



Bio Air ScrubberTM

SILVER

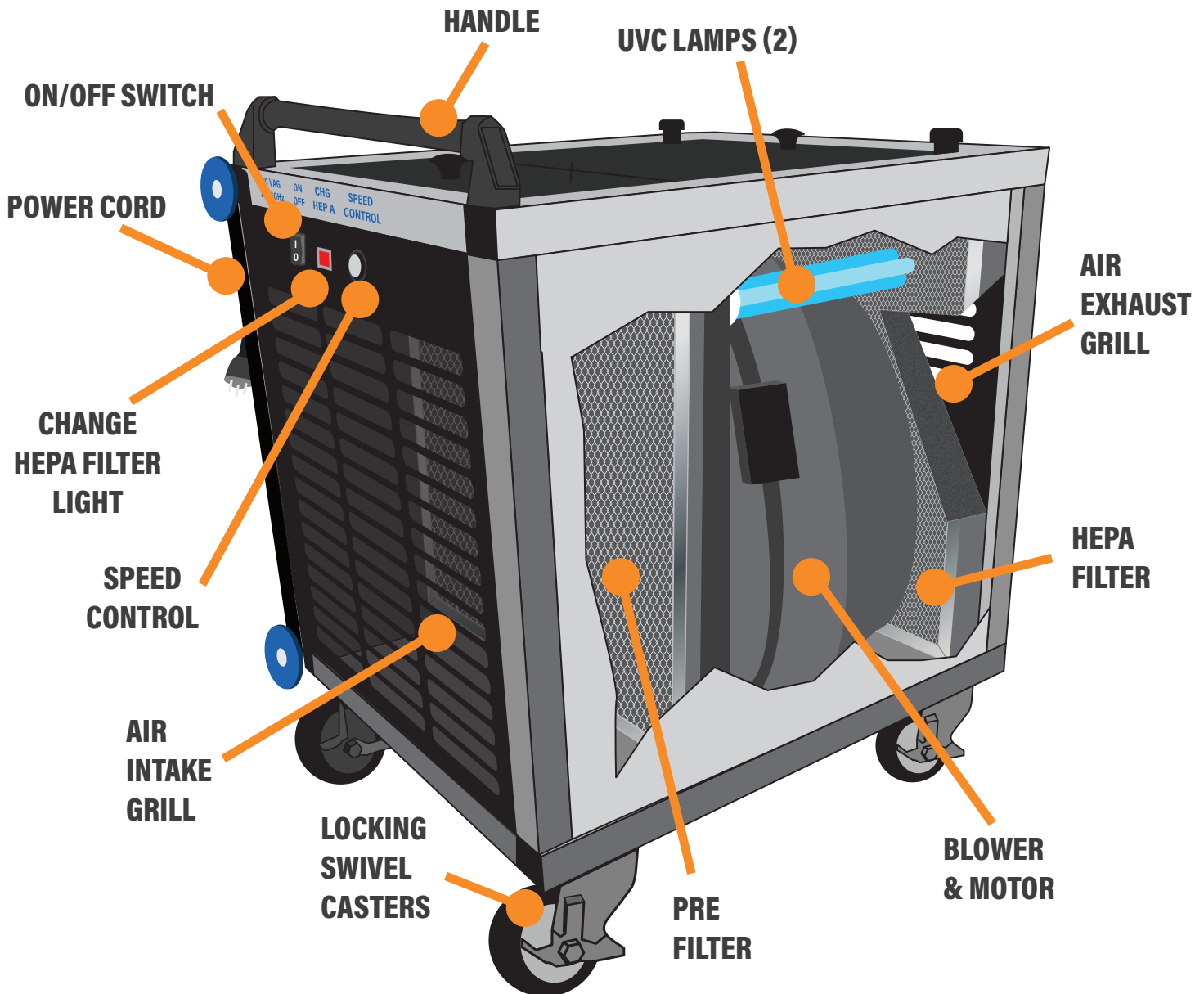
HEPA - UVC





Bio Air ScrubberTM

HEPA - UVC



Bio Air Scrubber Cutaway

Division of D.P.L. Enterprises Inc.

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If you have questions about the safe use of any Air-Care product, call 702-454-5515.
Equipment specifications and part numbers are subject to change without notice.

UNPACKING & INSTALLATION INSTRUCTIONS

If there is any visible external damage to the pallet or box, note this on the shippers paperwork prior to accepting the delivery. If the contents of the pallet are visibly damaged, refuse to accept the shipment and advise Air-Care immediately. Remove the outer box and inspect for damage.

Report all damage immediately to your carrier. If special set-up instructions are required, they will be taped to the outside of the equipment or in the "Operating" section of this manual. Inspect all of the packing material for small parts before discarding packaging material.

Check that all parts are present

1. Bio Air Scrubber Silver main assembly, with wheels and handle intact.

Open the top doors and check for the filters inside.

2. White 1st stage, 1" Dual layer Polyester and Polypropopylene Disposable pre-filter

3. Second stage filter, 16x19x2.5" Mini-Pleat HEPA filter.

4. UVC Max 25 Bulbs (2) each.

BIO SCRUBBER SILVER CONTROLS

1



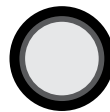
2



3



4



1. Power Cord

2. On/Off Switch

3. HEPA Filter: When lit it is time to change your HEPA filter.

4. Speed Control

SAFETY PRECAUTIONS:

ALWAYS use safe and common sense precautions when working with Air-Care equipment. Do not block walkways with equipment. Remove delicate and breakable articles from the immediate work area. The following are precautions that should be reviewed by all persons who will be involved in the cleaning activity.

- Other than the 2 filters, there are no user serviceable components in the Air-Care Bio Air Scrubber Silver. Only trained technicians should attempt to make internal repairs on this equipment.
- Always turn off the main power switch on the control panel, or disconnect the power before opening or removing the top or removing the filters from the Bio Air Scrubber Silver.
- Be sure all power cords and electrical extensions are rated to meet or exceed the original Air-Care power cords (12 gauge), and inspect all AC power plug to be sure the Ground Pin is in place.
- Never connect power to Air-Care equipment unless all covers, and safety shields are in place. Mechanical and electrical parts could activate and cause injury.
- Never allow anyone except a properly trained technician to use the equipment or/and cleaning products.

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- All Air-Care equipment is designed for US standard 115 volt, 60 Hz AC. Most Air-Care equipment can be special ordered to meet other worldwide standards for a reasonable price and delivery schedule. Always check the specifications on the equipment before connecting electrical power to Air-Care equipment. The Bio Air Scrubber Silver can be special quoted for 220 Volt 50 Hz but may incur additional costs and may not provide the same performance as the 60 Hz model.

AIR SCRUBBERS, WHEN AND HOW TO USE THEM

Briefly, an Air Scrubber circulates ambient air through its filter system, usually 3 Layers including a HEPA final stage, and exhausts clean air into that environment. It is a BIG air purifier. Sometimes, the air scrubber may also contain activated carbon filters to adsorb odors and chemicals that may be in the ambient air.

The Bio Air Scrubber Silver is small enough to be placed inconspicuously in a corner of a room or beside a piece of furniture and quiet enough to not hinder normal conversation.

Multiple units can be used in larger areas to distribute the filtration without requiring ducting in the room.

When should you consider using one or more of these devices? There are only a few universal regulations or standards, but to say it is all guesswork is not at all true. On a construction site where large amounts of fine dust are generated, it would be expected that the workers would be wearing eye protection as well as some type of respirator to protect their lungs. If the site was adjacent to an office with a full staff, it would be unthinkable to start the work without a temporary barrier of plastic sheeting to prevent the dust from covering the occupants and the office equipment. If the dust was potentially toxic and the particles were too small to be seen by the naked eye, even more protection for both the workers and the adjacent occupants would be required. This is the basic reason, it is necessary to filter the air in the work area, and to put that contaminated area in a "Negative Pressure" condition.

The size and number of machines depends on the volume of the space being cleaned as well as how many Air Changes per Hour (ACH) are required by local regulation. As a starting point, calculate the square footage of the room or rooms, multiply by the ceiling height. It is generally recommended to have 3 to 4 air changes per hour in occupied areas. To convert this requirement to a CFM spec for the Air Scrubber, multiply the Volume of the work area by 4 (or 3) changes/Hour then divide by 60 Minutes/Hour.

$$\frac{\text{Length} \times \text{Width} \times \text{Height} \times 4}{60} = \text{cfm}$$

To calculate the required CFM to filter the air in a room that is 15 feet wide by 40 feet long with an 8-foot ceiling, plug in the size of the room in the formulas for either 3 or 4 air changes per hour (ACH)

$$4 \text{ ACH } \frac{15 \times 40 \times 8 \times 4}{60} = 320\text{cfm}$$

$$3 \text{ ACH } \frac{15 \times 40 \times 8 \times 3}{60} = 240\text{cfm}$$

$$4 \text{ ACH } \frac{15 \times 40 \times 11 \times 4}{60} = 440\text{cfm}$$

$$3 \text{ ACH } \frac{15 \times 40 \times 11 \times 3}{60} = 330\text{cfm}$$

As the filters become loaded, the effective cfm will drop slightly, so be sure you have a little more capacity than the minimum.

Air Scrubbers may be required to circulate and filter the air within one or more of the contaminated areas to collect contaminants as they are released into the air, as well as making certain there are no "dead spots" in the contained area where there could be a contaminate buildup.

AIR EXCHANGE BASED ON ROOM SIZE

The size and number of machines depends on the volume of the space being cleaned as well as how many Air Changes per Hour (ACH) are required by local regulation. As a starting point, calculate the square footage of the room or rooms, multiply by the ceiling height. It is generally recommended to have 3 to 4 air changes per hour in occupied areas

EXTRA LARGE ROOMS 30' X 40' X 8' = 9600 CUBIC FEET = 3 EXCHANGES OF AIR PER HOUR

LARGE ROOMS 20' X 40' X 8' = 6400 CUBIC FEET = 4 EXCHANGES OF AIR PER HOUR

MEDIUM ROOMS 20' X 20' X 8' = 3200 CUBIC FEET = 8 EXCHANGES OF AIR PER HOUR

SMALL ROOMS 10' X 10' X 8' = 800 CUBIC FEET = 32 EXCHANGES OF AIR PER HOUR

MAINTENANCE

ALWAYS clean the exterior of the Bio Air Scrubber Silver with a cloth and germicidal liquid. Change the Filters whenever moving to a new location to prevent any contaminants from being carried from one location to another.

WHEN TO CHANGE FILTERS AND UVC LAMPS

It is impossible to predict EXACTLY how long it will take for to become dirty enough to change. The PRE-Filters should be changed after 30 days of light use in a clean environment, but any time you see noticeable amount of dust and debris on them, they should be changed.

The HEPA filter has a pressure sensor on it that will light up when it needs to be changed. It collects particles that are too small to be seen by the human eye, so a pressure reading is the best indicator that HEPA performance has degraded and must be replaced.

The UVC Germicidal Lamps have a useful life of 8,000 hours, about 1 year of continuous use 24/7. They will still emit UVC light, but the output drops off after about 1 year. Changing them after one year of use is recommended. These UVC Germicidal Lamps have a built in Ballast, which is replaced with the lamps for maximum reliability.

VERY IMPORTANT SAFETY INFORMATION

THE UVC LIGHTS INCLUDED IN THE BIO SCRUBBER WILL CAUSE PHYSICAL DAMAGE IF EXPOSED TO EYES AND SKIN.

DO NOT TURN ON THE BIO SCRUBBER WITH THE ACCESS DOOR OPEN

Germicidal ultraviolet rays are harmful to the eyes and skin. Always disconnect power to the equipment and unplug before performing any service or maintenance. Do not operate without proper electrical ground. To prevent the risk of severe or fatal electrical shock, special precautions must be taken.

SPECIFICATIONS

Size:	21" Wide x 31.5" Tall x 21" Long
Weight:	100 lbs. on 4 Locking Swivel Casters
Power:	120 volts, 60 Hz, 205 Watts
Blower:	1200 CFM*
Sound Level:	47 db Whisper Quiet (measured 5ft from the unit)
HEPA Filtration:	HEPA 99.97% at 0.3 Microns 16" X 19" X 2.5"
UV Lights:	Two UVC Germicidal Dual EPA Registered Smart UV Lights (Total 50w)
Pre-Filters	Electrostatic, EPA Registered Antimicrobial MERV 8
Disinfection:	2 x 25 Watt UVC Germicidal self Ballast Lamps
Wheels:	4 Swivel Casters
AMPS:	1.7
Speed:	Single
Controls:	Blower ON/OFF, AC Receptacle, red POWER ON Light, Filter Change Light.
LED Lighting:	Filter Change Indicator
Construction:	Extruded Aluminum TEE Slot Frame, full width Handle and Melamine panels.
Part Number:	FG0268

Specifications subject to change without notice.

**Free Air*

If you have any questions, call Air-Care at 800-322-9919

GLOSSARY & ACRONYMS

1. **ACGIH** — American Conference of Government Industrial Hygienists
2. **ASHRAE** — American Society of Heating, Refrigerating, and Air Conditioning Engineers
3. **Air Handler/ AHU** — The Furnace or air conditioner that heats, cools and moves the air.
4. **Antimicrobial** — Agent that kills Bacteria, Molds and viruses. See "Sanitizer"
5. **Arrestance** — An ASHRAE standard procedure to measure air filter efficiency (52.1)
6. **Bioaerosols** — Molds and bacteria that are found floating in the air.
7. **Biological Contaminants** — Bacterial, Mold/Fungus, viruses and their waste, byproducts and decomposition materials that can be inhaled and cause many types of health effects.
8. **Building Related Illness** — Diagnosable illness whose symptoms can be identified and whose cause can be directly attributed to airborne building pollutants (e.g., Legionnaire's disease, and hypersensitivity pneumonitis).
9. **CFM** — Cubic Feet per Minute, a measure of how much air is flowing in an air system.
10. **CO** — Carbon Monoxide, an odorless, toxic gas produced during combustion.
11. **CO₂** — Carbon Dioxide an odorless, non-toxic gas produced during combustion and exhaled by people.
12. **Ceiling Plenum** — The area above a suspended ceiling that may be used as a return path to the Air Handler.
13. **Conditioned Air** — The air that has been filtered, heated or cooled by the air handler.
14. **Dampers** — Flaps or valves in the air duct that control the amount of airflow in the duct.
15. **Diffusers & Grilles & Registers** — The covers at the end of supply and return ducts that control the amount and direction of the air-conditioned air entering or leaving a room.
16. **Electrostatic Filter** — A High Efficiency (95% Arrestance) Air filter that generate static electricity from the air movement through the air handler and captures dust from the air while the clean air move freely through it.
17. **EPA** — Environmental Protection Agency
18. **Duct** — A metal, plastic or fiberglass tube that transports air to and from the Air Handler. They can be round, square or rectangular.
19. **Duct Board** — Compressed fiberglass material used to make air ducts, particularly in the southern U.S.
20. **Fiberglass Filter** — A disposable, very low efficiency filter (approx. 10% arrestance).
21. **Flex duct** — Plastic fabric duct with a spiral wire support. It is used extensively in the Western U.S.
22. **HEPA** — High Efficiency Particulate Air
23. **HVAC** — Heating, ventilation and air-conditioning
24. **IAQ** — Indoor Air Quality
25. **MSDS** — Material Safety Data Sheet
26. **Make-up Air** — Fresh "outside" air that is brought into a Commercial building.
27. **NADCA** — National Air Duct Cleaners Association
28. **NAFA** — National Air Filter Association
29. **NIOSH** — National Institute for Occupational Safety and Health
30. **Negative building pressure** — A condition that allows air to flow into a building when a door is opened.
31. **NSC** — Nevada Safety Counsel
32. **NSF International** — An independent testing laboratory for Air filters
33. **OSHA** — Occupational Safety and Health Administration
34. **Positive building Pressure** — A condition when air will come out of a building when a door is opened.
35. **Re-entrainment** — The flow of dust and debris removed from an air system back into the same building
36. **Return/Return Duct** — Ducts that brings air back to the furnace or air conditioner
37. **Sanitizer** — A material designed to kill mold, bacteria, and viruses.
38. **Sick Building Syndrome** — A group of symptoms such as headache and watery eyes that disappear after the sufferer leaves the building for a few hours.
39. **Supply/ Supply Duct** — The opening and related ductwork that delivers conditioned air to a room.
40. **VAV** — Variable air volume system – A system that varies the amount of flow of air to regulate temperature.
41. **VOC's** — See "Volatile Organic Compounds"
42. **Volatile Organic Compounds (VOC's)** — Chemicals that release gasses into the air such as solvents.

LIMITED WARRANTY

Bio Air Scrubber Silver

Air-Care warrants this product to be free from defects in materials and workmanship to the original purchaser for a period of Three (3) years from the date of purchase. Components listed below are excluded from this Three year period and are covered for periods described below:

Vacuum Motors	1 Year
Power Inverter	1 Year
Wheels & Filters	No Warranty

Warranty covers both parts and labor.

(labor is to be performed at Air-Care's facility located at 3868 E. Post Road; Las Vegas, Nevada).

Warranty is extended to the original purchaser and is not transferable.

This warranty does not extend to any damage to a product caused by or attributable to freight damage, abuse, misuse, improper or abnormal usage. Warranty is also void if the product has been modified or altered in any way.

The purchaser is responsible for the cost of shipping the equipment to Air-Care's facility for evaluation. If found to be defective and covered by the terms of this warranty, Air-Care will pay FedEx ground shipping charges on the repaired or replaced item back to the purchaser's location. Any additional expedited service charges for quicker shipping shall be born by the purchaser. If the product or component is not found to be a warranty issue, the purchaser will be responsible for return shipping charges.

Air-Care is not responsible or liable for indirect, special, or consequential damages arising out of or in connection with the use or performance of the product; damages with respect to any economic loss, loss of property, loss of revenues or profits, loss of use, or other incidental or consequential damages of whatsoever.

The warranty extended hereunder is in lieu of any and all other warranties, and any implied warranties of any type.

This warranty gives you specific rights. These rights and others vary from state to state.

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