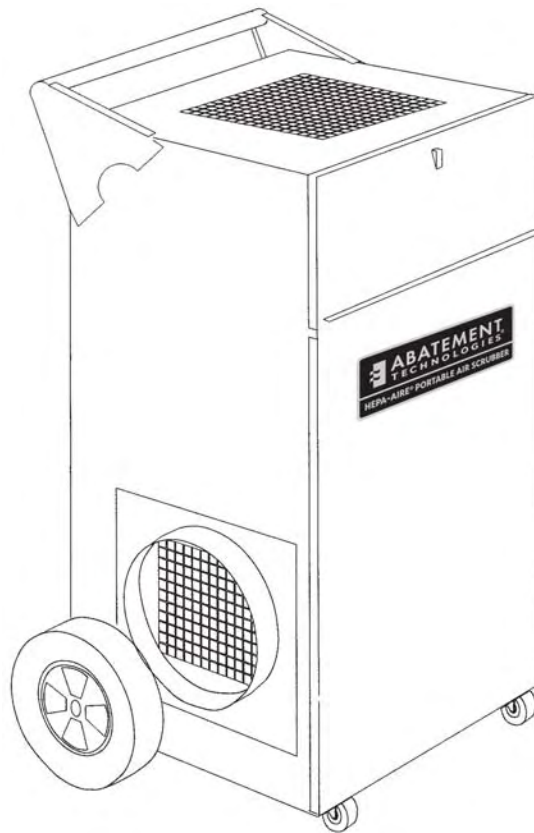


HEPA-AIRE PORTABLE AIR SCRUBBER-PAS1200

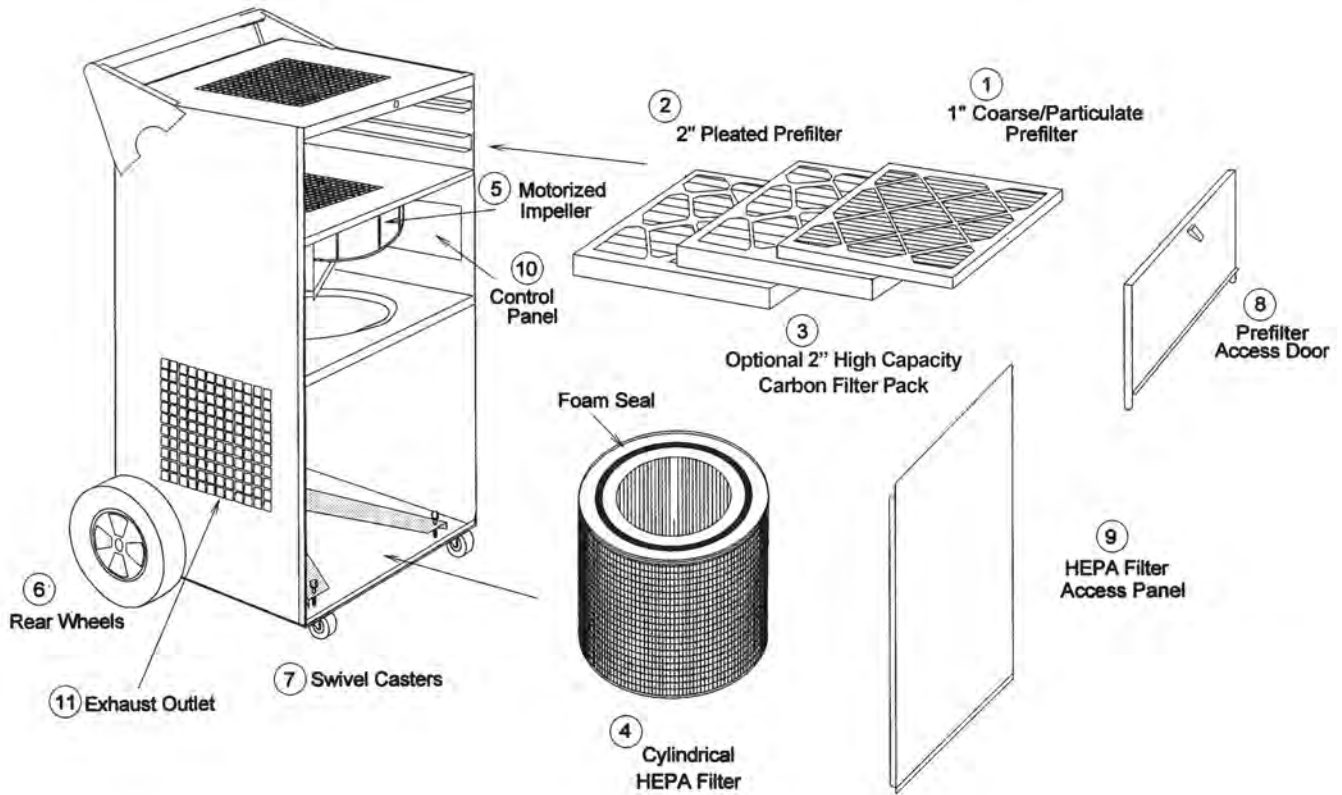
INSTRUCTION MANUAL



Abatement Technologies, Inc./Remediation Products Division



THE HEPA-AIRE® PORTABLE AIR SCRUBBER



- | | |
|---|-----------------------------|
| 1. First Stage 1" Coarse/Particulate Prefilter (P/N F621) | 5. Motorized Impeller |
| 2. Second Stage 2" Pleated Prefilter (P/N H502) | 6. 8" Rear Wheels |
| 3. Optional Third Stage 2" High Capacity Carbon Filter Pack (P/N VL1002). | 7. 360° Swivel Casters |
| 4. Final Stage 99.97% HEPA Filter (P/N H610C-99) | 8. Prefilter Access Door |
| | 9. HEPA Filter Access Panel |
| | 10. Control Panel |
| | 11. Exhaust Outlet |

HEPA-AIRE® PORTABLE AIR SCRUBBER - PAS1200

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Note:

1. **Read and understand all operating instructions before using the PAS1200 Portable Air Scrubber.**
2. **Save this manual for future reference.**

This instruction manual provides important information on the use of the HEPA-AIRE Portable Air Scrubber PAS1200 unit. These instructions must be carefully followed in order to operate the unit safely and correctly. If there are any questions regarding the use of the unit, please contact Abatement Technologies, Inc. immediately at 800-634-9091 U.S. or 905-871-4720 Canada.

GENERAL INFORMATION

The PAS1200 is a multi-use air filtration device capable of filtering most airborne particulates and odors, vapors, and gases (O/V/G).

Types of contaminants captured:

- Dirt
- Dust
- Drywall Dust
- Saw Dust
- Lung-Damaging Particles
- Metal Fumes
- Smoke
- Molds and Fungi
- Gases
- VOC
- Unpleasant Odors

The PAS1200 provides particulate and odor/vapor/gas filtration with final stage filtration through a High Efficiency Particulate Air (HEPA) filter.

The PAS1200 is designed for indoor operation only.

The PAS1200 is engineered for easy transport to the project site and within the project environment. It incorporates a series of particulate filters which successively remove larger size to smaller size particles from the air.

An optional (not provided with unit) activated carbon filter is used to adsorb odors, vapors and gases and remove particulates. The process of adsorption retains the O/V/G molecules within the pores of the carbon granules.

Effective removal of various odors, vapors, and gases relies on the removal of the emission source, and the air-scrubbing of the ambient air containing the airborne O/V/G contaminants. By recirculating the ambient air within the project area, the air is filtered and returned to mix with the rest of the room air.

The PAS1200 is equipped with a variable speed control switch and filters between 150-900 cubic feet of air per minute with clean filters and without the attachment of flexible duct. As a guide, the following formula may be used when calculating the total air recycling time (one air change) in a closed environment (assuming no intake of additional air):

$$\frac{\text{Volume of enclosed area (cubic feet)}}{\text{CFM of PAS1200}} = \text{Number of minutes required to filter the area air through the PAS1200 one time.}$$

EXAMPLE:
$$\frac{\text{Room size of 30'L x 30'W x 10'H= 9000 cu.ft.}}{900 \text{ cu.ft. min.}} = \frac{9000 \text{ cu.ft.}}{900 \text{ cu.ft. per min.}} = \frac{10 \text{ min. for 1 air change}}{6 \text{ air changes per hour}}$$

Effective carbon filtration is dependent upon the amount of contact time that the O/V/G molecules have with the carbon filter media. As the PAS1200 draws air through the media, the air is "scrubbed" as these molecules adhere to the surfaces of the carbon granules. Repeated recirculation of air through the unit reduces the O/V/G concentration. There is no "rule of thumb" for determining the length of time required for an area to be cleaned of ambient odors, vapors, or gases. Unknown variables such as concentration, intake volume of fresh air, temperature, humidity, and other factors prevent the accurate estimation of carbon filter life. For odorous substances, the evidence of a clean, air-scrubbed environment is the absence or greatly reduced presence of the O/V/G. Air quality testing should be conducted if the source is unknown, the vapors are toxic and/or otherwise hazardous to health, and to confirm that substances are not present at harmful levels.

The PAS1200 is equipped with a removable inlet/exhaust collar which accepts 10" diameter flexible or rigid duct. This may be useful for filtration of particulates and O/V/G in remote areas or to direct the unit's exhaust to remote areas. When using the PAS1200 for open area air-scrubbing, remove the inlet collar to allow the greatest amount of unrestricted air to enter the unit. For optimum air-scrubbing, operate the PAS1200 in the center of the open area, allowing for more free-air movement.

PAS1200 TRANSPORT

Note: The PAS1200 can be transported in the horizontal position. If extremely poor road conditions exist, or excessive shock and vibration are expected, take preCautionary measures by padding the unit to provide impact absorption during transport.

Caution: Always use Caution when moving the PAS1200 inside a building or home. The unit weighs 85 pounds. Older structures with weakened floors or staircases may require special considerations for safe transport.

PAS1200 OPERATION

Note: To Maximize the unit's airflow performance, always use the shortest length of flexible duct necessary. This applies to flex duct connected to the inlet. Use of excess flex duct will dramatically reduce machine airflow. The flexible duct should be as tight (around inlet collar on unit) and straight as possible (to avoid airflow loss from bends).

In the PAS1200, each filter contributes to the total filtering efficiency of the system. The incoming air passes through a 1" thick first stage prefilter. Large particles are retained by this filter, and the air then passes through a 2" thick second stage pleated filter which removes finer particulates. The third stage filter slot can be equipped with an optional high capacity carbon filter pack (VL1002)

for adsorption of odors, vapors, and gases and removal of particulates. See chart at the end of this manual entitled "Activated Carbon Adsorbency of Selected Substances and Odors." The air then passes through the final stage HEPA filter which captures 99.97% of all particles 0.3 microns and larger in size.

ELECTRICAL REQUIREMENTS

1. For maximum safety, the PAS1200 should always be connected to a three-prong grounded 115 volt/15 amp electrical outlet equipped with a Ground Fault Circuit Interrupter (GFCI) device. To reduce risk of fire or electrical shock, do not use the PAS1200 with any solid state speed control device. Do not use in a cooking area.

Caution: To avoid damage to the PAS1200 electrical system and power cord, do not connect or disconnect a power cord to an electrical outlet unless speed control switch is in the "OFF" position.

2. All electrical equipment used on the job must be in good condition and properly grounded. Check all outlets, wiring, extension cords, and the ground pin on plugs.

3. Extension cords used for the PAS1200 must be the heavy duty No. 14/3 AWG industrial grade 3-wire type, in good condition and in continuous lengths (no splicing). Power cords should not exceed a total of 50' in length.

Caution: The HEPA-AIRE PAS1200 requires a minimum of 110 volts to operate properly. Make certain that any extension cords used do not reduce power to the machine to less than 110 volts. Use of a voltmeter to confirm adequate voltage is recommended.

4. Due to momentary start-up current surge, the unit requires a 15 amp circuit which is free of other loads.

REQUIREMENTS FOR SAFE OPERATION

1. Never allow unauthorized individuals or children to operate the unit at any time.
2. Abatement Technologies urges anyone operating the PAS1200 to wear the proper personal protective equipment in accordance with federal, state and employer regulations.
3. Check condition of power cord(s) before using them. Damaged cords can cause fatal electrical shock and/or motor failure.
4. **As with any piece of electrical equipment, be sure that the unit Speed Control Switch is "OFF" prior to connecting or disconnecting an energized power cord to the unit's Power Cord Connection receptacle. Failure to do so will cause "arcing" and damage unit.** Never pull on an energized power cord to disconnect it from an outlet. Always disconnect the power cord from the electrical outlet before disconnecting the cord from the Power Cord Connection receptacle on the control panel.

5. Do not touch the electrical outlet or power cord(s) with wet hands or while standing on a wet or damp surface.
6. Power cord(s) should never be exposed to water, heat, sharp, or abrasive objects; in addition, they should never be kinked or crushed.
7. Never pull the unit by the power cord.
8. Avoid running over power cords with utility equipment and vehicles.
9. Avoid tightly wrapping the cords to prevent kinking of the internal wires.
10. Always replace damaged cords immediately.

Warning: To reduce risk of electrical shock, do not expose this unit to water or rain.

Warning: Risk of electrical shock! Can cause injury or death. Turn unit "OFF" and disconnect power supply cord before servicing unit.

CAUTION: For General Ventilating Use Only. Do not use to exhaust Hazardous Or Explosive Materials And Vapors.

Warning: Any atmosphere that is combustible, flammable, explosive, oxygen deficient, and/or contains odors, vapors, gases or particulates that exceed permissible exposure levels should be evaluated by a certified industrial hygiene professional before being occupied. Such atmospheres may require the use of intrinsically safe equipment, specific engineering controls, and personal protective equipment in accordance with Occupational Safety and Health Administration (OSHA), Environmental Protection Agency (EPA), Canadian Standards Association (CSA), and other federal, state, provincial and local regulations.

Warning: This equipment is not classified as "intrinsically safe" and should not be used in the following potentially hazardous locations as defined by the Underwriters Laboratories: Class I Division I, Class I Division 2, Class 1 Zone 0, Class 1 Zone 1, Class 1 Zone 2, Class II Division 1, Class II Division 2, Class III Division 1, Class III Division 2.

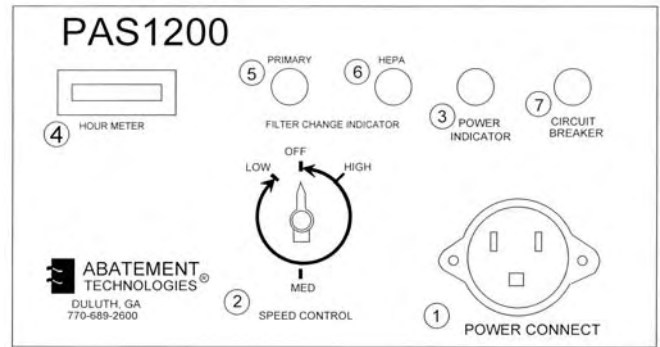
Refer to the UL web site: <http://www.ul.com/hazloc/define.htm>.

BEFORE OPERATING THE UNIT NOTE THE FOLLOWING:

Inspect and tighten any HEPA filter retaining bolts that may have loosened during transportation. Inspect each filter for any material or structural damage prior to each use. Replace any damaged filters before operating the PAS1200. When removing any filters prior to operation, always replace with air flow indicator on filter housing oriented in the proper direction (if applicable).

PAS1200 CONTROL PANEL

- 1. Power Cord Connection Receptacle** - Electrical receptacle for connection of power cord.
- 2. Speed Control Switch** - Serves as the power switch and provides a variable adjustment to the speed of the motorized impeller.
- 3. Power Indicator** - Green light which indicates speed control switch is "ON" and system is energized.
- 4. Hour Meter** - Provides a count of the total operating hours.
- 5. Filter Change Indicator - Prefilters** - Indicates excessive restriction on intake or loading of the prefilter(s) and that filter change procedures should be followed.
- 6. Filter Change Indicator - HEPA** - Indicates excessive restriction on exhaust or loading of the HEPA filter and that filter change procedures should be followed.
Note: Both Filter Change Indicators should be checked when the unit is operating on "HIGH" speed.
- 7. Circuit Breaker** - 15 amp circuit breaker provides protection for the unit's electrical components.



TO START UNIT

1. Check to make sure the Speed Control Switch is in the "OFF" position. Plug a 14/3 AWG power cord into the Power Cord Connection receptacle on the control panel and into a 115 volt supply circuit.
2. Turn Speed Control switch clockwise past the click at the "HIGH" setting to turn power "ON".
3. Set Speed Control switch to desired setting.

FILTER CHANGE INDICATOR

Prefilters light "ON" indicates one or more of the following:

1. Loaded prefilter(s). Refer to filter change procedures.
2. Restrictions on air intake. Refer to Troubleshooting Guide.

HEPA light "ON" indicates one or more of the following:

1. Loaded HEPA filter. Refer to filter change procedures.
2. Restrictions on exhaust. Refer to Troubleshooting Guide.

FILTER REPLACEMENT

Note: Personnel responsible for changing filters are urged to wear NIOSH approved respirators and other personal protective equipment in accordance with employer, state, and federal regulations.

Note: The filters are not reusable, therefore, do not attempt to clean and reuse them.

Caution: Abatement Technologies PAS1200 Portable Air Scrubber units are designed to meet or exceed standards for high efficiency air filtration equipment. Use only Abatement Technologies parts, including replacement filters. Use of non-Abatement Technologies parts and filters voids the product warranty and all performance claims.

System air flow reduction is generally the result of filter loading, blockage of the unit's inlet or use of excessive lengths of flex duct connected to the inlet.

The size and concentration of airborne contaminants, temperature and humidity conditions, and duration of use determine how often filters need replacement. If the Filter Change Indicator(s) on the control panel illuminates, this indicates one or more of the following: (1) prefilter(s) are loaded, (2) the inlet is obstructed, (3) the exhaust is obstructed, (4) the flex duct, if any, is too long or has too many bends, and (5) the HEPA filter is loaded.

The method of determining when to replace the optional activated carbon filter is somewhat subjective. As the odor, vapor, and/or gas filtration capacity decreases, the user will begin to sense a slight odor or taste of the contaminant, indicating that the filter should be replaced.

FILTER CHANGE PROCEDURE

To Change the First Stage Filter:

1. With the unit operating, pull up on the door latch and open the prefilter access door.
2. Remove the first stage filter and replace it with a new one.
3. Close the door and lock it in position by pushing down on the latch. Make sure the door is completely closed before closing latch.
4. If the filter change indicator remains "ON" after changing the first stage filter, the second stage filter should be replaced.

To Change the Second Stage Filter:

1. Open the prefilter access door.
2. Remove the second stage filter and replace it with a new one.
3. Close the door and lock it in position.
4. If the filter change indicator remains "ON" after changing the second stage filter, the third stage filter should be replaced.

To Change the Third Stage Filter:

1. Open the prefilter access door.
2. Remove the third stage filter and replace it with a new one.
3. Close the door and lock it in position.

To Change the HEPA Filter:

1. Turn the unit "OFF" and disconnect the power cord from the electrical outlet and the power cord connection receptacle on the control panel.
2. Remove the HEPA filter access panel.
3. Using a 1/2" wrench, loosen the 2 HEPA filter retaining bolts by turning them in a counterclockwise direction and gently remove the HEPA filter.
4. Replace the HEPA filter making sure that the new filter's foam seal is facing upward so that it seats against the upper HEPA filter mounting surface. The HEPA filter is delicate and should be handled with care.
5. Push the HEPA filter into the cabinet, making sure it is positioned in the middle of its U-shaped bracket.
6. Tighten the filter retaining bolts and reattach the HEPA filter access panel.

PAS1200 SPECIFICATIONS

FEATURE	PAS1200
Net weight w/filters:	85 lbs.
Shipping weight:	107 lbs.
Dimensions (LxWxH):	19 1/4"L x 22"W x 39"H
Power supply requirements:	115 volts, 15 amps
Normal operating amps:	3.5 amps or less
Motor:	400 watt motorized impeller with thermal overload protection, auto re-set, 60 Hz, single phase.
Automatic restart:	Motor will automatically restart itself after temporary power interruption.
Blower rating:	3100 RPM
Operating flow rate: (with clean filters)	Variable - 150-900 cfm
Operational sound level:	62 - 67 dBA, reading taken at 5 feet
Cabinet material:	20 gauge stainless steel
Cabinet seams:	Solid rivets and gaskets
Transportability:	2 each 8" rubber wheels in rear and 2 ea. 360° swivel casters in front.
Prefilter access:	Easy-operating hinged door is secured by a heavy duty swell-latch to protect against filter by-pass.
First stage prefilter:	1" coarse particulate prefilter
Second stage prefilter:	2" pleated particulate filter
Optional third stage filter:	2" high capacity carbon filter pack
HEPA filter:	DOP tested and certified to be 99.97% efficient against 0.3 micron size particles.

Note: Specifications subject to change without notice.

TROUBLE SHOOTING GUIDE

PROBLEM	POSSIBLE CAUSE	SOLUTION
NO RESPONSE WHEN THE POWER IS TURNED "ON"	<ul style="list-style-type: none"> -POWER CORD UNPLUGGED -DEFECTIVE POWER CORD. -TRIPPED CIRCUIT BREAKER. -TRIPPED GROUND FAULT CIRCUIT INTERRUPTER. -THERMAL OVERLOAD ON THE CONTROLLER HAS TRIPPED. 	<ul style="list-style-type: none"> -PLUG POWER CORD FIRMLY INTO ELECTRICAL OUTLET IN WALL. -CHECK ALL CONNECTIONS AND CONDITION OF ALL CORDS. DO NOT OPERATE WITH DAMAGED POWER CORD(S). -RESET BREAKER FOR BUILDING. RESET 15 AMP BREAKER ON CONTROL PANEL. -RESET GFCI AT POWER SOURCE. -TURN UNIT "OFF", WAIT 30 MINUTES AND RESTART UNIT.
CIRCUIT BREAKER ON CONTROL PANEL OR BUILDING "TRIPS".	<ul style="list-style-type: none"> -OVERLOADED CIRCUIT 	<ul style="list-style-type: none"> -TURN POWER SWITCH "OFF", WAIT 15 SECONDS AND RESTART ON "HIGH". REFER TO "TO START UNIT" SECTION OF THIS INSTRUCTION MANUAL.
UNIT RUMBLES WHEN ATTEMPTING TO START	<ul style="list-style-type: none"> -LOW VOLTAGE OR LIMITED AMPERAGE IS SUPPLIED. -EXTENSION CORD IS TOO LONG OR OF TOO HIGH GAUGE. -OTHER MACHINES OR LOADS ON SAME CORD OR CIRCUIT. 	<ul style="list-style-type: none"> -CHECK POWER SUPPLY - UNIT REQUIRES 115V 15 AMP CIRCUIT WHICH IS LOAD FREE. -EXTENSION CORD(S) SHOULD NOT EXCEED A TOTAL OF 5 FT IN LENGTH. USE GROUNDED 3-WIRE 14 GAUGE CORD(S). -REMOVE OTHER LOADS FROM SAME CIRCUIT.
FILTER CHANGE INDICATOR IS "ON"	<ul style="list-style-type: none"> -LOADED FILTERS. -CARBON FILTER PACK HAS NOT BEEN REMOVED FROM POLYBAG. -EXCESSIVE RESTRICTIONS ON INTAKE OR EXHAUST 	<ul style="list-style-type: none"> -CHANGE IN ACCORDANCE WITH OPERATING INSTRUCTIONS. -REMOVE CARBON FILTER PACK FROM POLYBAG. -REDUCE BENDS, LENGTH OF FLEX DUCT OR ELIMINATE RESTRICTIONS.

Note: If the unit does not start or malfunctions after carefullt following the **Troubleshooting Guide**, call Abatement Technologies at 800-634-9091 for assistance.

COMPONENT REPLACEMENT

Occasionally a defective component will cause the unit to operate improperly or not at all. Any electrical device can fail. Refer to the WIRING SCHEMATIC OR WIRING DIAGRAM to diagnose the failure of any component. Diagnostics should only be performed by a qualified technician.

Warning: Use only Abatement Technologies prefilters, HEPA filters, and replacement parts. Substitute parts void the warranty, jeopardize worker and environmental safety, and adversely affect engineered performance levels.

REMOVAL OF THE CONTROL PANEL FOR SERVICING

Caution: ALWAYS TURN OFF UNIT AND DISCONNECT IT FROM THE POWER SOURCE BEFORE REMOVING THE CONTROL PANEL, OR REPLACING THE HEPA FILTER.

The control panel of the PAS1200 machine is modular allowing for easy access and servicing. All control panel components are wired with 1/4" quick connect terminals.