

Installation and Maintenance for FRP Ductwork Model

WARNING!

These installation instructions are for qualified and experienced technicians in the H.V.A.C. and Fire Protection field only. Failure to follow these specific instructions may cause personal injury. Installation or maintenance technicians must read the entire manual prior to attempting installation or maintenance of product.

Installation should take approximately 10-20 minutes per head. (Not Including cure time.)

Retain these instructions for future use.

Tools Required

3/8" Hand Drill
2" Holesaw
Disc Sander
Putty Knife
Torque Wrench (1-50 inch-lbs.)
Safety Glasses
Particle Mask
Mixing Container
Vinyl Gloves
Duct Tape
Clean Rags
Safety Face Shield
50 Grit Sandpaper

Materials Required

Resin – Dion® 9300 FR Putty with 3% Antimony Tioxide
Promoter – Methyl Ethyl Detone Peroxide

CAUTION!

Safety glasses, vinyl gloves and particle mask must be worn by installing technician during FLEXHEAD FRP Ductwork Model installation.

PART I – INSTALLATION OF BOTTOM FRP MOUNTING BLOCK

1 FlexHead Location

Determine desirable location for FLEXHEAD unit in FRP ductwork. FLEXHEAD unit must be accessible for periodic inspection. For recommended guidelines and standards for protection systems in industrial exhaust systems see Factory Mutual loss prevention data sheets 7-78, article 2-4. Once desired location is determined drill a two (2) inch hole in FRP duct with holesaw. (See Fig. 1).

Fig. 1



2 Surface Preparation

Prepare area around 2 inch hole in FRP by grinding down surface of duct with grinding wheel. Continue grinding process until all exterior paint is removed, and FRP duct surface is rough. Mounting area on FRP duct must be rough for proper adhesion of FLEXHEAD bottom mounting block, a smooth surface on FRP duct will result in a poor bond between duct and mounting block. Total prepared area on FRP duct should be approx. 6 in. x 6 in. Upon completion of grinding process wipe area clean of dust with clean oil free cloth. (See Fig. 2).

Fig. 2



3 Apply Resin

Roughen bottom of FRP block with 50 grit sandpaper. Apply a 1/4 inch layer of bonding resin to underside of FRP mounting block, making sure the block surface is oil free. Completely cover entire surface of bottom block with bonding resin. (See Fig. 3A).

Apply 1/4 inch layer bonding resin to 6 in. x 6 in. prepared area on FRP duct. (See Fig. 3B).

Fig. 3A



WARNING!

FRP bonding resins are flammable products and should be kept away from all sources of ignition, and stored in a cool dry place. Avoid contact of resin and hardener with skin, eyes or mucous membranes. Good ventilation should be maintained during process to reduce fire hazard and minimize breathing of resin vapors. For additional information on these products consult material and safety data sheets provided by manufacturer.

4 Mounting Bottom Block

Place bottom FLEXHEAD block onto prepared FRP surface, making sure corresponding holes in block and duct align. Gently press block down onto duct to ensure that no air pockets exist between duct and mounting block. (See Fig. 4). Apply additional bonding resin along with any overflow resin to each of the four (4) seams between bottom block and FRP duct. All four (4) sides of bottom block should have "built up shoulders" for extra support. (See Fig. 5).

Fig. 3B

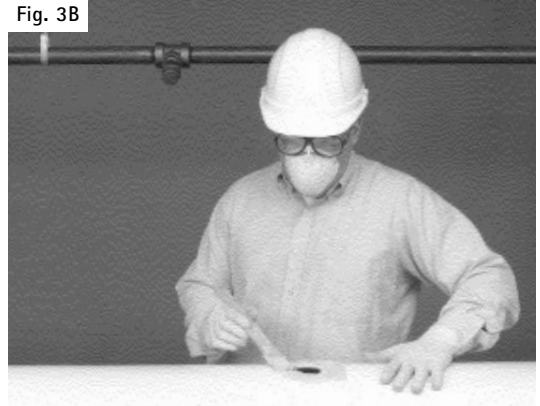


Fig. 4



Fig. 5



5 Hardening or Curing

Secure bottom mounting block to FRP duct during drying or "curing" period by the following method. Using a two (2) to three (3) foot length of standard silver duct tape, attach one end of tape to top or side of FRP duct. Then stretch length of tape across bottom mounting block, and attach other end of tape to FRP duct. When securing do not allow bottom block to move out of correct alignment (see Fig. 6). Resin must be allowed to harden or cure for approx. one (1) hour, this will vary according to weather conditions, temperature, and amount of promoter used. Consult Reichhold Chemicals, Inc. Dion 9300 Product Bulletin 33591 for proper curing times (REFER TO ATTACHMENT "A" FOR DETAILS). When curing period is complete remove duct tape. Installation of bottom block is complete.

NOTE: Resin should be allowed to dry for a period of 4 hours before subjected to any excessive stress.

Fig. 6



PART II – INSTALLATION OF TOP FRP MOUNTING BLOCK

1 Connect FlexHead to Sprinkler System

Connect one (1) inch stainless steel flexible hose of FLEXHEAD to one (1) inch black iron pipe union of fire protection system in accordance to N.F.P.A. standards, state and local codes (See Fig. 7).

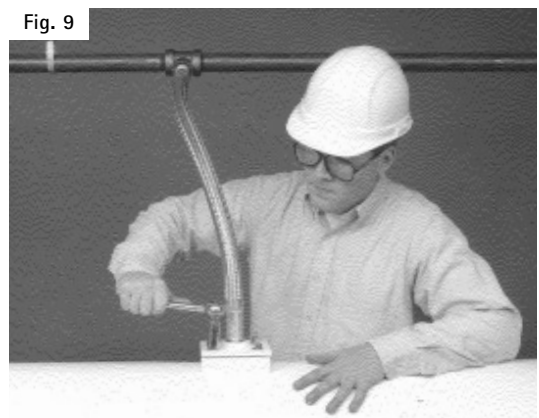
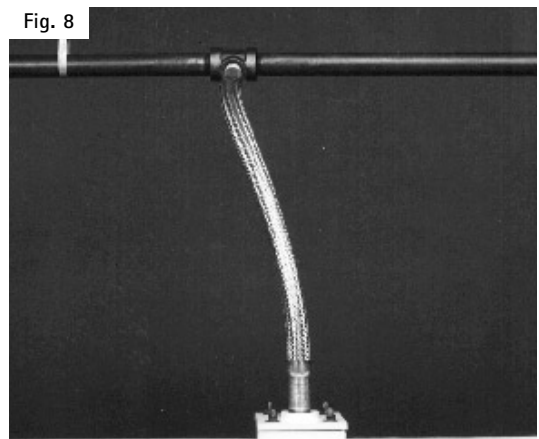
2 Connect FlexHead to Bottom Mounting Block

Insert bag/gasket assembly over bolt holes making sure dual polybags protrude through 2 inch hole in bottom mounting block.

3 Connect FlexHead to Top Mounting Block

A. Place top FLEXHEAD mounting block onto previously installed bottom mounting block with gasket making sure that sprinkler head section of the FLEXHEAD unit is inserted into two (2) inch hole in duct, and that the four (4) stainless steel bolts of bottom mounting block align with corresponding bolt holes in top mounting block. Angle of flexible hose should not exceed 90° (Fig. 8).

B. Place one (1) stainless steel washer and one (1) stainless steel nut onto each of the four (4) stainless steel bolts. Tighten each of the nuts hand tight onto the block. Tightening process of nuts onto the mounting block should be done in a diagonal process to ensure equal distribution of pressure throughout the mounting block. Nuts should be tightened to 15 in. -lb using a torque wrench. (See Fig. 9). **DO NOT OVER TIGHTEN NUTS ONTO BLOCK.** Installation of FLEXHEAD is complete.



CAUTION!

Safety glasses, vinyl gloves and particle mask must be worn by installing technician during FLEXHEAD FRP Ductwork Model installation.

WARNING!

During maintenance or inspection of FLEXHEAD product, facility fire protection system **MUST BE INACTIVE. DO NOT ATTEMPT INSPECTION OR MAINTENANCE OF FLEXHEAD PRODUCT WHEN FIRE PROTECTION SYSTEM IS "LIVE".**

MAINTENANCE AND INSPECTION OF FRP DUCTWORK MODEL SPRINKLER HEAD

1 Once fire protection and exhaust system are inactive, proceed with inspection of FLEXHEAD unit.

2 Remove the four (4) stainless steel nuts and washers from top mounting block. (See Fig. 10)

3 Now lift top mounting block from bottom mounting block and bolts, by holding onto base area of stainless steel hose (see Fig. 11).

4 Inspect sprinkler head and poly bag section of FLEXHEAD. If damage exists in outer poly bag only, replace bag/gasket assembly. If damage exists through both poly bags replace bag/gasket assembly and inspect wax coated sprinkler head. IF ANY DAMAGE EXISTS IN SPRINKLER HEAD REPLACE HEAD AND BAG/GASKET ASSEMBLY AT THIS TIME in accordance to N.F.P.A. regulations and guidelines.

5 Once inspection and maintenance of FLEXHEAD has been completed, reinsert top mounting block onto bottom block aligning corresponding sprinkler head and bolt holes.

Fig. 10

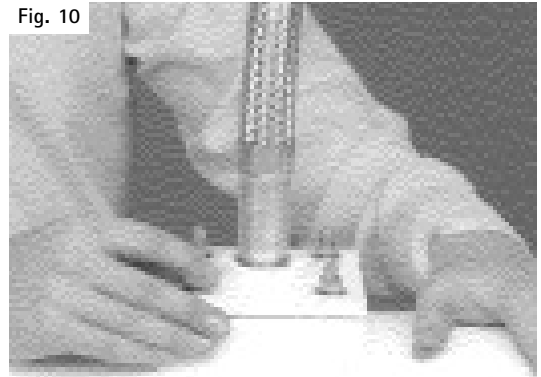


Fig. 11



6 Replace the four (4) stainless steel washers and nuts onto the four (4) stainless steel bolts accordingly. Hand tighten each of the (4) nuts onto the block. The tightening sequence of nuts onto the mounting block should be done in a diagonal manner to ensure equal distribution of pressure throughout the mounting block. Nuts should be tightened to 15 in. -lb using a torque wrench. (See Fig. 12). **DO NOT OVER TIGHTEN NUTS ONTO BLOCK. MAINTENANCE OF FLEXHEAD IS COMPLETE.** (Same tightening process as Fig. 9).

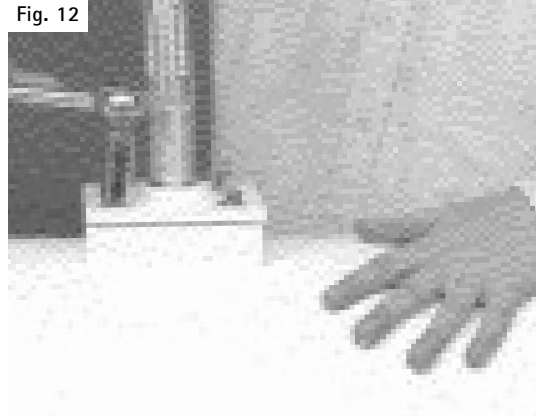


Fig. 12