



# PERFORMANCE ASSURANCE SYSTEMS

## **PASport System Plenum Installation Kit Instructions**

### **Contents:**

- Aerosol challenge dispersal fitting
- Aerosol verification return fitting
- 5' - 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 particular 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, its 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 and verifying 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 adequately disperse an aerosol into the incoming air stream to the filter housing via the PASport System Plenum Dispersal device. This will assist the aerosol to mix with the incoming airstream as it enters 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 the filter housing ahead of the filter media. This device then sends a sample of the incoming air before the filter media back to photometer instrument which measures 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. A concentration of (0.01%) of the base measurement 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

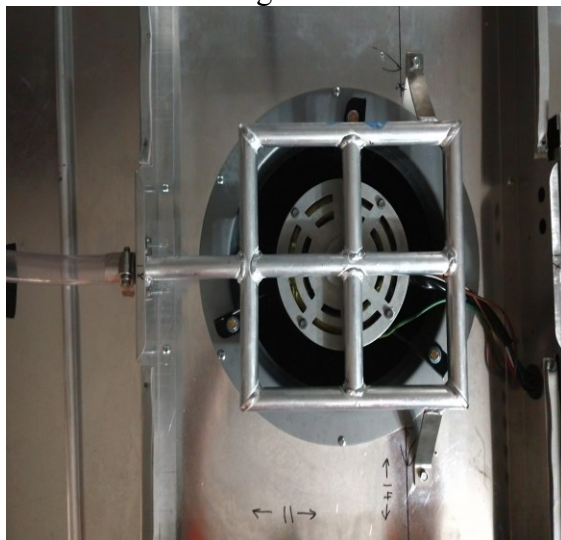


Fig 1.

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 the PASport device should be installed in the pre-filter housing of the filter unit. Ensure the location will position the center of the dispersal device at the center of the airstream point of entry. Create an opening in the pre-filter housing adequate to insert the dispersal device. Insert the dispersal device and affix with the provided screws. At this time refer to the installation instructions for the PASport device and prepare the substrate. **Do not install the PASport device at this time.**

Insert the Dispersal device into the  $\frac{3}{4}$ " ID tubing and tighten the hose clamp provided as shown in Fig 2.

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Rout the tubing to the opening at the location where the PASport device is to be installed, send the tubing through the opening for the PASport device and support as required. Insert the short side of the verification fitting into the 3/8" tubing and tighten the hose clamp provided as shown if Fig 3.



Fig 3.

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.

**WARNING: Be careful not to penetrate so far as to come in contact with the filter media.**

There should be a stream of air exiting the hole because of the pressure in the plenum over the filter media. This should ensure no metal shavings reach the filter media. Place a small bead of silicone under the flange of the Verification fitting around the retrieval tube and insert the Verification fitting into the housing. Affix the device with the screws provided as shown in Fig 4. Rout the tubing to the location where the PASport device is to be installed, send the tubing through the opening for the PASport device and support as required.



Fig. 4

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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 an airtight installation. When installing this system particular 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.**