



## **PASport System: Installation Kit Instructions**

### **Contents:**

- Challenge dispersal fitting.
- Verification return fitting
- 10' - 3/4" ID tubing
- 5' - 3/8" ID tubing
- SS hose clamps for 3/4" tube (2 ea.)
- SS hose clamps for 3/8" tube (2 ea.)
- Screws #12 x 3/4" (8 ea.)

First we would like to thank you for purchasing your PASport installation kit from Performance Assurance Systems, LLC. This kit contains everything required to install your new PASport HEPA filter challenge test system. The tools required for the job depend on the conditions at each facility and thus professional installation is highly recommended.

Conditions differ widely depending on the facility and all conditions cannot be covered in these instructions so a comprehensive understanding of the system, it's components and intended use is imperative for proper installation. Please take a moment to read the "intent" section to achieve the best results.

### **Intent**

The intent of the system is to provide access to facilities for the proper testing of HEPA filters. This is accomplished by introducing a known concentration of a substance upstream of the filter media then scanning the face of the filter to see how much comes through. In order to do this we must introduce an aerosol into the incoming air stream as far away as reasonably possible before the filter housing via the PASport System Dispersal fitting. This will assist the aerosol to mix with the incoming airstream before entering the filter housing. Now we must know the concentration of the aerosol contained in the incoming airstream. This is accomplished by installing the PASport System Verification fitting on or just before the filter housing ahead of the filter media. This fitting then sends a sample of the incoming air before the filter media back to instruments which measure the concentration of the aerosol. This becomes the basis for leak testing or 100%. A percentage of the aerosol can pass through the media because of the filter's efficiency so the face of the filter media must then be scanned for a concentration greater than a specified amount, like (.01%) of the base measurement which would constitute a leak. The goal is to introduce aerosol, mix it evenly with the incoming air, take a sample and scan the filter for leaks.

## Installation of Aerosol Distribution Kit for Ducted Systems



Fig 1.

These instructions depict a procedure used in a variety of installations providing the desired results with ease, speed and reliability. Some means and methods of this procedure can be modified to fit the exact conditions of your installation “**only**” when in keeping with the direction contained in the “Intent” section of this manual.

To begin installation, open the shipping container and remove contents. Ensure all components of the kit are complete and undamaged. In the event any parts are missing or damaged please contact us immediately for replacement. 1(888) 296-7775



Fig 2.

First choose the location for the PASport device to be installed. Ensure the desired location is close enough for the tubing to reach the connection points. At this time refer to the installation instructions for the PASport device and cut the hole in the substrate. **Do not install the PASport device at this time.**

Connect the  $\frac{3}{4}$ " ID tubing to the Dispersal fitting with the hose clamp provided as shown in Fig 2.

Connect the 3/8" tubing to the Verification fitting with the hose clamp provided as shown in Fig 3.



Fig 3.



Fig 4.

Locate the supply duct serving the filter to which the PASport is to be connected. **NOTE:** Many times, there are multiple ducts serving a single filter depending on the design. **The installer must ensure the duct in which the Dispersal fitting is to be installed has a constant volume of air supplying the filter.**

Locate a point as far away from the filter as possible but within reach of the PASport device with the supplied 3/4" tubing. Puncture a hole in the duct with an awl or other sharp object and use snips to remove a piece of metal of a suitable size to accept the Dispersal fitting. **NOTE: DO NOT DRILL.** Drilling the hole in the supply ductwork can send pieces of metal through the duct to the filter and potential damage may occur. Insert the Dispersal fitting into the hole and orient the welded seam at the end in the same direction as the air flow. Attach the Dispersal fitting using the supplied screws. This reduces turbulence and places the aerosol exit holes perpendicular to the flow of air.

Rout the tubing to the location where the PASport device is to be installed, send the tubing through the cut-out for the PASport device and support as required.

Drill a 3/8" hole in the filter housing. Ensure the hole is deep enough to penetrate any interior insulation and that the hole is free from obstruction. **Be careful not to penetrate so far as to come in contact with the filter media.** There should be a stream of air coming out of the hole because of the pressure in the plenum over the filter media. This should ensure no metal shavings reach the filter media. Place the Verification fitting over the hole and secure to the housing with the screws provided as shown in Fig 5. Rout the tubing to the location where the PASport device is to be installed, send the tubing through the cut-out for the PASport device and support as required.



Fig 5.

Connect both tubes to the PASport device and secure with the hose clamps provided. At this time refer to the installation instructions for the PASport device and install the device in the hole cut earlier.

Return to the areas where the fittings have been installed and seal the connections with an approved duct sealant. Replace insulation around connections following standard practices and seal with an approved duct sealant to ensure no condensation. When installing this system care must be taken to ensure all connections to ductwork and housings are well sealed and insulated for proper function.

**Your new PASport HEPA filter validation system is now ready to operate.**

**Attention Pharmacy Director:** The supplied male inserts and hose barb fitting are essential to the operation of the PASport System. You must be sure to take possession of these at the end of each certification visit and maintain in a safe and secure location for your next certification.