

Victaulic® VicFlex™ Style AB3 Sprinkler Fittings for Surface Mount Applications

INTRODUCTION

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 must understand the purpose of these products, common industry standards for safety, and the potential consequences of improper product installation.

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

The Style AB3 Sprinkler Fitting can be installed as a surface mount bracket for pendent or sidewall applications in wood, metal, or concrete block walls or ceilings, along with VicFlex™ Series AH1, AH2, AH4, AH2-300, or AH2-638 flexible hoses.

TECHNICAL DATA FOR FLEXIBLE HOSES

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 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.

LISTING AND APPROVAL INFORMATION

Flexible Hose	 APPROVED
AH1	With AB3
AH2	With AB3
AH4	With AB3
AH2-300	With AB3
AH2-638	With AB3

NOTE: 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).

Victaulic® VicFlex™ flexible hoses are available in lengths from 31 - 72 inches/787 - 1829 mm with either ½-inch/15-mm or ¾-inch/20 mm NPT or BSPT threaded outlets.

Maximum Working Pressure Rating:

200 psi/14 Bar (FM Approval)
 300 psi/21 Bar (FM Approval – Series AH2-300)

Maximum Ambient Temperature Rating:

225° F/107° C

Connection to Branch Line:

1 inch/25 mm NPT/BSPT

Minimum Bend Radius of Flexible Hose:

7 inch/178 mm (FM Approval – Series AH1, AH2, AH4, AH2-638)
 8 inch/203 mm (FM Approval – Series AH2-300)

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

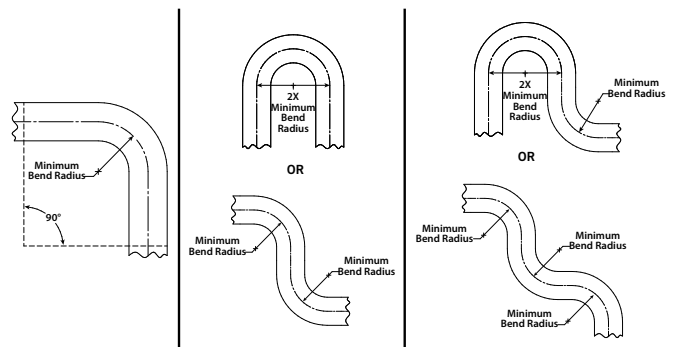
Flexible Hose	Sprinkler Reducing Nipple Size	
AH1, AH2, AH4, AH2-300, AH2-638	½	K5.6 US K80 Metric
	¾	K14.0 US K200 Metric

Maximum Number of 90° Bends Per Flexible Hose:

Refer to the “Friction Loss Data” section

FLEXIBLE HOSE BEND CHARACTERISTICS

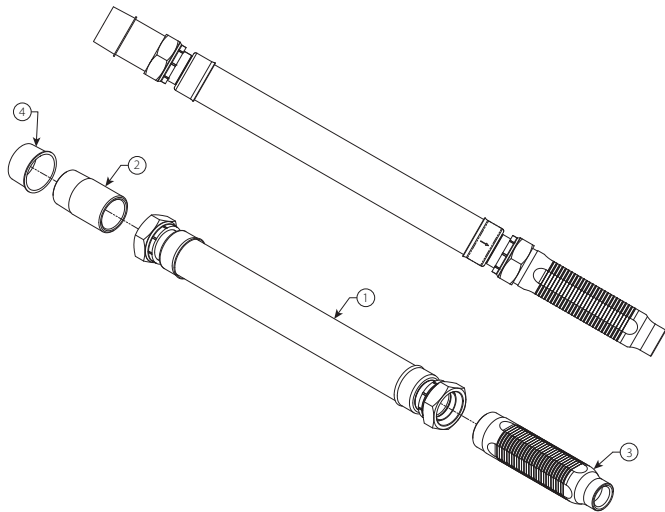
NOTE: For out-of-plane (three-dimensional) bends, care must be taken to avoid imparting torque on the flexible hose.



SERIES AH4 FLEXIBLE HOSE ASSEMBLY MODEL NUMBER CORRELATION

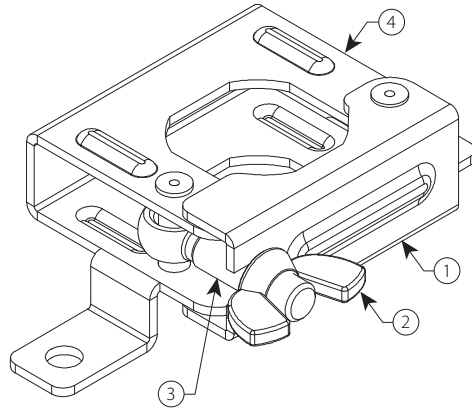
Series AH4 Hose Assembly Designation	Outlet Size	Series AQB Hose Assembly Designation	Series AFB Hose Assembly Designation
AH4-31	½	AQB31HLD	AFB31HLD
	¾	AQB31TLD	AFB31TLD
AH4-36	½	AQB36HLD	AFB36HLD
	¾	AQB36TLD	AFB36TLD
AH4-48	½	AQB48HLD	AFB48HLD
	¾	AQB48TLD	AFB48TLD
AH4-60	½	AQB60HLD	AFB60HLD
	¾	AQB60TLD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

FLEXIBLE HOSE ASSEMBLY DRAWING



Item	Description
1	Flexible Hose Assembly
2	Branchline Nipple
3	Reducer (Flexible Hose to Sprinkler)
4	Shipping Cap

STYLE AB3 SURFACE MOUNT BRACKET ASSEMBLY DRAWING



Item	Description
1	Gate
2	Wing Nut
3	Pivot Screw
4	Bracket Body

SERIES AH1 FLEXIBLE HOSE FRICTION LOSS DATA (FM)

Model	Length of Flexible Hose inches/mm	Outlet Size# inches	Equivalent Length of 1-inch/33.7-mm Schedule 40 Pipe feet/meters*	Maximum Number of 90° Bends§
AH1-31	31 790	1/2	53.8 16.4	2
		3/4	44.3 13.5	
AH1-36	36 915	1/2	63.7 19.4	2
		3/4	55.5 16.9	
AH1-48	48 1220	1/2	87.9 26.8	3
		3/4	83.0 25.3	
AH1-60	60 1525	1/2	112.2 34.1	4
		3/4	110.4 33.6	
AH1-72	72 1830	1/2	136.5 41.6	4
		3/4	137.9 42.0	

3/4-inch outlet data shown with K14.0 - For other K-factor friction loss data, refer to Victaulic submittal 10.85

* 7-inch/178-mm minimum bend radius (tested with standard 5 3/4-inch/146-mm length straight reducer)

§ 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 AH2 FLEXIBLE HOSE FRICTION LOSS DATA (FM)

Model	Length of Flexible Hose inches/mm	Outlet Size# inches	Equivalent Length of 1-inch/33.7-mm Schedule 40 Pipe feet/meters*	Maximum Number of 90° Bends§
AH2-31	31 790	1/2	23.5 7.2	2
		3/4	14.9 4.5	
AH2-36	36 915	1/2	27.8 8.5	2
		3/4	19.4 5.9	
AH2-48	48 1220	1/2	38.2 11.6	3
		3/4	30.3 9.2	
AH2-60	60 1525	1/2	42.4 12.9	4
		3/4	33.9 10.3	
AH2-72	72 1830	1/2	46.6 14.2	4
		3/4	37.5 11.4	

* 7-inch/178-mm minimum bend radius (tested with standard 5 3/4-inch/146-mm length straight reducer)

3/4-inch 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 FRICTION LOSS DATA (FM)

Model	Length of Flexible Hose inches/mm	Outlet Size# inches	Equivalent Length of 1-inch/33.7-mm Schedule 40 Pipe feet/meters*	Maximum Number of 90° Bends§
AH4-31	31 790	1/2	20.6 6.3	2
		3/4	16.3 5.0	
AH4-36	36 915	1/2	29.7 9.0	2
		3/4	21.8 6.7	
AH4-48	48 1220	1/2	27.5 8.3	3
		3/4	28.3 8.6	
AH4-60	60 1525	1/2	35.7 10.9	4
		3/4	34.9 10.6	
AH4-72	72 1830	1/2	45.9 14.0	4
		3/4	41.5 12.6	

* 7-inch/178-mm minimum bend radius (tested with standard 5 3/4-inch/146-mm length straight reducer)

3/4-inch 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 AH2-300 FLEXIBLE HOSE FRICTION LOSS DATA (FM)

Model	Length of Flexible Hose inches/mm	Outlet Size inches#	Equivalent Length of 1-inch/33.7-mm Schedule 40 Pipe feet/meters*	Maximum Number of 90° Bends§
AH2-300-31	31 790	1/2	23.5 7.2	2
		3/4	14.9 4.5	
AH2-300-36	36 915	1/2	27.8 8.5	2
		3/4	19.4 5.9	
AH2-300-48	48 1220	1/2	38.2 11.6	3
		3/4	30.3 9.2	
AH2-300-60	60 1525	1/2	42.4 12.9	4
		3/4	33.9 10.3	
AH2-300-72	72 1830	1/2	46.6 14.2	4
		3/4	37.5 11.4	

3/4-inch outlet data shown with K14.0 - For other K-factor friction loss data, refer to Victaulic submittal 10.85

* 8-inch/203-mm minimum bend radius (tested with standard 5 3/4-inch/146-mm length straight reducer)

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

Model	Length of Flexible Hose inches/mm	Outlet Size# inches	Equivalent Length of 1-inch/33.7-mm Schedule 40 Pipe feet/meters*	Maximum Number of 90° Bends
AH2-638	28 711	1/2	22.2 6.8	1
		3/4	13.1 3.9	

* 7-inch/178-mm minimum bend radius (tested with standard 5 3/4-inch/146-mm length straight reducer)

3/4-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 UL 2443 and FM 1637 standards. Refer to these standards for additional information regarding friction loss test methods.

IMPORTANT INSTALLATION INFORMATION

- Victaulic® VicFlex™ products must 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. In addition, installations must meet provisions of the local authority having jurisdiction and local codes, as applicable.
- Victaulic® VicFlex™ Sprinkler Fittings and Style AB3 Surface Mount Brackets must not be intermixed with other manufacturer's products.
- **When the Style AB3 is used in institutional applications, refer to the specific sprinkler manufacturer's technical data and installation instructions for complete information. For other applications that utilize Victaulic® FireLock™ Automatic 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 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 should 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 must be followed.

WARNING

- **Relocation of Victaulic® VicFlex™ products MUST 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.

INSTALLING THE STYLE AB3 SURFACE MOUNT BRACKET ON A WALL OR CEILING

The following photos show the Style AB3 Surface Mount Bracket being installed in a sidewall application on a concrete block wall. However, the same installation steps apply to the Style AB3 as a surface mount bracket for pendent or sidewall applications consisting of wood or metal walls or ceilings or concrete block ceilings.



1. Drill a hole into the wall or ceiling at the desired location. Refer to the sprinkler manufacturer's installation instructions for the required hole size.



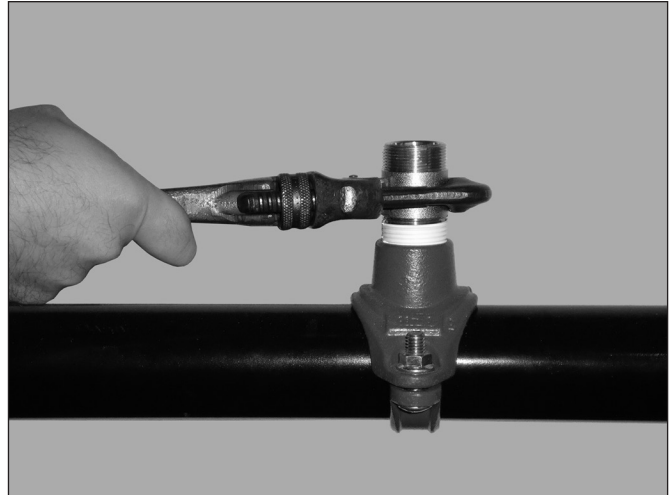
2. Place the Style AB3 Bracket over the hole cut into the wall or ceiling in Step 1. Secure the Style AB3 Bracket to the wall or ceiling using ¼-inch/6-mm diameter screws through each of the mounting holes on each side of the bracket. Tighten the two screws completely until the bracket is retained firmly against the wall or ceiling. **NOTE:** The selected screws must be appropriate for the wall or ceiling material. Refer to the hardware manufacturer's instructions for each application.

CONNECTING THE VICFLEX™ FLEXIBLE HOSE TO THE BRANCH LINE

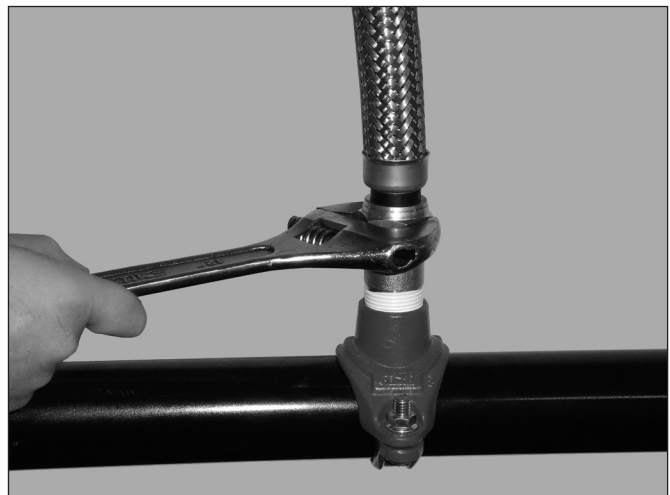
WARNING

- The flexible hose should not be bent or fluctuated up-and-down or side-to-side when it is pressurized for test.
- Style AB3 Surface Mount Brackets must be installed only with VicFlex™ Series AH1, AH2, AH4, AH2-300, or AH2-638 flexible hoses.

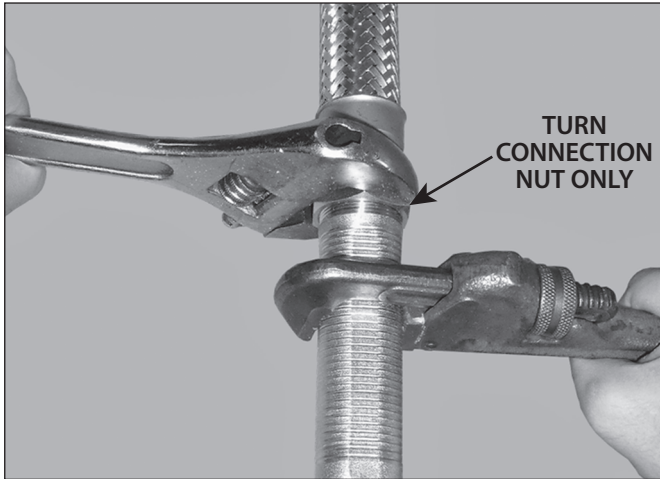
Failure to follow these instructions could cause improper sprinkler operation, resulting in serious personal injury and property damage.



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



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 branch line connection nipple, as shown above.
 - DO NOT use pipe joint compound or PTFE thread sealant tape on the threads of the branch line connection nipple. The seal inside the nut of the flexible hose provides the leak-proof connection.
 - Tighten the connection nut to a torque of 40ft-lbs/54 N•m (approximately ½ to ¾ of 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.



3. 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.
 - 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.
 - Tighten the connection nut to a torque of 40ft-lbs/54 N•m (approximately ½ to ¾ of 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.



4. Slide the sprinkler reducing nipple into the center gate assembly and through the hole in the wall or ceiling. Make sure the bends in the flexible hose comply with requirements listed in these installation instructions.
- 4a. Close the gate around the sprinkler reducing nipple. Swing the pivot screw into the slot on the gate, and tighten the wing nut to a torque of 40 - 50 inch-lbs/4.5 - 5.6 N•m (approximately hand-tight, plus ½ to ¾ of a turn). **NOTE:** The pivot screw of the center gate assembly is staked to resist removal of the wing nut.

NOTE: When the Style AB3 is used in institutional applications, install the institutional sprinkler by following the manufacturer's installation instructions. For other applications that utilize Victaulic® FireLock™ Automatic Sprinklers, refer to the I-40 Installation and Maintenance Instructions for sprinkler installation requirements.

NOTICE

- If the sprinkler deflector or bulb protector appears too large to pass through the hole in the ceiling or wall, it may be necessary to install the sprinkler after the sprinkler reducing nipple is installed in the Style AB3 Surface Mount Bracket.

Victaulic® VicFlex™ Style AB3 Sprinkler Fittings for Surface Mount Applications

For complete contact information, visit victaulic.com

I-VICFLEX.AB3 6025 REV D UPDATED 12/2015 Z000AB3000

VICTAULIC AND VICFLEX ARE TRADEMARKS OR REGISTERED TRADEMARKS OF VICTAULIC COMPANY AND/OR ITS AFFILIATED ENTITIES
IN THE UNITED STATES AND/OR OTHER COUNTRIES. © 2015 VICTAULIC COMPANY. ALL RIGHTS RESERVED.

