaulic publication 05.03 for the *Vic-Plus* Safety Data Sheet (SDS), which can be downloaded at victaulic.com.**

Supplemental lubrication is required for *Vic-Plus* gaskets only if any of the following conditions exist. If any of these conditions exist, apply a thin coat of Victaulic lubricant or silicone lubricant to the sealing lips of the gasket interior only.

- **If the continuous operating temperature is below 0°F/–18°C**
- **If the gasket has been exposed to fluids prior to installation**
- **If the surface of the gasket does not have a hazy appearance**
- **If the gasket is being installed into a dry pipe system**
- **If the system will be subjected to air tests prior to being filled with water**
- **If the gasket was involved in a previous installation**
- **If the gasket sealing surface of the pipe contains raised or undercut weld seams, or cracks or voids at the weld seams**

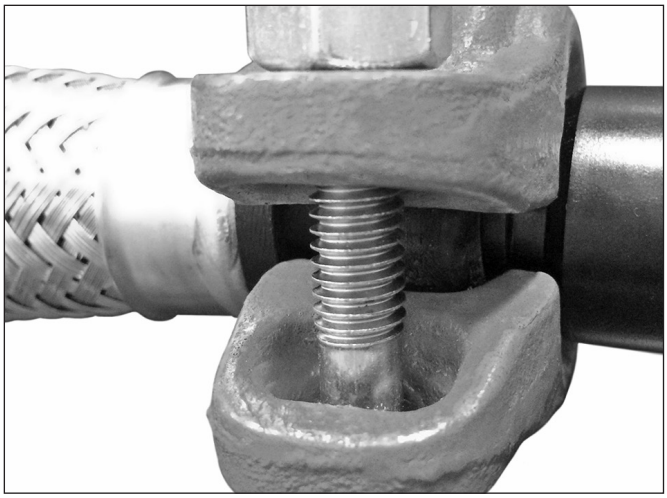
Lubricated gaskets will not enhance sealing capabilities on adverse pipe conditions. Pipe condition and pipe preparation shall conform to the requirements listed in product installation instructions.

⚠ WARNING



- **Never leave a Style 108 Coupling assembly of a Series AH1-CC or AH2-CC partially assembled. A partially assembled coupling poses a drop or burst hazard during testing.**
- **Keep hands away from the opening of the coupling when attempting to insert the grooved sprinkler piping into the coupling.**

Failure to follow these instructions could result in serious personal injury and property damage.

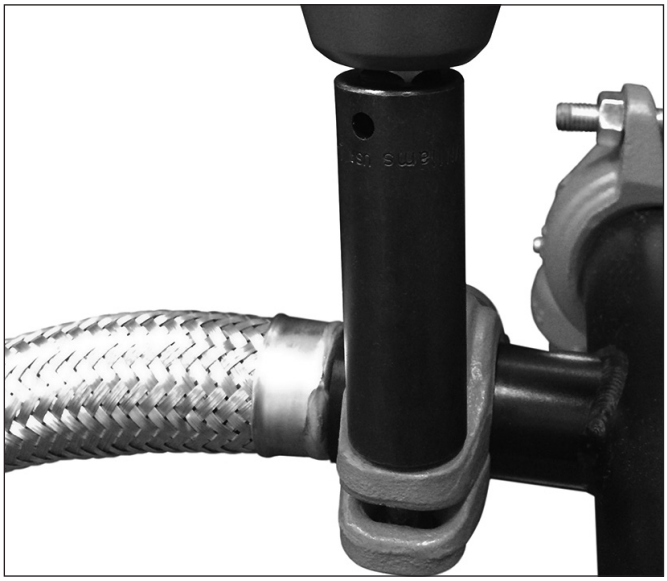


4. **ASSEMBLE JOINT:** Assemble the joint by inserting the grooved end of the sprinkler piping into the opening of the coupling. The grooved sprinkler piping shall be inserted into the coupling until contact with the center leg of the gasket occurs. A visual check is required to ensure that the coupling keys align with the groove in the sprinkler piping.

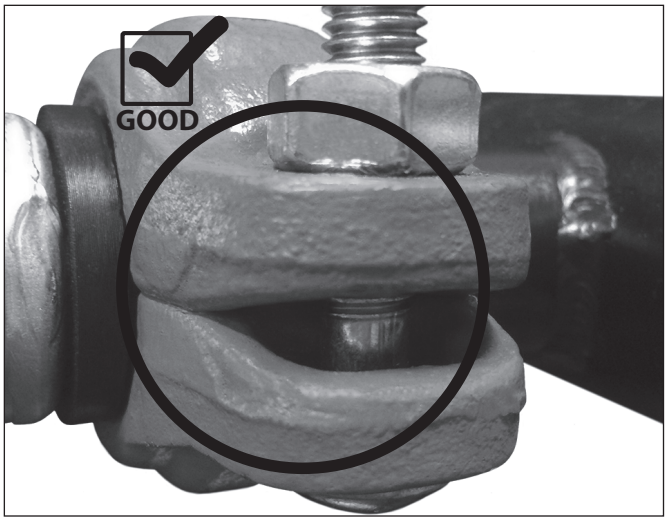
⚠ WARNING

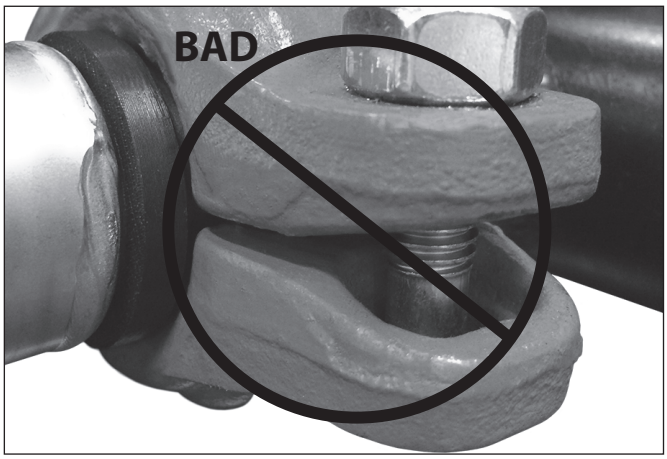
- **The nut shall be tightened until metal-to-metal contact occurs at the bolt pads.**

Failure to follow this instruction could cause joint failure, resulting in death or serious personal injury and property damage.



5. **TIGHTEN NUT:** Using an impact wrench or standard socket wrench with an 11⁄16-inch/17-mm deep well socket, tighten the nut until metal-to-metal contact occurs at the bolt pads. Verify that the housings' keys engage the sprinkler piping's groove completely.





6. **INSPECT PADS: Visually inspect the bolt pads at each joint to ensure that metal-to-metal contact is achieved in accordance with step 5.**

NOTICE

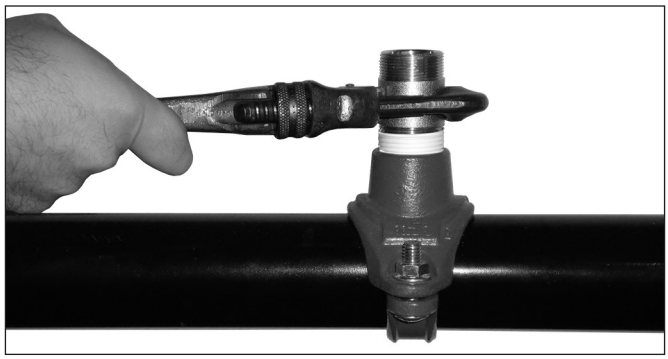
- **Refer to the instructions on page 12 for disassembly and reassembly requirements.**

CONNECTION TO THE SPRINKLER PIPING USING AN ADAPTER NIPPLE AND A SERIES AH1, AH2, AH3, AH4, AH5, AH2-300, OR AH2-638 FLEXIBLE HOSE

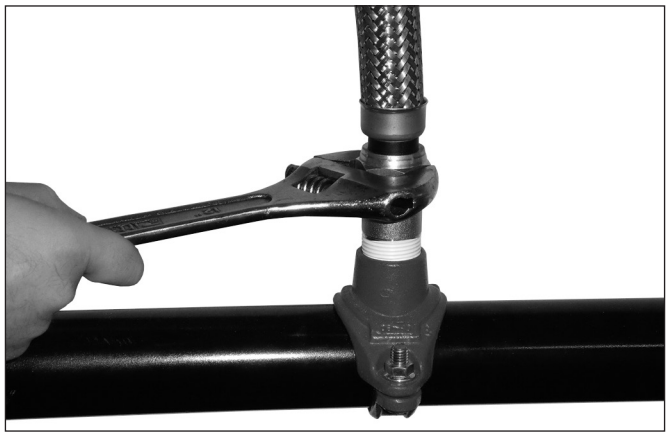
⚠ WARNING

- **The flexible hose shall not be bent or fluctuated up-and-down or side-to-side when it is pressurized for test.**

Failure to follow this instruction could cause improper sprinkler operation, serious personal injury, and/or property damage.



1. Apply pipe joint compound or PTFE thread sealant tape to the tapered threads of the adapter nipple, in accordance with the pipe joint compound or tape manufacturer's instructions. Using a pipe wrench, tighten the adapter nipple into the sprinkler piping.

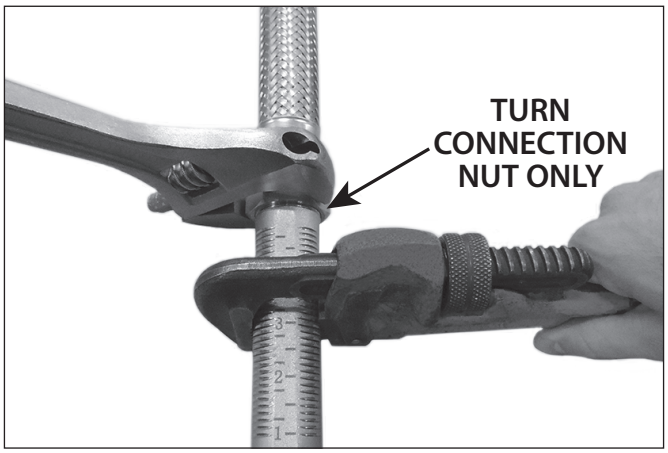


2. Confirm that the seal inside the nut of the flexible hose is in place and is free from damage prior to installation. Connect the nut to the adapter nipple, as shown above.

- DO NOT use pipe joint compound or PTFE thread sealant tape on the threads of the adapter nipple. The seal inside the nut of the flexible hose provides the leak-proof connection.
- **FOR SERIES AH1, AH2, AH3, AH4, AH2-300, AND AH2-638 FLEXIBLE HOSES:** Tighten the connection nut to a torque of 40 ft-lbs/54 N•m (approximately ½ to ¾ of a turn past hand-tight).
- **FOR SERIES AH5 FLEXIBLE HOSES:** Tighten the connection nut to a torque of 15 ft-lbs/20 N•m (approximately ½ a turn past hand-tight).

NOTE: To prevent damage to the seal, tighten the assembly by applying torque only to the connection nut and DO NOT exceed the specified torque.

INSTALLATION OF THE SPRINKLER REDUCING NIPPLE ONTO THE FLEXIBLE HOSE



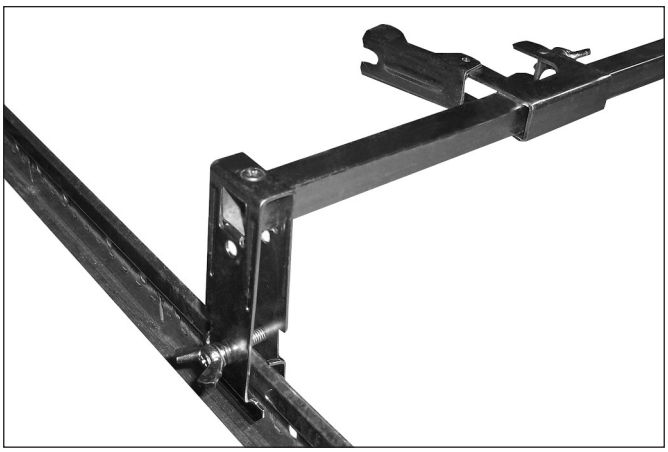
1. Confirm that the seal inside the nut of the flexible hose is in place and is free from damage prior to installation. Connect the nut to the sprinkler reducing nipple. **SHORT 90° ELBOW REDUCERS ARE TYPICALLY USED WITH CONCEALED SPRINKLERS (FM, VdS, LPCB, CCCf ONLY).**

- DO NOT use pipe joint compound or PTFE thread sealant tape on the fine threads of the sprinkler reducing nipple. The seal inside the nut of the flexible hose provides the leak-proof connection.
- **FOR SERIES AH1, AH2, AH3, AH4, AH2-300, AND AH2-638 FLEXIBLE HOSES:** Tighten the connection nut to a torque of 40 ft-lbs/54 N•m (approximately ½ to ¾ of a turn past hand-tight).
- **FOR SERIES AH5 FLEXIBLE HOSES:** Tighten the connection nut to a torque of 15 ft-lbs/20 N•m (approximately ½ a turn past hand-tight).

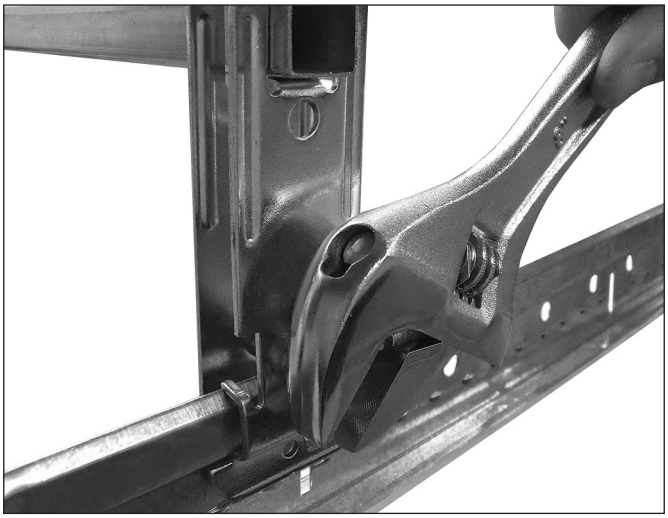
NOTE: To prevent damage to the seal, tighten the assembly by applying torque only to the connection nut and DO NOT exceed the specified torque.

INSTALLATION FOR ASTM C635 CEILING SUSPENSION SYSTEMS INSTALLED IN ACCORDANCE WITH ASTM C636 STANDARDS

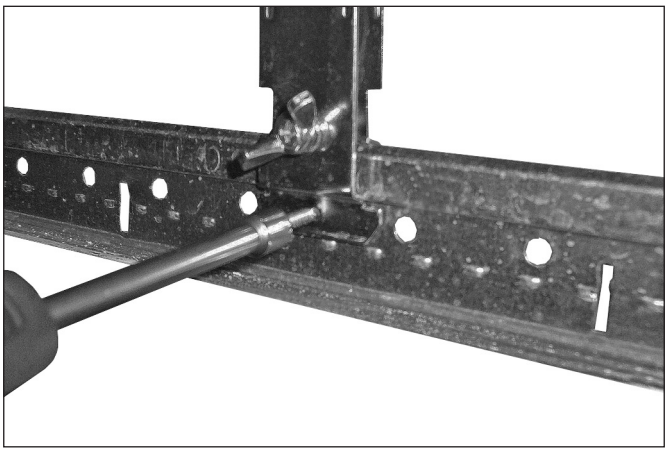
FOR ADJUSTABLE END BRACKET ASSEMBLIES (REGIONAL AVAILABILITY ONLY): For adjustment purposes, the wing screw on top of one end bracket assembly can be loosened to allow the end bracket to slide on the square bar. Tighten the wing screw on top of the each end bracket assembly to a torque of 36 inch-lbs/4 N•m (approximately ½ to ¾ of a turn past hand-tight) to secure the end bracket to the square bar.



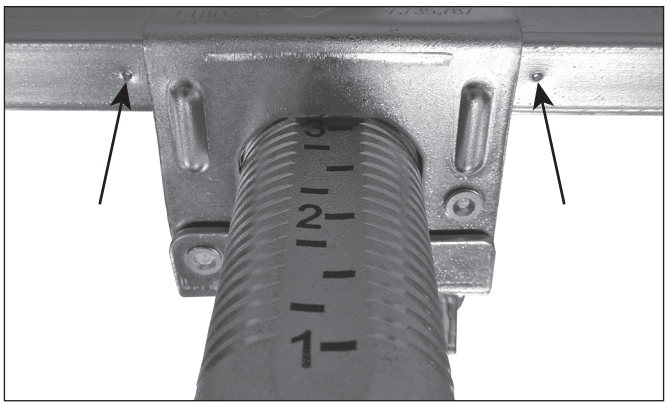
1. Attach the end brackets of the Style AB7 Bracket to the T-bar rails of an ASTM C635 ceiling suspension system installed in accordance with ASTM C636 standards. Verify that the ends of the Style AB7 Bracket engage the rails.



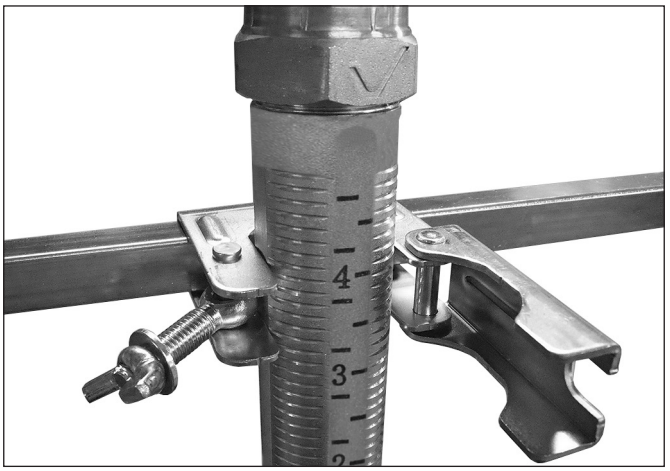
2. Tighten the wing screw on each side of the end bracket assemblies to a torque of 36 inch-lbs/4 N•m (approximately ½ to ¾ of a turn past hand-tight) to secure the end brackets to the rails.



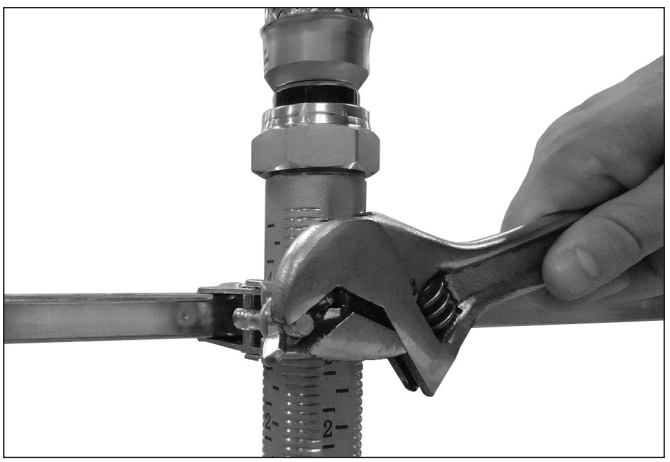
For installations to comply with cULus Listing requirements, or for added tamper resistance: Use a #2 recessed square drive bit to tighten a #8 x ½-inch self-drilling screw through each Style AB7 end bracket assembly and into the ceiling grid. **NOTE:** A tamper-evident label is available and can be applied to one or both of the end brackets.



For center-of tile installations, position the center gate assembly between the two reference marks on the square bar, as shown above.



3. Move the center gate assembly of the Style AB7 Bracket to the desired location. Loosen the wing nut to open the center gate assembly, then slide the sprinkler reducing nipple into the center gate assembly. **NOTE:** The pivot screw of the center gate assembly is staked to resist removal of the wing nut.



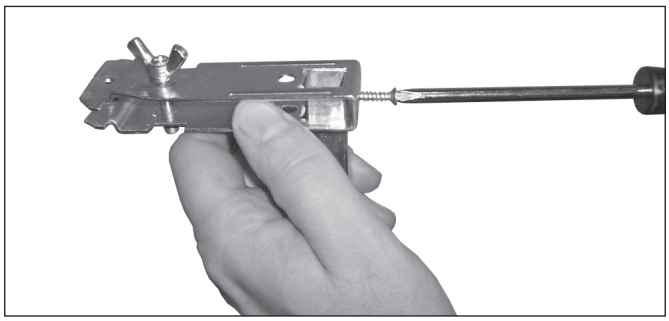
4. Close the center gate assembly around the sprinkler reducing nipple. Swing the pivot screw and washer into the slot on the gate, and tighten the wing nut to a torque of 50 inch-lbs/6 N•m (approximately hand-tight, plus ½ to ¾ of a turn). **NOTE:** Verify that the washer is seated under the head of the wing nut.

SPRINKLER INSTALLATION:

Install the sprinkler by following the manufacturer's installation instructions. For Victaulic sprinklers, refer to the I-40 Victaulic® FireLock™ Automatic Sprinklers Installation and Maintenance Instructions.

INSTALLATION FOR WOOD JOISTS/STUDS (FM ONLY)

1. Install the flexible hose into the sprinkler piping and the sprinkler reducing nipple onto the flexible hose by following the applicable instructions on pages 7 – 9.

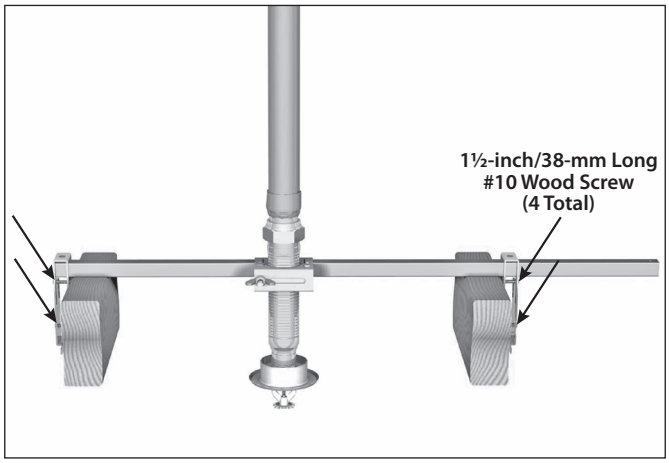


2. Using a #2 Phillips head screwdriver, remove the sheet metal screw from only one end bracket assembly of the Style AB7 Bracket.

2a. Remove the wing screw from each of the end bracket assemblies.

3. Place the end bracket assembly (with the sheet metal screw still installed) up against the outside surface of the wood joist/stud with the square bar resting on top of the wood joists/studs.

3a. Slide the end bracket assembly (with the sheet metal screw removed in step 2) toward the outside surface of the opposite wood joist/stud, as shown in the graphic below.



4. Install the modified Style AB7 Bracket assembly to the wood joists/studs by using four, 1½-inch/38-mm long #10 wood screws in the locations noted in the graphic shown above.

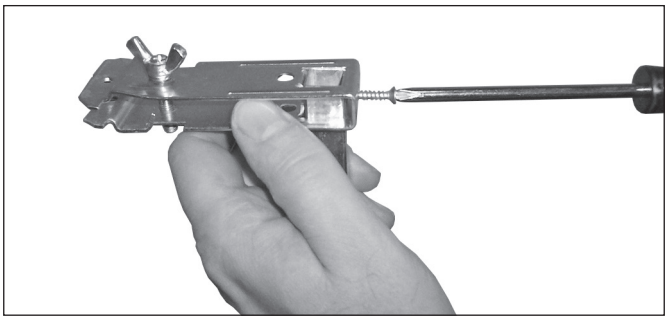
5. **Optional:** Using an ⅛-inch/3-mm drill bit, drill a hole down through the end bracket assembly (with the sheet metal screw removed in step 2) and into the square bar to accommodate re-installation of the sheet metal screw. Re-install the sheet metal screw into the end bracket assembly/square bar.

6. Perform steps 3 - 4 on page 11 to complete the installation.

NOTE: For wood joists/studs larger than 2 x 4, longer sprinkler reducing nipples shall be used, or the alternative installation method on the next page shall be followed.

INSTALLATION FOR ASTM C645 METAL JOISTS/ STUDS INSTALLED IN ACCORDANCE WITH ASTM C754 STANDARDS (FM ONLY)

1. Install the flexible hose into the sprinkler piping and the sprinkler reducing nipple onto the flexible hose by following the applicable instructions on pages 7 – 9.

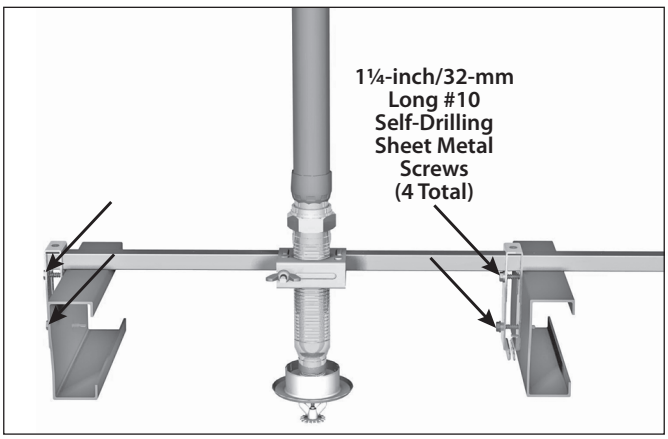


2. Using a #2 Phillips head screwdriver, remove the sheet metal screw from only one end bracket assembly of the Style AB7 Bracket. Slide the end bracket assembly toward the center of the square bar.

2a. Remove the wing screw from each of the end bracket assemblies.

3. Place the end bracket assembly (with the sheet metal screw still installed) up against the outside surface of the metal joist/stud with the square bar resting on top of the metal joists/studs.

3a. Slide the end bracket assembly (with the sheet metal screw removed in step 2) toward the inside, flat surface of the opposite metal joist/stud, as shown in the graphic below.



4. Install the modified Style AB7 Bracket assembly to the metal joists/studs by using four, 1¼-inch/32-mm long #10 self-drilling sheet metal screws in the locations noted in the graphic shown above.

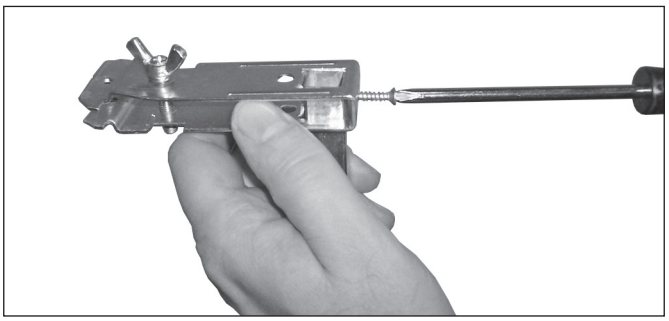
5. **Optional:** Using an ⅛-inch/3-mm drill bit, drill a hole down through the end bracket assembly (with the sheet metal screw removed in step 2) and into the square bar to accommodate re-installation of the sheet metal screw. Re-install the sheet metal screw into the end bracket assembly/square bar.

6. Perform steps 3 - 4 on page 11 to complete the installation.

NOTE: For wood joists/studs larger than 2 x 4, longer sprinkler reducing nipples shall be used, or the alternative installation method on the next page shall be followed.

ALTERNATIVE WOOD JOIST/STUD INSTALLATION (FM ONLY)

1. Install the flexible hose into the sprinkler piping and the sprinkler reducing nipple onto the flexible hose by following the applicable instructions on pages 7 – 9.



2. Using a #2 Phillips head screwdriver, remove the sheet metal screw from only one end bracket assembly of the Style AB7 Bracket. Remove the end bracket assembly from the square bar.

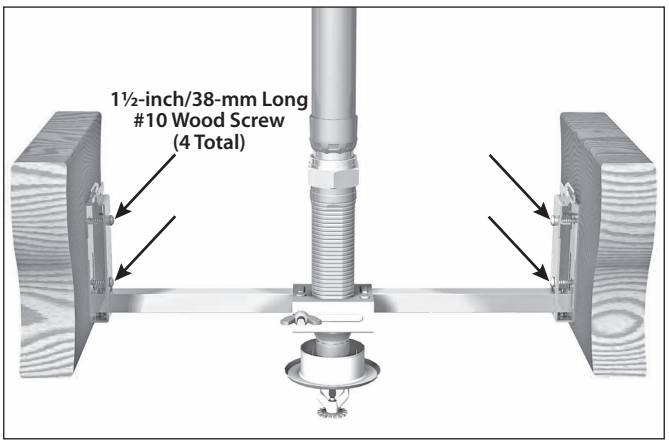
2a. Remove the wing screw from each of the end bracket assemblies.

3. Measure the distance between the wood joists/studs.

3a. Cut the square bar to the length needed to fit between the two wood joists/studs. This length shall be measured from the outside of the end bracket assembly (with the wing screw removed) to the point on the square bar that will butt up against the other wood joist/stud.

4. Place the end bracket assembly, removed in step 2, onto the end of the square bar so that the square bar is flush with the outside of the end bracket assembly. Mark the new location where the sheet metal screw will be re-installed. Drill an ⅛-inch/3-mm hole at the mark on the square bar to accommodate re-installation of the sheet metal screw.

5. Re-install the end bracket assembly to the square bar with the sheet metal screw removed in step 2.

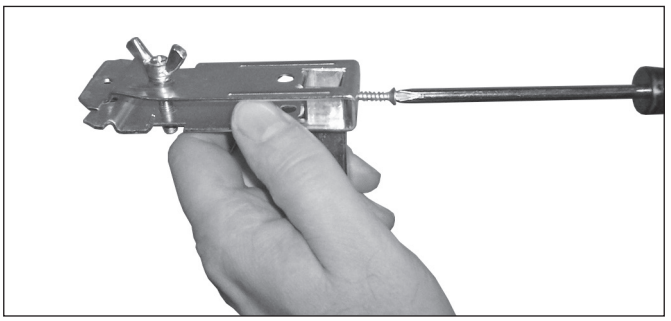


6. Install the modified Style AB7 Bracket assembly between the wood joists/studs by using four, 1½-inch/38-mm long #10 wood screws in the locations noted in the graphic shown above.

7. Perform steps 3 - 4 on page 11 to complete the installation.

ALTERNATIVE METAL JOIST/STUD INSTALLATION (FM ONLY)

1. Install the flexible hose into the sprinkler piping and the sprinkler reducing nipple onto the flexible hose by following the applicable instructions on pages 7 – 9.



2. Using a #2 Phillips head screwdriver, remove the sheet metal screw from only one end bracket assembly of the Style AB7 Bracket. Remove the end bracket assembly from the square bar.

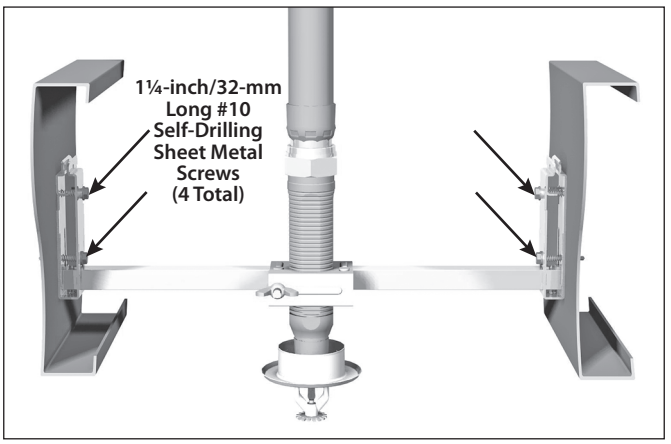
2a. Remove the wing screw from each of the end bracket assemblies.

3. Measure the distance between the metal joists/studs.

3a. Cut the square bar to the length needed to fit between the two metal joists/studs. This length shall be measured from the outside of the end bracket assembly (with the wing screw removed) to the point on the square bar that will butt up against the other metal joist/stud.

4. Place the end bracket assembly, removed in step 2, onto the end of the square bar so that the square bar is flush with the outside of the end bracket assembly. Mark the new location where the sheet metal screw will be re-installed. Drill an ⅛-inch/3-mm hole at the mark on the square bar to accommodate re-installation of the sheet metal screw.

5. Re-install the end bracket assembly to the square bar with the sheet metal screw removed in step 2.

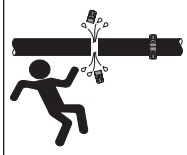


6. Install the modified Style AB7 Bracket assembly between the metal joists/studs by using four, 1¼-inch/32-mm long #10 self-drilling sheet metal screws in the locations noted in the graphic shown above.

7. Perform steps 3 - 4 on page 11 to complete the installation.

INSTRUCTIONS FOR REASSEMBLY OF A SERIES AH1-CC OR SERIES AH2-CC FLEXIBLE HOSE

⚠ WARNING

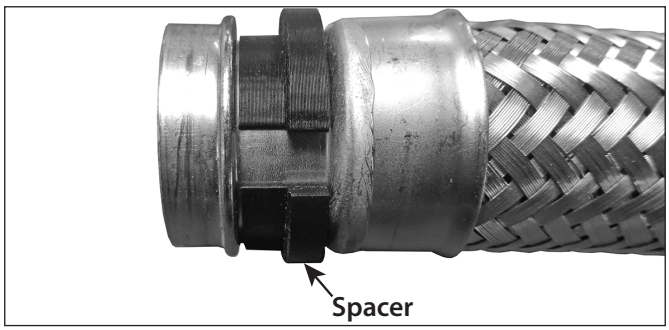


- **Verify that the system is depressurized and drained completely before attempting to disassemble a Series AH1-CC or AH2-CC Flexible Hose from the sprinkler piping.**

Failure to follow this instruction could result in death or serious personal injury and property damage.

1. Verify that the system is depressurized and drained completely before attempting to disassemble a Series AH1-CC or AH2-CC Flexible Hose from the sprinkler piping.
2. Loosen the nut of the Style 108 Coupling assembly to permit removal from the sprinkler piping.
3. Remove the nut, bolt, gasket, and linkage from the Style 108 Coupling housings. Inspect all components for damage or wear. If any damage or wear is present, replace with new Victaulic-supplied components. **NOTE:** Replacement gaskets shall be of the same grade that is suitable for the intended service.
4. Verify that the outside surface of the sprinkler piping, between the groove and the end of the sprinkler piping, is smooth and free from indentations, projections, weld seams, and roll marks to ensure a leak-tight seal. All oil, grease, loose paint, dirt, and cutting particles shall be removed.

The sprinkler piping's outside diameter ("OD"), groove dimensions, and maximum allowable flare diameter shall be within the tolerances published in current Victaulic IGS specifications, publication 25.14, which can be downloaded at victaulic.com.



5. Verify that the spacer is oriented on the inlet end of the flexible hose, as shown above.

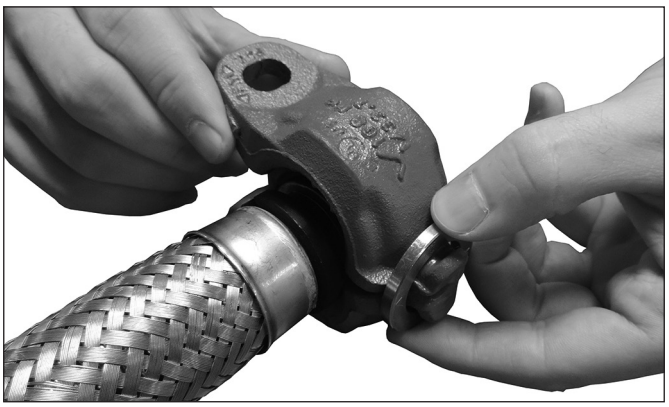
⚠ CAUTION

- **A thin coat of Victaulic Lubricant or silicone lubricant shall be used to prevent the gasket from pinching/tearing during reassembly.**

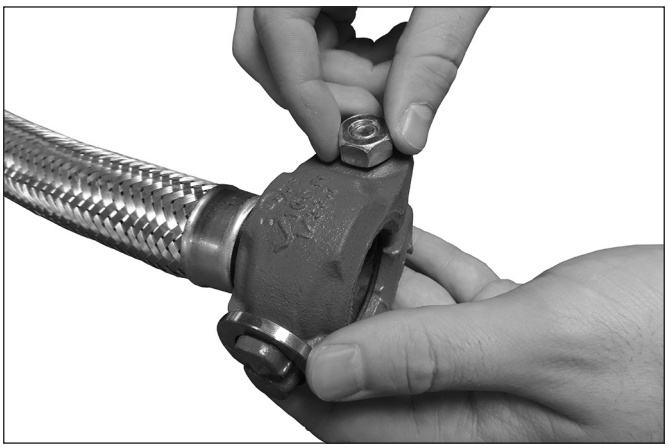
Failure to use a compatible lubricant will cause gasket damage, resulting in joint leakage and property damage.

6. **LUBRICATE GASKET:** Apply a thin coat of Victaulic Lubricant or silicone lubricant to the gasket sealing lips and exterior. It is normal for the gasket surface to have a hazy white appearance after it has been in service.

7. **REASSEMBLE COUPLING ONTO FLEXIBLE HOSE:** Place the lubricated gasket onto the inlet end of the flexible hose, then place the Style 108 Coupling housings over the gasket. Verify that the gasket is seated in the gasket pocket of the housings and that the housings' keys engage with the spacer.



8. **INSTALL LINKAGE:** Install the linkage onto the housings, as shown above.



9. **INSTALL HARDWARE:** Install the bolt through the housings. Thread the nut onto the bolt until the top of the nut is flush with the end of the bolt, as shown above. Verify that the gasket remains seated in the gasket pocket of the housings and that the housings' keys engage with the spacer.
10. Follow all steps on pages 4 – 5 of this instruction sheet to complete the assembly.

TECHNICAL DATA FOR FLEXIBLE HOSES

The following section provides friction loss information for flexible hoses that can be used with the Style AB7 Bracket.

⚠ WARNING

- **It is the system designer's responsibility to verify suitability of stainless steel flexible hose for use with the intended fluid media within the piping system and external environment.**
- **The effect of chemical composition, pH level, operating temperature, chloride level, oxygen level, and flow rate on the stainless steel flexible hose shall 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 death or serious personal injury and property damage.

SERIES AH1 AND AH1-CC FLEXIBLE HOSE FRICTION LOSS DATA (FM)

Model	Length of Flexible Hose inches/mm	Outlet Size# inches/Metric	Equivalent Length of 1-inch/DN25 Schedule 40 Pipe* feet/meters	Maximum Number of 90° Bends§
AH1-31 AH1-CC-31	31 790	½ DN15	53.8 16.4	2
		¾ DN20	44.3 13.5	
AH1-36 AH1-CC-36	36 915	½ DN15	63.7 19.4	2
		¾ DN20	55.5 16.9	
AH1-48 AH1-CC-48	48 1220	½ DN15	87.9 26.8	3
		¾ DN20	83.0 25.3	
AH1-60 AH1-CC-60	60 1525	½ DN15	112.2 34.1	4
		¾ DN20	110.4 33.6	
AH1-72 AH1-CC-72	72 1830	½ DN15	136.5 41.6	4
		¾ DN20	137.9 42.0	

* 7-inch/178-mm minimum bend radius (tested with standard 5¾-inch/146-mm length straight reducer)
# ¾-inch/DN20 outlet data shown with K14.0 - For other K-factor friction loss data, refer to Victaulic submittal 10.95
§ A higher number of bends may be permitted, provided the sum of degrees is equal to or less than the total maximum allowable degrees of bends (e.g. Two 90° bends equal 180°. Three 90° bends equal 270°). The minimum bend radius and maximum number of 90° offset (bends), stated in these installation instructions, refer to the final installed condition of the hose.
For friction loss data for elbows, refer to Victaulic submittal 10.95.
NOTE: Differences in equivalent lengths are due to varying test methods, per the FM 1637 standard. Refer to these standards for additional information regarding friction loss test methods.

SERIES AH2 AND AH2-CC FLEXIBLE HOSE FRICTION LOSS DATA (FM)

Model	Length of Flexible Hose inches/mm	Outlet Size# inches/Metric	Equivalent Length of 1-inch/DN25 Schedule 40 Pipe* feet/meters	Maximum Number of 90° Bends§
AH2-31 AH2-CC-31	31 790	½ DN15	23.5 7.2	2
		¾ DN20	14.9 4.5	
AH2-36 AH2-CC-36	36 915	½ DN15	27.8 8.5	2
		¾ DN20	19.4 5.9	
AH2-48 AH2-CC-48	48 1220	½ DN15	38.2 11.6	3
		¾ DN20	30.3 9.2	
AH2-60 AH2-CC-60	60 1525	½ DN15	42.4 12.9	4
		¾ DN20	33.9 10.3	
AH2-72 AH2-CC-72	72 1830	½ DN15	46.6 14.2	4
		¾ DN20	37.5 11.4	

* 7-inch/178-mm minimum bend radius (tested with standard 5¾-inch/146-mm length straight reducer)
# ¾-inch/DN20 outlet data shown with K14.0 - For other K-factor friction loss data, refer to Victaulic submittal 10.85
§ A higher number of bends may be permitted, provided the sum of degrees is equal to or less than the total maximum allowable degrees of bends (e.g. Two 90° bends equal 180°. Three 90° bends equal 270°). The minimum bend radius and maximum number of 90° offset (bends), stated in these installation instructions, refer to the final installed condition of the hose.
For friction loss data for elbows, refer to Victaulic submittal 10.85.
NOTE: Differences in equivalent lengths are due to varying test methods, per the FM 1637 standard. Refer to these standards for additional information regarding friction loss test methods.

SERIES AH2-300 FLEXIBLE HOSE FRICTION LOSS DATA (FM)

Model	Length of Flexible Hose inches/mm	Outlet Size# inches/Metric	Equivalent Length of 1-inch/DN25 Schedule 40 Pipe* feet/meters	Maximum Number of 90° Bends§
AH2-300-31	31 790	½ DN15	23.5 7.2	2
		¾ DN20	14.9 4.5	
AH2-300-36	36 915	½ DN15	27.8 8.5	2
		¾ DN20	19.4 5.9	
AH2-300-48	48 1220	½ DN15	38.2 11.6	3
		¾ DN20	30.3 9.2	
AH2-300-60	60 1525	½ DN15	42.4 12.9	4
		¾ DN20	33.9 10.3	
AH2-300-72	72 1830	½ DN15	46.6 14.2	4
		¾ DN20	37.5 11.4	

* 8-inch/203-mm minimum bend radius (tested with standard 5¾-inch/146-mm length straight reducer)
# ¾-inch outlet data shown with K14.0 - For other K-factor friction loss data, refer to Victaulic submittal 10.84
§ A higher number of bends may be permitted, provided the sum of degrees is equal to or less than the total maximum allowable degrees of bends (e.g. Two 90° bends equal 180°. Three 90° bends equal 270°). The minimum bend radius and maximum number of 90° offset (bends), stated in these installation instructions, refer to the final installed condition of the hose.
For friction loss data for elbows, refer to Victaulic submittal 10.84.
NOTE: Differences in equivalent lengths are due to varying test methods, per the FM 1637 standard. Refer to this standard for additional information regarding friction loss test methods.

SERIES AH2-638 FLEXIBLE HOSE FRICTION LOSS DATA (FM)

Model	Length of Flexible Hose inches/mm	Outlet Size# inches/Metric	Equivalent Length of 1-inch/DN25 Schedule 40 Pipe feet/meters*	Maximum Number of 90° Bends
AH2-638	28 711	½ DN15	22.2 6.8	1
		¾ DN20	13.1 3.9	

* 7-inch/178-mm minimum bend radius (tested with standard 5¾-inch/146-mm length straight reducer)
# ¾-inch outlet data shown with K14.0 - For other K-factor friction loss data, refer to Victaulic submittal 10.85
For friction loss data for elbows, refer to Victaulic submittal 10.85.
NOTE: Differences in equivalent lengths are due to varying test methods, per the FM 1637 standard. Refer to this standard for additional information regarding friction los test methods.

SERIES AH3 FLEXIBLE HOSE FRICTION LOSS DATA (FM) – REGIONAL AVAILABILITY ONLY

Model	Length of Flexible Hose inches/mm	Outlet Size# inches/Metric	Equivalent Length of 1-inch/DN25 Schedule 40 Pipe feet/meters*	Maximum Number of 90° Bends§
AH3-31	31 790	½ DN15	33.8 10.3	2
		¾ DN20	34.2 10.4	
AH3-36	36 915	½ DN15	43.0 13.1	2
		¾ DN20	44.1 13.4	
AH3-48	48 1220	½ DN15	65.2 19.9	3
		¾ DN20	67.8 20.7	
AH3-60	60 1525	½ DN15	87.4 26.6	4
		¾ DN20	91.6 27.9	
AH3-72	72 1830	½ DN15	109.7 33.4	4
		¾ DN20	115.5 35.2	

* 7-inch/178-mm minimum bend radius (tested with standard 5¾-inch/146-mm length straight reducer)
# ¾-inch/DN20 outlet data shown with K14.0 - For other K-factor friction loss data, refer to Victaulic submittal 10.94
§ A higher number of bends may be permitted, provided the sum of degrees is equal to or less than the total maximum allowable degrees of bends (e.g. Two 90° bends equal 180°. Three 90° bends equal 270°). The minimum bend radius and maximum number of 90° offset (bends), stated in these installation instructions, refer to the final installed condition of the hose.
For friction loss data for elbows, refer to Victaulic submittal 10.94.
NOTE: Differences in equivalent lengths are due to varying test methods, per the FM 1637 standard. Refer to this standard for additional information regarding friction loss test methods.

SERIES AH4 FLEXIBLE HOSE FRICTION LOSS DATA (FM)

Model	Length of Flexible Hose inches/mm	Outlet Size# inches/Metric	Equivalent Length of 1-inch/DN25 Schedule 40 Pipe feet/meters*	Maximum Number of 90° Bends§
AH4-31	31 790	½ DN15	20.6 6.3	2
		¾ DN20	16.3 5.0	
AH4-36	36 915	½ DN15	29.7 9.0	2
		¾ DN20	21.8 6.7	
AH4-48	48 1220	½ DN15	27.5 8.3	3
		¾ DN20	28.3 8.6	
AH4-60	60 1525	½ DN15	35.7 10.9	4
		¾ DN20	34.9 10.6	
AH4-72	72 1830	½ DN15	45.9 14.0	4
		¾ DN20	41.5 12.6	

* 7-inch/178-mm minimum bend radius (tested with standard 5¾-inch/146-mm length straight reducer)
# ¾-inch/DN20 outlet data shown with K14.0 - For other K-factor friction loss data, refer to Victaulic submittal 10.85
§ A higher number of bends may be permitted, provided the sum of degrees is equal to or less than the total maximum allowable degrees of bends (e.g. Two 90° bends equal 180°. Three 90° bends equal 270°). The minimum bend radius and maximum number of 90° offset (bends), stated in these installation instructions, refer to the final installed condition of the hose.
For friction loss data for elbows, refer to Victaulic submittal 10.85.
NOTE: Differences in equivalent lengths are due to varying test methods, per the FM 1637 standard. Refer to this standard for additional information regarding friction loss test methods.

Series AH4 Flexible Hose Assembly Model Number Correlation

Series AH4 Hose Assembly Designation	Outlet Size	Series AQB Hose Assembly Designation	Series AFB Hose Assembly Designation
AH4-31	½	AQB31HLD	AFB31HLD
	¾	AQB31TLD	AFB31TLD
AH4-36	½	AQB36HLD	AFB36HLD
	¾	AQB36TLD	AFB36TLD
AH4-48	½	AQB48HLD	AFB48HLD
	¾	AQB48TLD	AFB48TLD
AH4-60	½	AQB60HLD	AFB60HLD
	¾	AQB60TLD	AFB60TLD
AH4-72	½	AQB72HLD	AFB72HLD
	¾	AQB72TLD	AFB72TLD

SERIES AH5 FLEXIBLE HOSE FRICTION LOSS DATA (UL)

Model	Length of Flexible Hose inches/mm	Outlet Size# inches/Metric	Equivalent Length of 1-inch/DN25 Schedule 40 Pipe feet/meters*	Maximum Number of 90° Bends§
AH5-24	28 700	½ DN15	18 5.5	2
		¾ DN20	32 9.8	
AH5-31	31 780	½ DN15	27 8.2	2
		¾ DN20	33 10.1	
AH5-36	40 1000	½ DN15	44 13.4	3
		¾ DN20	48 14.6	
AH5-48	48 1220	½ DN15	53 16.2	3
		¾ DN20	55 16.8	
AH5-60	61 1540	½ DN15	68 20.7	3
		¾ DN20	63 19.2	
AH5-72	72 1830	½ DN15	73 22.3	3
		¾ DN20	76 23.2	

* 4-inch/102-mm minimum bend radius (tested with standard 5¾-inch/146-mm length straight reducer)
# ¾-inch outlet data shown with K14.0 - For other K-factor friction loss data, refer to Victaulic submittal 10.89
§ A higher number of bends may be permitted, provided the sum of degrees is equal to or less than the total maximum allowable degrees of bends (e.g. Two 90° bends equal 180°. Three 90° bends equal 270°). The minimum bend radius and maximum number of 90° offset (bends), stated in these installation instructions, refer to the final installed condition of the hose.
For friction loss data for elbows, refer to Victaulic submittal 10.89.
NOTE: Differences in equivalent lengths are due to varying test methods, per the UL 2443 standard. Refer to this standard for additional information regarding friction loss test methods.

Series AH5 Flexible Hose Assembly Model Number Correlation

Series AH5 Hose Assembly Designation	Outlet Size	Series AQU Hose Assembly Designation	Series AF Hose Assembly Designation
AH5-31	½	AQU-31	AF-31H
	¾		AF-31T
AH5-36	½	AQU-36	AF-36H
	¾		AF-36T
AH5-48	½	AQU-48	AF-48H
	¾		AF-48T
AH5-60	½	AQU-60	AF-60H
	¾		AF-60T
AH5-72	½	AQU-72	AF-72H
	¾		AF-72T

SERIES AH1, AH1-CC, AH2, AH2-CC, AH3*, AND AH4 FLEXIBLE HOSE FRICTION LOSS DATA (VDS)

Length of Flexible Hose mm/ inches	Outlet Size Metric/ inches	Maximum Number of 90° Bends at 76.2-mm/3-inch Bend Radius	Series AH1 and AH1-CC	Series AH2 and AH2-CC	Series AH3*	Series AH4
			Equivalent Length of Steel Pipe in meters/feet According to EN 10255 DN 20 (26,9 x 2,65)	Equivalent Length of Steel Pipe in meters/feet According to EN 10255 DN 25 (33,7 x 3,25)	Equivalent Length of Steel Pipe in meters/feet According to EN 10255 DN 20 (26,9 x 2,65)	Equivalent Length of Steel Pipe in meters/feet According to EN 10255 DN 25 (33,7 x 3,25)
790 31	DN15/½ DN20/¾	3	4.0 12.9	5.5 18.0	5.9 19.4	5.5 18.0
915 36	DN15/½ DN20/¾	3	4.6 15.0	6.4 21.0	6.9 22.5	6.4 21.0
1220 48	DN15/½ DN20/¾	3	6.1 20.0	8.5 27.9	9.2 30.0	8.5 27.9
1525 60	DN15/½ DN20/¾	4	7.6 25.0	10.7 35.1	11.4 37.5	10.7 35.1
1830 72	DN15/½ DN20/¾	4	9.2 30.0	12.8 42.0	13.7 45.0	12.8 42.0

* SERIES AH3 – REGIONAL AVAILABILITY ONLY
Series AH1, AH1-CC, AH2, AH2-CC, AH3, and AH4 Flexible Hoses are VdS Approved for use in wet systems only.
Only VdS Approved pendent spray sprinklers of 10-mm, 15-mm, and 20-mm nominal diameters with K-factors of 57, 80, and 115 shall be used.
Tested with a 5¾-inch/146-mm length straight reducer.

The VdS Approval applies only for use with the following manufacturers' suspended ceiling systems:

Ceiling Suspension Systems for the Style AB7 Bracket					
AMF Armstrong Chicago Metallic	Dipling Durlum Geipel	Gema-Armstrong Hilti Knauf	Lafarge Lindner Odenwald	Richter Rigips Rockfon Pagos	Suckow & Fischer USG Donn

Other manufacturers' ceiling systems, with comparable or better performance, can be considered for approval. VdS standards for safety include, but are not limited to: pressure cycling, corrosion resistance, flow characteristics, vibration resistance, leakage, mechanical strength, 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.

SERIES AH1 AND AH2 FLEXIBLE HOSE FRICTION LOSS DATA (LPCB)

Length of Flexible Hose mm/inches	Outlet Size Metric/inches	Maximum Number of 90° Bends at 76.2-mm/3-inch Bend Radius	Series AH1*	Series AH2**
			Equivalent Length of Steel Pipe in meters/feet According to EN 10255 DN 25 (33,7 x 3,25)	Equivalent Length of Steel Pipe in meters/feet According to EN 10255 DN 25 (33,7 x 3,25)
790 31	DN15/½ DN20/¾	2	13.6 44.6	1.8 6.0
915 36	DN15/½ DN20/¾	3	16.9 55.4	3.6 11.9
1220 48	DN15/½ DN20/¾	3	19.9 65.1	4.3 14.0
1525 60	DN15/½ DN20/¾	3	24.5 80.2	4.1 13.6
1830 72	DN15/½ DN20/¾	3	28.5 93.4	5.5 18.1

* Hose Type 2 and Size: DN20/0.8-inch Nominal ID, per LPS 1261
** Hose Type 2 and Size: DN25/1-inch Nominal ID, per LPS 1261
Series AH1 and AH2 Flexible Hoses are LPCB Approved for use in wet systems only.
Only LPCB Approved pendent spray sprinklers of 10-mm, 15-mm, and 20-mm nominal diameters with K-factors of 57 and 80 shall be used.
Tested with a 5¾-inch/146-mm length straight reducer.

SERIES AH1 FLEXIBLE HOSE FRICTION LOSS DATA (CCCf)

Model	Length of Flexible Hose mm/inches	Equivalent Length – meters/feet	
		Straight Configuration	Bend Configuration
AH1-31	790 31	4.78 15.7	5.80 19.0
AH1-36	915 36	5.59 18.3	10.15 33.3
AH1-48	1120 48	9.75 32.0	16.25 53.3
AH1-60	1525 60	12.15 39.9	22.94 75.3
AH1-72	1830 72	14.26 46.8	25.98 85.2

178-mm/7-inch minimum bend radius
Friction loss data is in accordance with GB5135.16. Corresponding flow rate is 113.55 liters per minute/30 gallons per minute.

SERIES AH2 FLEXIBLE HOSE FRICTION LOSS DATA (CCCf)

Model	Length of Flexible Hose mm/inches	Equivalent Length – meters/feet	
		Straight Configuration	Bend Configuration
AH2-31	790 31	0.87 2.9	2.70 8.9
AH2-36	915 36	1.00 3.3	2.80 9.2
AH2-48	1120 48	2.23 7.3	4.66 15.3
AH2-60	1525 60	2.90 9.5	6.50 21.3
AH2-72	1830 72	3.31 10.9	7.16 23.5

178-mm/7-inch minimum bend radius

SERIES AH3 FLEXIBLE HOSE FRICTION LOSS DATA (CCCf) – REGIONAL AVAILABILITY ONLY

Model	Length of Flexible Hose mm/inches	Equivalent Length – meters/feet	
		Straight Configuration	Bend Configuration
AH3-31	790 31	5.19 17.0	7.91 26.0
AH3-36	915 36	6.17 20.2	9.92 32.6
AH3-48	1120 48	8.93 29.3	14.55 47.7
AH3-60	1525 60	11.10 36.4	20.03 65.7
AH3-72	1830 72	13.43 44.1	23.64 77.6

178-mm/7-inch minimum bend radius

Victaulic® VicFlex™ Flexible Hose with Fittings for Fire Protection Service

Style AB7 Bracket