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### **READ AND SAVE THESE INSTRUCTIONS**

#### **WARNING!!...TO REDUCE THE RISK OF FIRE, ELECTRICAL SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:**

- Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction.
- When cutting or drilling into wall or ceiling do not damage electrical wiring and other hidden utilities.
- NEVER install an electrical switch where it can be reached from a tub or shower.
- Use of this unit in a manner other than that prescribed by the manufacturer may void the warranty and cause an accident to occur. If you have questions, contact the manufacturer.
- Before servicing or cleaning the unit, switch power off at service panel and lock service panel to prevent power from being switched on accidentally.
- If this unit is to be installed over a tub or shower, it must be marked as appropriate for the application.

## **ABSOAIR SERIES PERFORMANCE OVERVIEW**

The AbsoAir series air purification system is designed to reduce the level of airborne particulate and gases in the space where it is operating. The reduction of airborne contaminants is a “percentage” reduction measurement. This means that the level of contaminants, present at a given time, will be a certain percentage less with the AbsoAir system series in operation, than what that level would be if the AbsoAir system series were not in operation **during the same time period.**

Gases or volatile organic compounds, (VOC's), are the most frequent cause of odors, however, some odors are the result of airborne particles. Excessive accumulation of particles can cause a noticeable fog, haze or cloud to be visible, especially around lights. In most applications, the AbsoAir system series is capable of reducing the level of gasses/VOC's and airborne particles in the ambient air of a space, up to 85%. In some applications some odors may remain detectable even after an 85%, or more, reduction in the concentration level of the odor causing gases and particles. In most applications where there is a haze, the clarity of the air will be greatly improved and the haze will not appear.

The AbsoAir system is to be used in conjunction with a minimum amount of outside air introduction. The purpose of the AbsoAir system is to dilute indoor air pollutants without increasing the quantity of the outdoor air introduction. In general, the “minimum” volume of outdoor air introduction ranges from 10 to 15 cubic feet per minute (CFM), per person occupancy, or one air change per hour.

The bi-directional Coanda airflow pattern, produced by the AbsoAir system, will purge pollutants from all corners of the space. The system's airflow pattern will rapidly transport the pollutants to the intake of the air cleaner where they are ingested and filtered. Approximately 99% of the particles will be filtered from the air stream that passes through the unit. If the AbsoAir system is equipped with Odor adsorbing modules, up to 20% to 100% of many individual gases/VOC's will be filtered from the air stream that passes through it. There are a few gases whose properties make them difficult to adsorb or oxidize. The filtration efficiency for these may be less than 20%.

Without a suitable airflow pattern, an air cleaning system cannot achieve a high reduction in the quantity of airborne pollutants in a space. The AbsoAir air purification system has one of the most effective airflow patterns in its class. To maximize the effectiveness of the AbsoAir system, it must be installed and maintained in accordance with the instructions contained in this manual.

The AbsoAir air purification system is either operating (power on) or not (power off). There is no standby or other operational options incorporated in the unit. The AbsoAir system should be turned on at least 20 minutes before activities in the space begin in order to realize optimum performance. This will prevent the system from having to “catch up” with pollution accumulation.

## **FILTER LIFE INFORMATION**

The AbsoAir air purification system has been designed with filters that can substantially improve indoor air quality in commercial and light industrial applications. The filter selection is designed to provide maximum air cleaning efficiency and relatively long filter life. These filters will collect dirt and contaminants that would otherwise deposit on surfaces or people might inhale. As the filters do their job, they become full. Like a trash bag that must be replaced when full, filters must eventually be replaced.

The **prefilter** is a dual denier synthetic fiber, deep loading, and disposable filter. Its purpose is to collect large and medium size particles and prevent them from reaching the primary particle filter. When the surface of this filter is coated with a noticeable layer of dust and lint, it must be replaced. If the prefilter is allowed to accumulate too much dirt, the pressure of the air will cause the surplus dirt to be pulled through the prefilter and into the primary particle filter, thus reducing its useful life, by collecting the particles pulled through the overloaded prefilter.

The **primary particle filter**, a 95%, or optional 99.97%, efficient on 0.3-micron size particles, D.O.P. tested filter, is the most practical and effective filter available for commercial applications. The 0.3-micron size particle is the most difficult size particle to filter. Therefore, the filter is more efficient in filtering particles that are both larger and smaller than 0.3 microns. The primary filter is positioned after the prefilter. Its purpose is to collect the smaller particles that pass through the prefilter. Atmospheric dust, pollens, bacteria, viruses, and other particles are filtered from the air stream that passes through this filter. As the filter collects particles it becomes more efficient. As its efficiency increases, the air passing through it incurs more resistance. This increased resistance to air flow will eventually cause a reduction in the system's total air volume. When the air volume loss exceeds 20%, the primary particle filter must be changed. This is evident by loss of airflow through the exhaust of the AbsoAir.

The **dual odor modules** have the ability to collect and hold gas-phase compounds and vapors typically found in commercial and light industrial facilities. These gases and vapors frequently manifest themselves as odors, which at times, can be annoying and irritating, if not a health hazard. The Odor adsorbing modules become saturated after collecting 25% to 50% of their weight in gaseous odors. When saturation occurs, the modules may emit a noticeable odor for a period of time immediately after turning the unit on. When odor emission continues for more than 30 minutes, its time to change the Odor adsorbing carbon panels in the modules. The quantity of adsorbent contained in the AbsoAir air purification system, approximately 48 pounds, provides adequate dwell time to insure up to 20% to 100% filtration efficiency of many gases and odors and insures a long service life.

The life of a filter is dependent upon the amount and type of pollutants being filtered, and the frequency of use. The **service life of the prefilter** ranges from **30 to 90 days**, or longer. The service life of the **primary particle and odor adsorbing filters** range from three months, in severe applications to **12 to 18 months**, or longer. The estimate of filter life is based on experiences in typical and average applications.

This filter life estimate does not imply or guarantee that the useful life of the filters in your application will be as long as the time range stated in this paragraph.

### **AIR QUALITY IMPROVEMENT THROUGH FILTRATION**

The improvement in indoor air quality in any facility is the result of the reduction of both airborne particles and gas-phase compounds. To achieve adequate reduction in the levels of these contaminants, the air in a facility must pass through the filters of the AbsoAir air purification system a certain number of times in an hour, (air exchange rate). The frequency of air passes, or air exchange rate, is determined by evaluating: (1) the generation rate of the various pollutants; (2) the amount of outside air being introduced; and (3), the air cleanliness, or contamination reduction level desired.

In very low pollution areas, such as an office with tile floors and leather furniture, a minimum of 2.5 air exchanges per hour is required. An air exchange rate as high as 15 time per hour may be required in severe applications, such as in a cigar smoking lounge. In any facility a 2.5 air exchange rate, through the AbsoAir air purification system, is the absolute minimum rate deemed effective. No claims of air quality improvement can be made or expected if a lesser air exchange rate is utilized.

We suggest that an appropriate quantity of outside air, 10 CFM to 15 CFM per person occupancy, or at least one (1) air exchange per hour, be provided in spaces occupied by humans, in addition to the AbsoAir filtration system.

Correct relative humidity levels and temperatures will appreciably improve the comfort level of indoor air. When the relative humidity in a facility drops below 45%, especially where smoking takes place, the incidence of eye irritation and strong odors increases. Refer to local ventilation codes and other professional sources for more information about temperature and relative humidity.

Gas and odor adsorbents, such as charcoal, tend to lose their ability to filter pollutants as the air temperature and relative humidity increases. In areas where the humidity is more than 75%, and the air temperature is frequently above 90F. Gas and odor filtration may become ineffective.

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Gases, vapors and odors are also called VOC's (volatile Organic Compounds).

## **SPECIFICATIONS**

**Air volume:** High - 1500 CFM  
Medium - 1200 CFM  
Low - 1000 CFM

**Sound Level:** (at 1 meter) High - 57 dBA, Medium - 55 dBA, Low - 53 dBA

**Electrical:** ½ HP, 4 Speed, permanent split capacitor motor  
(Maximum current draw of the 120V motor is 9.0 amps) The motor draws only 7.5 amps while running at high speed in the AbsoAir machine.

**Weight:** 150 lbs. Maximum

**Dimensions:** Cabinet only - - 22.125" W x 46.75" L x 18.00" H

**Filter Efficiency:**

### **Model ABSO1, ABSO1208, ABSO1277:**

Particulate - - - - - More than 95%, 0.3 micron, D.O.P.

Gas/Odor - - - - - -Up to 95%, first pass (many gas phase compounds)

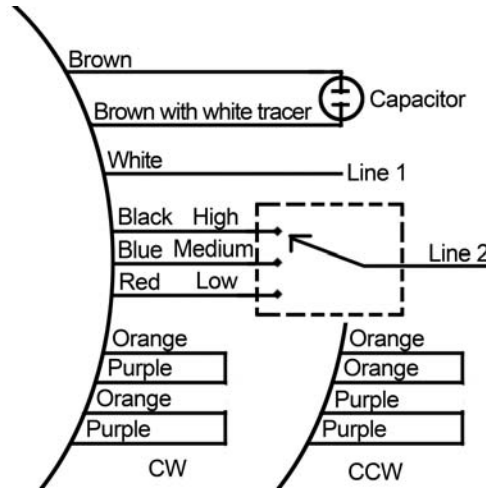
### **Model ABSO 9997:**

Particulate - - - - - True HEPA, 99.97% Efficiency

Gas/Odor - - - - - Odor adsorbing media not included

**Figure 1**

**Note:** Due to on going efforts to improve Absolute Air products, specifications may have changed without notice. Absolute Air endeavors to keep all publications current but at times publications are in the field and are beyond our capability to replace or upgrade them.



### ELECTRICAL WIRING

**CAUTION: All wiring must comply with national and local electrical codes. Refer to the wiring diagram.**

The AbsoAir air purification system is internally prewired. External connection is made through a pre-punched hole in one side of the cabinet. Access to the connection box is gained by removal of the junction box cover plate located in the center cavity of the unit next to the motor.

A variable speed, remote mounted switch is available with each AbsoAir system series air cleaner. The switch should be positioned for easy access by key employees. The air volume will reduce by approximately 10% for each speed reduction setting. An on/off switch, rated at 10 amps, and wired to any one of the three speeds, may be used in place of the switch furnished, to provide single speed operation.

## INSTALLATION GUIDE

The AbsoAir air purification system is designed for use in relatively large indoor areas. It is recommended that, as a minimum, one unit be installed for every 12,000 to 15,000 cubic feet of space volume. This would provide an air exchange rate equivalent to approximately five air changes per hour (ACH). The following chart provides a guide for the number of AbsoAir air purification system(s) usually required for “average” spaces. There are many variables to be considered, therefore, it is possible for more or less units to have been recommended, depending on the specific application.

The number of AbsoAir air purification system units recommended below is based on a given volume of space occupied by a specific number of persons whose activities generate average types of pollutants ranging from “a low generation rate” (no smokers) to “a high generation rate” (40% smokers). For heavy odor/gas control, 10-15 air changes may be required.

SPACE VOLUME L x W x H in Cubic Feet	NUMBER OF PERSONS PRESENT	SUGGESTED NUMBER OF ABSOAIR AIR PURIFICATION SYSTEM
AbsoAir system – 18000	30 – 60	1 or 2
18000 – 35000	60 – 90	2 to 4
35000 – 51000	90 – 120	3 to 6
51000 – 65000	120 – 180	4 to 8
65000 – 80000	180 – 240	5 to 10
80000 – 95000	240 – 300	6 to 12

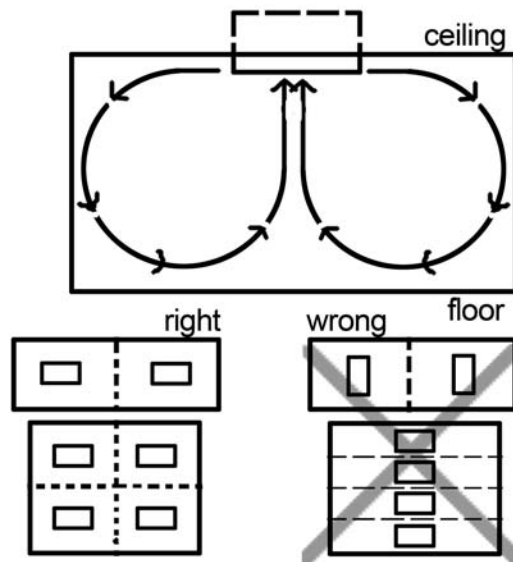
For each 15000 cubic feet above 95000, add one AbsoAir air purification system. For areas smaller than AbsoAir system cubic feet, you may find it necessary to reduce the speed of the AbsoAir system to medium or low. This unit is not recommended on high speed for use in areas having 600 square feet or less.

## POSITIONING THE AbsoAir system

**Positioning the AbsoAir system correctly is crucial to the system's overall performance. The bi-directional airflow pattern must flow into the longest reaches of the zone being purified.**

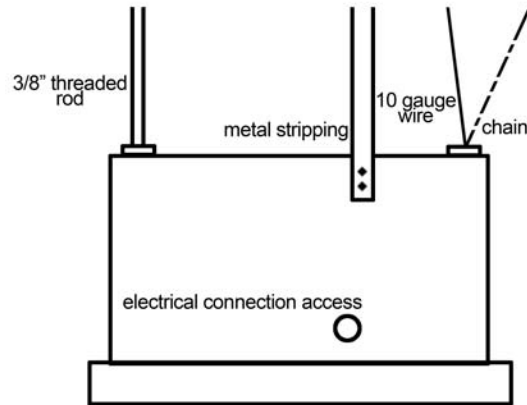
The AbsoAir air purification system is designed to be suspended in the center of a space and close to, or integrated into the ceiling. Position the unit so that its discharge air stream will not strike a fur-down (exposed beams), column, or other obstruction. If necessary, hang the air cleaner so that it suspends further out of the ceiling than normal, to permit the discharge air to flow under beams and fur-downs. The exposed cabinet can be painted to match the ceiling color or covered with pieces of matching ceiling tiles. If the plastic cover is to be painted, use Sherwin-Williams Polane T or B, or equal. The unit's performance is not hampered if it is suspended in the open.

In single unit installations, the AbsoAir system should be positioned with its long dimension parallel to the long dimension of the space, as illustrated in figure 3. The cleaning footprint of the unit is almost rectangular, having air patterns that expand as they move from the unit. The discharge air causes pure air to purge the far corners of the space, and draw pollutants up from beneath its cover. The correct positioning of one AbsoAir, or multiple AbsoAir machines, is described in figure 3. The distance shown in the schematic may be increased up 20% and decreased up 35% without adversely affecting the system's performance.



In multiple unit installations, the locations and orientations of the units should be such that the allotted area to be cleaned by each unit, closely match the cleaning footprint. An air velocity of 80 ft. per minute is considered "end of throw" for this air cleaning technology. The air throw in one direction is approximately 45 ft. When the air from units which are blowing toward each other meet, it changes direction and travels toward the floor. At the point of contact, the two air streams produce an imaginary wall, thus completing the Coanda pattern. Adjust the louvers to direct air away from obstructions and to minimize drafts.

## SUSPENSION



The AbsoAir air purification system has an operational weight of approximately 150 pounds. National and local codes for the suspension of such devices in occupied spaces **must** be adhered to.

The AbsoAir air purification system is shipped without its high efficiency particulate filter, odor <sup>modules</sup> and cover installed. These components are packaged separately and banded to the AbsoAir system box or skid. Set them aside until the unit has been installed and tests run for a few moments. If the unit operation is satisfactory, then install these components.

The AbsoAir system is equipped with a 3/8" Reinforced hole, located at each of the four upper corners of the cabinet. Connection at these points for suspension can be accomplished by eyebolt or threaded rod. Suspension by metal straps fastened to the side of the cabinet, threaded rods, chain or 10Ga. Wire connected to eyebolts is acceptable, depending on local codes. The various suspension methods are illustrated above.

### **ALL EXTERNAL HARDWARE IS TO BE SUPPLIED BY THE INSTALLER**

The AbsoAir air purification system may be hung "free" in an open space or integrated into a drop ceiling system. Whether suspended "free" or integrated into a ceiling system, the unit should be level with its face downward for the proper operation. The suspension system should include a means for level adjustment after installation.

## **FILTER INSTALLATION**

After suspension and leveling is completed, connect your AbsoAir air purification system to the appropriate voltage and test run it for 2 or 3 minutes before installing the cover. You should observe a smooth, powerful blower sound and substantial air velocity discharging from both of the Odor adsorbing module cavities.

Remove each Odor adsorbing module from the box and rapper. Remove retainer bar by releasing spring loaded lockdown. Insert the modules into the module cavity with the bottom of the V down. With the hook end of the retainer bar facing down, insert the retainer bar hook into the slot in the cabinet. Push up on the module and snap down the spring lockdown. Repeat this step on the balance of the modules.

Remove the primary particle filter from its packaging. **Caution: handle only the frame of this filter. Do not touch or push on the white pleated media.** Insert the filter with the screened side toward the blower (up), observing the air flow direction arrows. Snap down the filter spring loaded lockdowns on each side of cabinet.

Remove the cover from its box and lay it on a soft or smooth surface, open side up. Remove the prefilter from its package and lay it in the bottom of the cover. Raise the cover to the cabinet and match the cover hook holes to the hooks on the cabinet and “snap” the cover into place with a gentle tap. Secure the cover with thumb screws on both ends of unit into threaded bars on cabinet.

## **REPLACING THE FILTERS**

**TO AVOID POSSIBLE INJURY, SHUT THE POWER TO THE UNIT OFF AT THE CIRCUIT BREAKER. TAG THE BREAKER TO PREVENT ACCIDENTAL TURN ON BY OTHERS.**

1. Loosen thumb screws on each end of unit. Grasp the long side of the cover and pull down with a sharp, but gentle yank. The latches on that side of the cover will open. Repeat this step on the opposite side of the cover.
2. Place the cover on the table or floor, open side up.
3. Remove the prefilter and deposit it in a trashcan. Wipe the cover clean with a damp cloth and mild soap if necessary.
4. Insert the new prefilter.
5. Apply upward pressure on the primary particle filter. Unlock the filter holders on each side of cabinet while holding the filter in place by applying slight pressure to its frame. Then slide the filter down out of the cabinet.
6. Insert the new filter with the screen side up and the arrows pointing up and snap down the filter spring loaded filter latches.
7. Remove the retainer bars under each Odor adsorbing module and remove the module using the steps described in line 5 above.
8. Install the new modules with the bottom of the V down and reinstall the retainer bars.

**TO PREVENT DAMAGE TO THE DELICATE FILTER MEDIA DO NOT APPLY PRESSURE TO, OR TOUCH THE WHITE FILTER MEDIA. TOUCH ONLY THE FILTER FRAME.**

**REPLACEMENT PARTS LIST**

<b>PART NUMBER</b>	<b>DESCRIPTION</b>
PF12	Disposable Prefilter (6 per box)
9512	95% Primary Particle filter
9912	99.97% HEPA
C/P10	Bonded Activated Carbon with Permanganate Replacement Panels (10 Required per V-bank Frame)
V-Bank Frame	V- Bank Frame for above panels (2 required)
OM12	Odor adsorbing modules, 2 required (Includes C/P Panels)
120085 – 01	½ HP 120V, 7.5A, 60HZ, 4 – speed motor
120085 – 02	½ HP 230V, 2.9A, 50/60HZ, 3 – speed motor
120085 – 03	½ HP 277V, 2.5A, 60HZ, one speed only
	Switch, 4 – speed remote switch
Vari-10	Variable Speed Switch (10 Amp.)
UV1	Ultraviolet Lamp Assembly

Order replacement parts from the AbsoAir dealer, distributor where you purchased the product. If you cannot locate a distributor or dealer contact the factory.

**AbsoAir, Incorporated**  
**5390 Elizabeth Lake Road**  
**Waterford, MI 48327**  
**248-682-3110 / Fax 248-682-3199**

## LIMITED WARRANTY

The AbsoAir series air purification system is warranted by AbsoAir, Inc. to be free from defects in material and workmanship, under normal use, for a period of **60-months or lifetime with a service contract**, and is effective on the date of purchase by the original end user. The device must be installed by a competent contractor in accordance with the requirements set forth in this owner's manual, and operated within the device's listed capacities. This warranty is not transferable. No other warranty, written or oral applies. There is no warranty as to merchantability of fitness for any purpose.

This warranty is limited to the repair or replacement of components and parts and does not cover any labor associated with the removal and/or installation of the warranted component or part. This warranty does not cover parts and/or components that have been damaged by abuse, misuse or improper electrical service connection and does not cover the useful service life of the filters.

In the event of a mechanical or electrical malfunction through normal use, AbsoAir, Inc. will, at its discretion, replace the failed component by sending the replacement or repaired component to the customer's location without charge. The customer may be required to return the failed component to AbsoAir, Inc. for evaluation, freight prepaid, at the option of AbsoAir, Inc.

This warranty is limited to the functions of the electrical and mechanical components of the AbsoAir air purification system and does not include the product's performance or serviceability in an application, above and beyond current published specifications.

With the exception of damages resulting from AbsoAir, Inc.'s failure to comply with federal or state warranty laws, AbsoAir, Inc. will not be liable for any incidental or consequential damages, whether direct or indirect or any delays resulting from a warranty. This warranty is expressly granted in lieu of all other warranties and is the only warranty granted by AbsoAir, Inc.. In the event you have questions concerning the use and care of this AbsoAir air purification system, or this warranty, contact your local AbsoAir distributor or dealer, or write or call the factory.

### HOW TO MAKE A WARRANTY CLAIM:

Should you have a warranty claim, contact the local dealer or distributor from whom you purchased this AbsoAir product. If a Dealer or distributor cannot be found, please contact the factory at the location listed on the cover of this manual. You must notify the Dealer/Distributor or factory of the malfunction, and provide proof of date of purchase, in writing.

**DO NOT** return any parts to the factory without first obtaining a **RETURN AUTHORIZATION NUMBER** from the customer service department. All authorized returns must be shipped freight "prepaid". The factory **will not** accept freight collect shipments.