VicFlex™ Sprinkler Fittings for FRP Duct Applications

STYLE AQD

INTRODUCTION

VicFlex™ Sprinkler Fittings connect the branch line directly to the sprinkler using a flexible hose and fittings. The VicFlex™ Style AQD Bracket can be installed on round or square FRP duct types.

VicFlex™ Style AQD Brackets are FM Approved and are available in 24-, 48-, and 72-inch/610-, 1220-, and 1830-mm lengths with ½-inch/15-mm NPT or BSPT threaded outlets.

TECHNICAL DATA FOR FLEXIBLE HOSE

- Maximum Working Pressure Rating: 175 psi/12 Bar
- Maximum Ambient Temperature Rating: 225° F/107° C
- Connection to Branch Line: 1-inch/25-mm NPT/BSPT
- Minimum Bend Radius of Flexible Hose: 6 inch/152 mm
- Maximum Number of Bends Per Flexible Hose: Refer to the “Style AQD Friction Loss Data” section
- Maximum K-Factor of Sprinkler to be Connected to the Style AQD: 5.6 US/80 metric

IMPORTANT INFORMATION

WARNING

- Read and understand all instructions before attempting to install any Victaulic VicFlex™ products.
- Wear safety glasses, particle mask, hardhat, protective gloves, and foot protection during installation.

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

WARNING

- 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 serious personal injury and/or property damage.

- Victaulic VicFlex™ products must be installed according to current, applicable National Fire Protection Association (NFPA 13, 13D, 13R, etc.) standards or equivalent standards for wet, dry, or preaction systems. Deviations from these standards or alterations to 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.
- For minimum maintenance and inspection requirements, refer to NFPA 25 and the NFPA pamphlet that describes 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.
- The installer must wear proper attire during installation of the VicFlex™ Style AQD. A particle mask should be worn during preparation of the duct and mounting block, and protective gloves should be worn when applying resin to the duct and mounting block.

FLEXIBLE HOSE BEND CHARACTERISTICS

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

STYLE AQD Friction Loss Data

<table>
<thead>
<tr>
<th>Length of Flexible Hose</th>
<th>NPT</th>
<th>Maximum Number of 90° Bends</th>
<th>Equivalent Length of 1-inch/25.4-mm Schedule 40 Pipe</th>
</tr>
</thead>
<tbody>
<tr>
<td>inches/mm</td>
<td>inches</td>
<td></td>
<td>feet/meters</td>
</tr>
<tr>
<td>48</td>
<td>½</td>
<td>1</td>
<td>26.3</td>
</tr>
<tr>
<td>60</td>
<td>½</td>
<td>3</td>
<td>31.6</td>
</tr>
<tr>
<td>72</td>
<td>½</td>
<td>4</td>
<td>35.3</td>
</tr>
<tr>
<td>915</td>
<td>½</td>
<td>1</td>
<td>26.7</td>
</tr>
<tr>
<td>1220</td>
<td>½</td>
<td>3</td>
<td>31.6</td>
</tr>
<tr>
<td>1525</td>
<td>½</td>
<td>4</td>
<td>35.3</td>
</tr>
<tr>
<td>1830</td>
<td>½</td>
<td>4</td>
<td>39.1</td>
</tr>
</tbody>
</table>

WARNING

- Re-location of 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 re-locate this VicFlex™ product properly could affect its performance during a fire, resulting in serious personal injury and property damage.

CONNECTING THE VICFLEX™ STYLE AQD 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.

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

1. Apply pipe joint compound or PTFE thread sealant tape to the nipple of the flexible stainless steel hose, in accordance with the pipe joint compound or tape manufacturer’s instructions. Tighten the hose into the branch line fitting by using a pipe wrench on the nut of the flexible stainless steel hose.
VicFlex™ Sprinkler Fittings for FRP Duct Applications

STYLE AQD

INSTALLING THE STYLE AQD ONTO THE DUCT

WARNING

- A particle mask should be worn during preparation of the duct to prevent inhalation of fiberglass dust.
- Wear safety glasses, hardhat, and foot protection.

Failure to follow these instructions could result in serious respiratory system illness or other personal injury.

Before performing the following steps, determine the location on the duct where the Style AQD will be installed. The location must permit easy access to the Style AQD for inspection purposes. Wear a particle mask, safety glasses, hardhat, and foot protection during this phase of installation.

1. Drill a 1¼-inch/38-mm hole into the surface of the duct at the desired location.

1a. Remove all cutting particles from the surface of the duct.

2. Using a disc sander, prepare a 6 x 6-inch/152 x 152-mm area around the hole cut into the duct in Step 1. This area must be sanded until the surface is rough to ensure a proper bond with the mounting block. Remove sanding dust with a clean, dry cloth.

3. Using sandpaper, sand the mating surface of the mounting block until the surface is rough. The surface must be rough to ensure a proper bond with the duct. Remove sanding dust.

NOTE: To aid in preparing the area where the mounting block will be installed, place the mounting block onto the duct with the hole in the duct centered in the opening of the mounting block. Draw a line around the outside of the mounting block to identify the surface preparation area.
WARNING

• Resins are extremely flammable materials and shall be kept away from open flames or other ignition sources.
• Proper ventilation shall be maintained throughout the following installation steps, since vapors are harmful and flammable.
• Consult with the specific resin manufacturer for additional technical and safety information.
Failure to follow these instructions could result in serious personal injury.

4. Wear protective gloves during this phase of installation. Apply an 1/8 – 1/4-inch/3 – 6-mm layer of resin to the mating surface of the mounting block and the 6 x 6-inch/152 x 152-mm area prepared in Step 2. Refer to the table in the following column for a listing of recommended resins.

5. Install the mounting block onto the prepared section of the duct. Make sure the hole in the mounting block aligns with the hole drilled into the duct. Remove any air pockets in the resin by applying light pressure to the entire surface of the mounting block.

5a. To enhance the seal, apply a bead of resin around all four sides where the mounting block contacts the surface of the duct.

6. Stabilize the mounting block in position. Using duct tape, secure the mounting block to the duct by adhering the tape to one side of the duct, wrapping it over the mounting block, and adhering it to the opposite side of the duct. The assembly should not be disturbed for a minimum of 4 hours to ensure that the resin has hardened.

6a. After a minimum of 4 hours, remove the duct tape from the mounting block/duct assembly. Allow the assembly to cure for a minimum of 24 hours before placing any stress on the joint.

NOTE: Due to temperature, humidity, etc. curing times may vary. Consult the resin manufacturer’s instructions for detailed curing times and additional technical information.

Recommended Resins

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AOC</td>
<td>Vipel® K022-C</td>
</tr>
<tr>
<td>Ashland</td>
<td>Hetron®/Aropol® FR992 Derakane® S10C</td>
</tr>
<tr>
<td>Interplastic</td>
<td>CoREZYN® VE8440 CoREZYN® VE8450</td>
</tr>
<tr>
<td>Reichhold</td>
<td>Atlac®/Dion® FR9300</td>
</tr>
</tbody>
</table>

* Vipel is a registered trademark of AOC
* Hetron, Aropol, and Derakane are registered trademarks of Ashland Inc.
* CoREZYN is a registered trademark of Interplastic Corp.
* Atlac and Dion are registered trademarks of Reichhold, Inc.
7. 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.

8. If the protective polyethylene sleeve assembly is required for corrosive applications, install the sleeve assembly by inserting it into the hole in the mounting block and duct. Make sure the sleeve is inserted completely into the hole in the duct to prevent the sleeve from being damaged during installation of the union.

9. Tighten the union onto the mounting block by turning it clockwise until contact occurs between the union and mounting block. Use caution to prevent cross-threading. DO NOT over-tighten the union.

9a. Using a 3-mm allen wrench, tighten the locking screw on the union by turning it clockwise.

9b. Installation of the Style AQD is now complete.

INSPECTION

WARNING

- Depressurize and drain the fire protection system before attempting to perform maintenance on the system.

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

1. Depressurize and drain the fire protection system.

2. Using a 3-mm allen wrench, loosen the locking screw on the union by turning it counterclockwise.

2a. Loosen the union from the mounting block by turning it counterclockwise.

2b. Remove the Style AQD/sprinkler assembly from the mounting block by grasping the union and pulling it straight up and out. Inspect all components for damage. If any damage is present, replace the affected part(s).

3. Re-install the Style AQD/sprinkler assembly by following Steps 8 - 9b of the “Installing the Style AQD onto the Duct” section.