PAPCE

PORTABLE AIR POLLUTION CONTROL EQUIPMENT

AirVerter®

User's Manual

Model PP-150

Smith Eastern Corporation
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Compliance • Quality • Performance • Reliability

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Please Read User's Manual *BEFORE* Using This Equipment

WHEN IN THE PROXIMITY OF HAZARDOUS FUGITIVE EMISSIONS USE PROPER PERSONAL SAFETY EQUIPMENT INCLUDING RESPIRATOR, GOGGLES AND SAFETY CLOTHING.

WARNING

THIS EQUIPMENT IS OPERATED WITH HIGH VOLTAGE ELECTRICITY. ALWAYS TURN THE MACHINE "OFF" AND DISCONNECT POWER PRIOR TO MAINTENANCE OR REPAIR.

WARRANTY

Smith Eastern Corporation warrants to the Purchaser that Portable Air Pollution Control Equipment (PAPCE) is free from defects in material or workmanship under normal use and service for a period of twelve (12) months from the date of shipment.

Should any failure appear during this period, Smith Eastern shall, if given prompt written notice by the Purchaser, correct such nonconformity by repair or replacement of the nonconforming part, F.O.B. Smith Eastern's repair facility. Repair parts are warranted for ninety (90) days from the date of shipment, but repairs or replacements to original equipment shall not renew or extend the warranty period of such equipment.

Equipment and parts furnished by Smith Eastern but manufactured by others shall be limited to the warranty offered by the manufacturer thereof.

Smith Eastern reserves the right to limit this warranty in cases of misuse or abuse. Any modifications to equipment or recommended procedures will void the warranty.

The foregoing warranty is exclusive and in lieu of other warranties of quality or performance, expressed, implied or statutory, including any warranties of merchantability or of fitness for a particular purpose.

ABOUT PAPCE

PAPCE is a California South Coast Air Quality Management District (SCAQMD) approved portable suction-type control device to capture fugitive vapor, mist, gases, fumes, odors, and other liquid and solid particulate matter from spraying, sanding, grinding, and welding operations.

Contaminated air is drawn in through the exhaust hood and passes through the exhaust arm to the filter unit. Large particles are removed from the air stream by the pre-filter. The HEPA filter removes particles as small as .3 microns with 99% efficiency. An optional activated charcoal filter absorbs hazardous gases and fumes. Filtered air is then returned to the workplace. The articulating, self-supporting duct arm provides maximum flexibility in a portable particulate capture device.

WARNING

Do not use this unit to extract easily flammable or explosive gases!

Protect the Electrical Cable from heat, oil and sharp edges.

Make sure the unit stands firmly and casters are locked when in operation.

Do not operate unit without filters installed.

Protect unit from dampness.

Disconnect from electrical power before servicing unit.

UNCRATING, ARM INSTALLATION AND POWER SUPPLY VERIFICATION

Uncrate unit being careful not to damage the Casters, Duct Support Arm and Collection Hood.

A. Verify all parts have been shipped and are not damaged
   1. Duct, Support Arm and Collection Hood
   2. Large Particulate Filter (Filter Compartment)
   3. HEPA Filter (Filter Compartment)

B. Attach Support Arm and Duct to the Swivel Mount (see instructions on Attaching Swivel Mounts and Support Arms.

FILTER INSTALLATION

Filters should be installed as follows:

A. Install filters in the filter compartment **bottom to top** as follows:
   1. HEPA Filter
   2. Large Particulate Filter (Pre-Filter) - The pre-filter should be installed with the less dense side of the filter to the top and the more dense side of the filter to the bottom.

B. If used, the Carbon Filter is installed below the HEPA Filter.

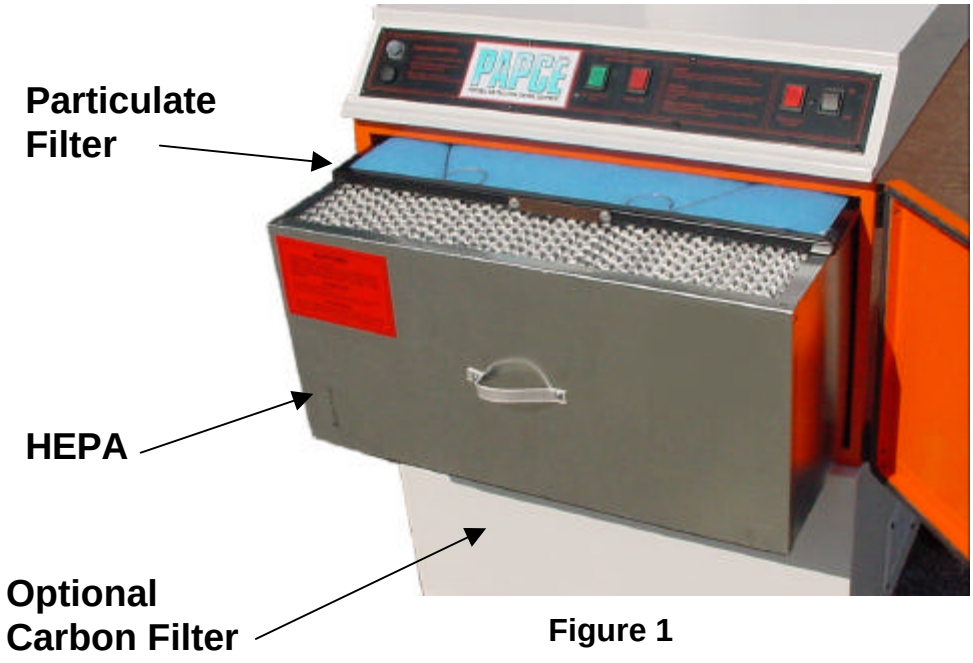


Figure 1

ATTACHING SWIVEL MOUNT AND SUPPORT ARM

1. The Swivel Base is in its own cardboard box for shipping with the mounting bolts enclosed in a plastic bag.
2. Securely mount the Swivel Base and Gasket using the hardware provided. The Swivel Base consists of two parts that allow the upper section of the swivel to move separately from the lower section. The Swivel Base has a rubber-band-style boot. The boot is used to slip over the groove between the upper and lower sections so air will not be drawn from the groove. The swivel should rotate freely after the arm and duct are installed.
3. The metal support structure for the arm is folded for shipment. **CAUTION: Do Not allow arm to "Spring Open" when removing the tape and cords securing the arm for shipment.** Equipment damage and/or personal injury may result from allowing the arm to spring open uncontrolled. Carefully unfold the structure and ensure it moves freely. Put the arm back in its folded position, as it will be easier to mount to the Swivel Base. **CAUTION: Do not get fingers caught between arm support tubes**.
4. There are (2) bolts, nuts, & (6) washers on the arm's Base Plate. Remove these components. These bolts are not tightened on the Base Plate for easy removal.

SUPPORT ARM

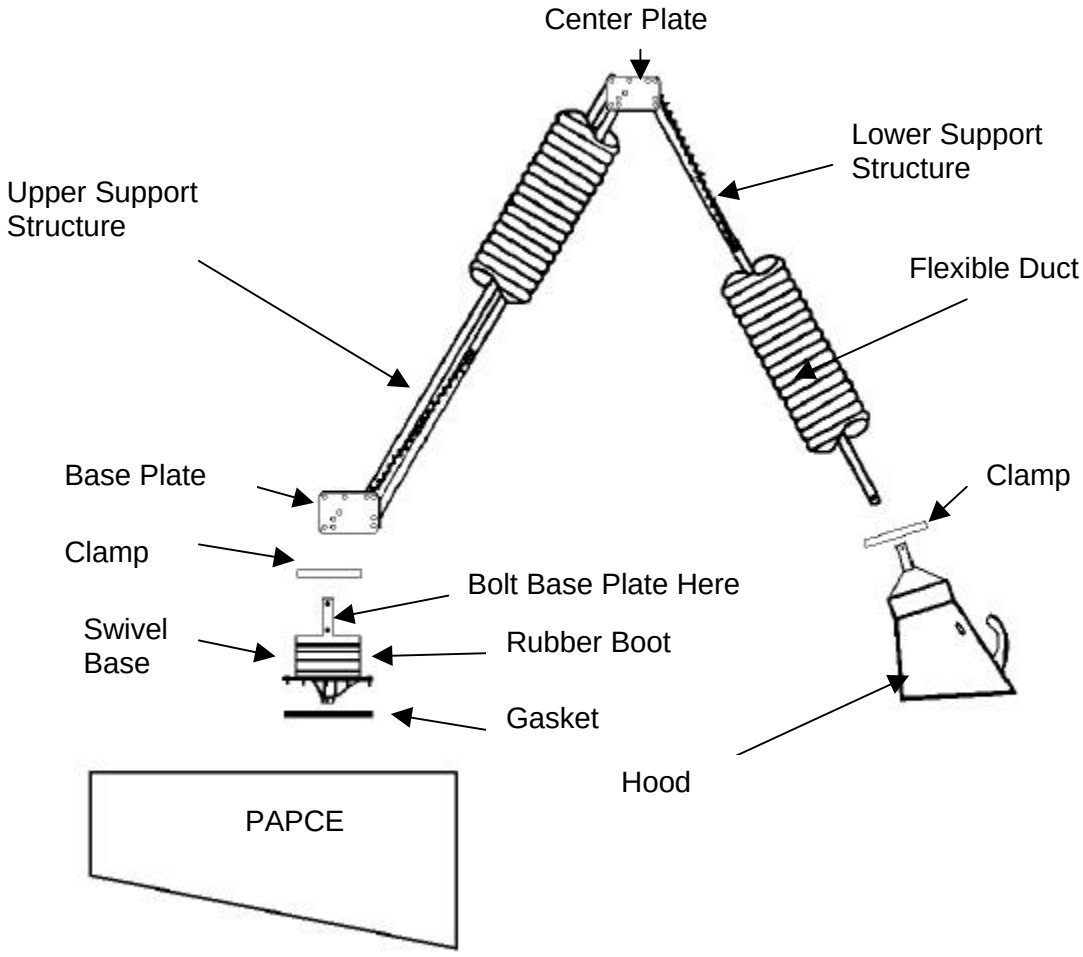


Figure 2

ATTACHING SWIVEL MOUNT AND SUPPORT ARM (continued)

5. The Base Plate has multiple holes for many mounting configurations. You will use holes 1 & 8 for mounting the arm to the PAPCE. Bolt the Base Plate/arm to the Swivel Base using the hardware and holes 1 & 8. Tighten the hardware snugly.

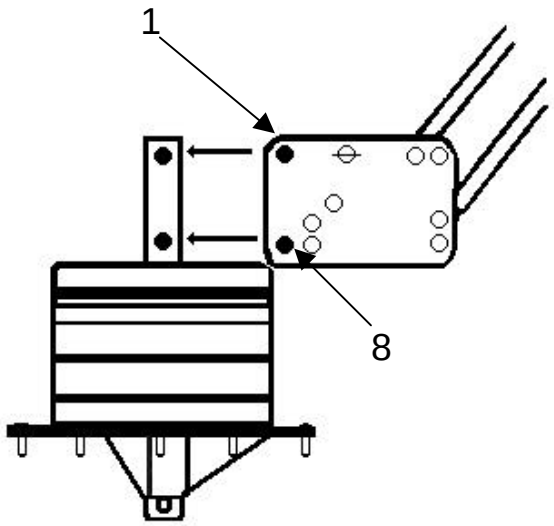


Figure 3

6. Extend the arm out by pulling on the lower support structure. If the arm does not stay in place, slightly tighten the friction pivots located on the Base Plate and the Center Plate. These pivots use brown friction washers. There are (2) pivots located on the Base Plate and the Center Plate. Simply adjust the pivot points until the arm holds itself. Final pivot adjustment is to be done at the end of assembly.
7. Slide the Flexible Duct over the arm and attach the duct to the Swivel Base by using the clamp provided. DO NOT ALLOW THE FLEXIBLE DUCT TO GO OVER THE GROOVE OR THE RUBBER BOOT THAT COVERS THE GROOVE ON THE SWIVEL BASE.
8. Mount the Hood using the hardware supplied with the Hood. Please note how the hardware is positioned so the Hood will move easily and stay at that point. Your Hood has a built-in damper. Sometimes the damper blade can be loose and may tend to close during use. Tighten the small screw on the damper lever so the damper will stay in its desired position, yet will move so the damper can be controlled.
9. The Hood has (2) pivot joints so the Hood can be moved up, down, left, and right, independent of the arm. The hardware that mounted the Hood to the Hood arm bar should be adjusted so the Hood can move side to side and hold its position
10. Final arm adjustment is based upon the arm holding itself in any position and not drifting. This will require the tightening or loosening of each of the pivot points located on the Base Plate, Center Plate, Hood arm bar, and Hood. The goal is to have the arm move as easily as possible and hold its position at the release point. The arm may need readjustment from time to time, dependent upon usage.
11. DO NOT OVER TIGHTEN THE FRICTION PIVOT JOINTS AS DAMAGE CAN OCCUR TO THE FRICTION WASHERS. IT IS ALWAYS BETTER TO TIGHTEN THE JOINTS A LITTLE AT A TIME TO GAIN THE DESIRED MOVEMENT.

OPERATION

INTAKE HOOD

Position Intake Hood in close proximity to work area (ideally within 12-18 inches) for source capturing and extraction of welding smoke, dust, paint overspray and hazardous airborne fumes.

Welding Fumes Extraction

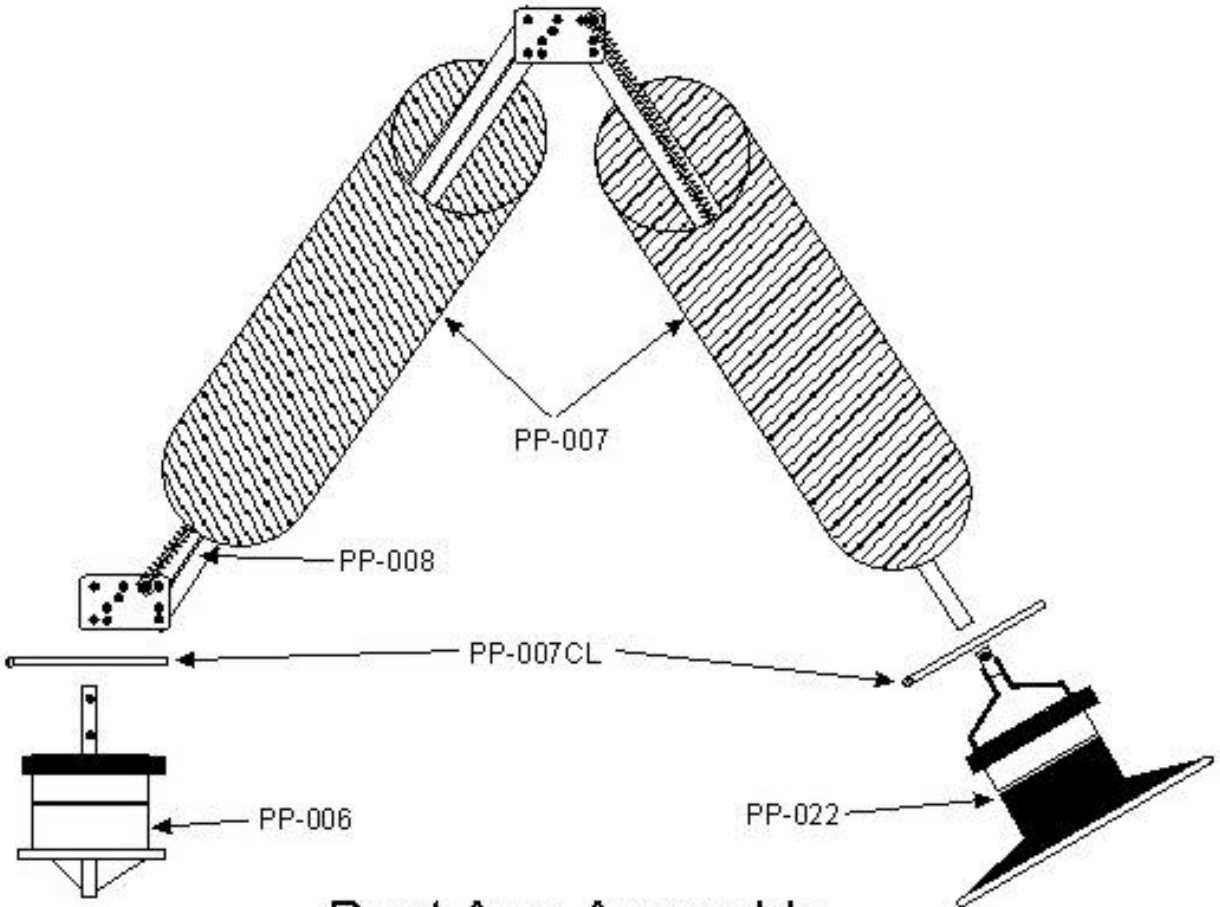
Sanding Dust Capture

FILTER EFFICIENCY

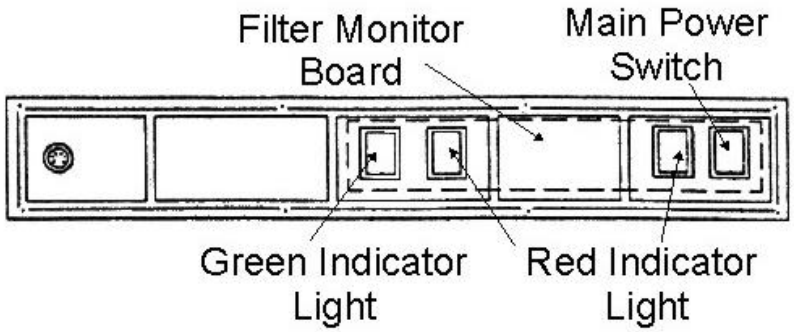
A. The Red Filter Monitor Light will illuminate when the filters are saturated. Change filters as required for optimum performance.
B. The life of the Carbon Filter depends upon the application. The filter must be changed whenever gases or fumes reappear in the cleaned air. The Carbon Filter should be changed at the same time as the main (HEPA) filter.

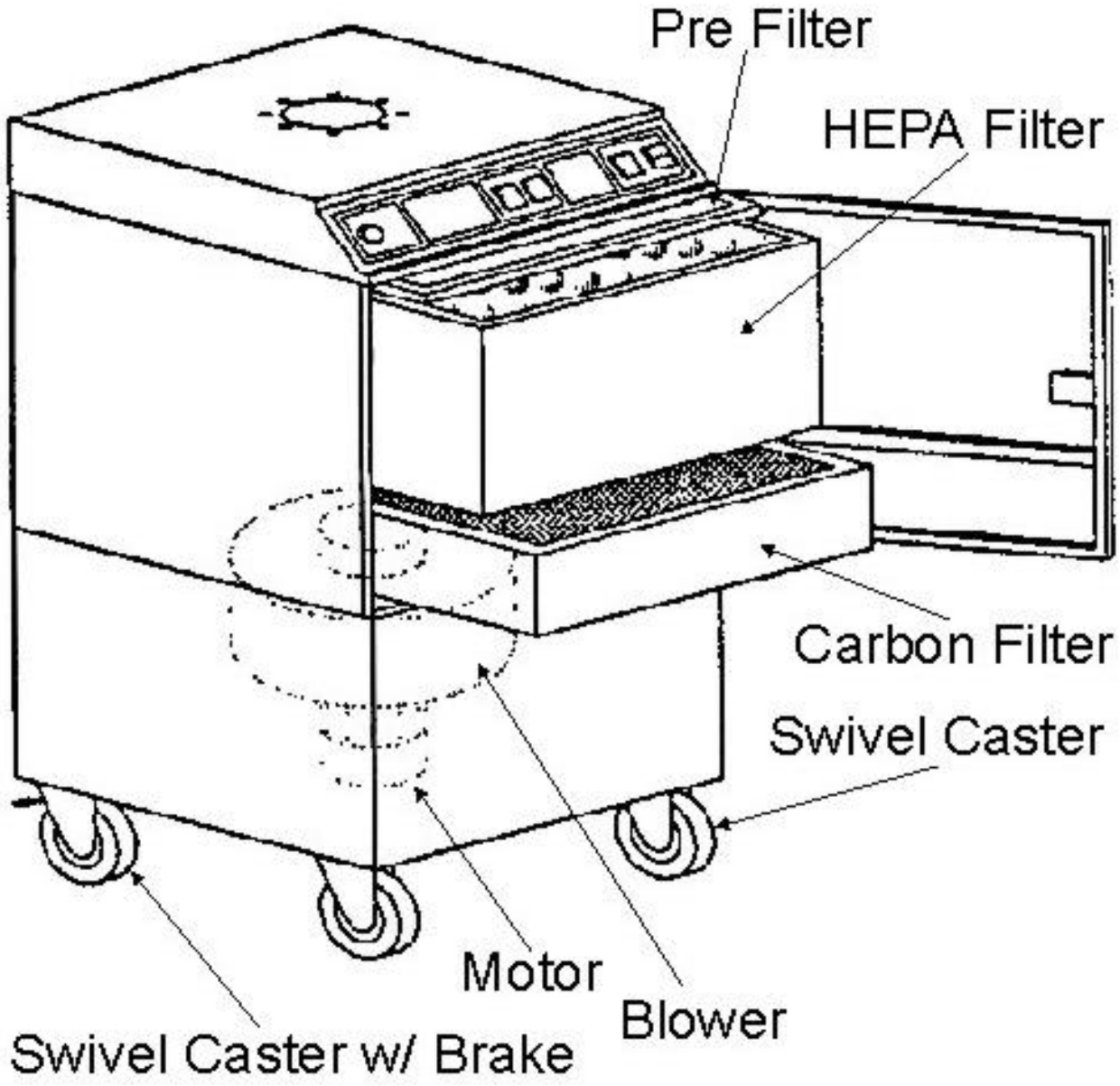
ILLUSTRATED PARTS BREAKDOWN

SUPPORT ARM AND FLEXIBLE DUCT



Duct Arm Assembly





Part #	NSN	Description
PP-006	4460-01-463-3165	Swivel Base and Gasket
PP-007-106	-	6-in. x 10-ft. Flexible Duct
PP-007-CL	-	Hose Clamp
PP-008-10	4460-01-463-3241	Flexible Duct Support Arm
PP-017	4330-01-467-6901	Large Particulate Filter (pre-filter)
PP-018	4460-01-463-3194	Carbon Filter
PP-019	4460-01-463-3190	HEPA Filter
PP-022	4460-01-463-3168	Intake Hood

LARGE PARTICULATE FILTER (PRE-FILTER)

The Large Particulate Filter media is 100% polyester. The dual-stage, layered media has a less dense layer on the air-entering side and a denser layer on the air-leaving side. This density pattern prevents face loading as larger particles are trapped in the front layer and smaller particles in the back layer.

Applications include:

1. Paint Overspray
2. Sanding Dust
3. Oil Mist
4. Adhesive Overspray

Construction and Performance Data	
Media Size	24" x 24" x 1"
Media	100% Polyester
Resistance @ 400 FPM	.20″ W.G.
Paint Holding Capacity	2.7 lbs. Per Sq. Ft.

HEPA FILTER

HEPA filters used in these units are designed for use where higher airflow velocities occur offering the user a wide range of advantages, including:

- Higher air flow with no increase in resistance.
- Higher velocities deliver up to 500 FPM while maintaining the highest efficiencies.

The filter has only .72" W.G. resistance at 1100 CFM, compared to 1.0" W.G. of standard HEPA filters. The filter has more media area in the same amount of space, as do standard HEPA filters. This was accomplished through the use of a specially designed separator which allows up to 65% more media to be installed in a 24" x 24" x 11-1/2" area.

The result for the user is a filter that lasts longer and will operate at a higher capacity than typical HEPA filters.

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Performance Data		
DIMENSIONS H x W x D	**99.97% @ .3 Micron**	
	CAPACITY (CFM) @ Initial Pressure Drop	
	1.0"	1.35"
24 x 24 x 11-1/2	1500	2000

ACTIVATED CARBON FILTER

Carbon Filters are designed for odor removal only. They are not for particulate collection. Odor removal is a direct function of the amount of carbon exposed to the air stream.

The Activated Carbon Filter has 1 1/3 pounds of carbon per square foot in a 2" thick pad (600 grams per sq. ft. of filter face area). Each filter is sealed to prevent adsorption from occurring prior to installation.

Carbon filters are designed for light to moderate odor conditions in multi-stage filtration systems where other filters are installed upstream from the carbon filters.

Other filters are necessary to remove particulate contaminants from the air to prevent coating the microscopic carbon pore structure.

Performance Data - 2" Filter Based on ASHRAE Standard 52.1-1992. Tolerances conform to ARI Standard 850.84	
Recommended Final Resistance	1.2" W.G.
Activity Rating	Minimum 60% on carbon tetrachloride at 251C.
UL Classification	UL Class 2 According to UL Standard 900
Recommended Temperature Limit	120 F (491 C).

TROUBLESHOOTING

Problem	Probable Cause	Remedy
Unit Fails To Start	1. Breaker Tripped 2. Improper/Faulty Electrical Connection	1. Reset Breaker 2. Repair/Replace Electrical Connections.
Unit Stops Running	1. Incorrect Power Supply 2. Breaker Tripped	1. Ensure Unit Connected To Correct Power Supply 2. Reset Breaker
No/Low Air Flow	1. Filter Clogged 2. Ducts Blocked	1. Replace Clogged Filter 2. Remove Blockage
Odor Detected*	1. Carbon Filter Saturated	1. Change Carbon Filter
Loud Clanking Noises	1. Object Obstructing Rotation Of Blower 2. Blower Misaligned	1. Remove Object To Allow Blower To Rotate Freely 2. Adjust Blower To Proper Position On Motor Shaft

**Carbon Filter usage is optional. Check local requirements.*

NOTES


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