



Bio Cart HEPA 10

Operators Manual



Bio Cart 10 w/ 6 & 8 ft Step
ladder NOT included

Bio Cart HEPA 10, 120 Volt P/N FG0185 Rev A

MM0200 Manual
Draft Bio Cart 10
3May2015

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Unpacking

DO NOT ACCEPT A PALLET THAT SHOWS VISIBLE DAMAGE. Report damage to driver, Delivery Company and contact Air-Care.

Remove Packing and straps from exterior of Bio Cart and Pallet.

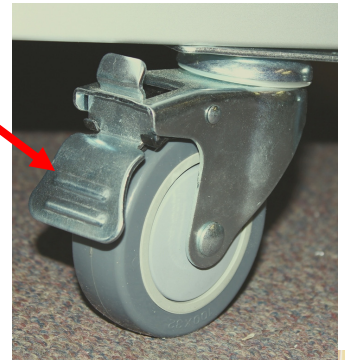
Carefully lift the Bio Cart from Pallet with appropriate Fork Lift and place one smooth, level surface. Be sure Brakes are set on wheels before leaving the Bio Cart unattended.

Inspect the interior of the Bio Cart for any signs of damage and report it to Air Care and your Freight Company immediately.

Testing the Bio Cart upon Arrival

The Bio Cart only has a few mechanical and electronic parts to test. If any of these tests fail, contact Air-Care Immediately. 800-322-9919, 702-454-5515 or info@air-care.com.

1. Test the Brakes on all 4 wheels to be sure they will secure the cart in working position. The Foot actuated lever is a brake for the wheel and a lock for the swivel. Down to Lock, up to unlock.
2. Do NOT plug in the Bio Cart 10 until directed to do so.
3. The Retractable Power cord is on HEPA Filter End of the cart.
 - a. Inspect the GFI Power Plug for Damage
 - b. Pull the power cord out several Feet, give it some slack, and it should lock in place.
 - c. Pull the cord tight again, and allow it to be pulled in and rolled up into the cart.
 - d. Pull it out again, and plug it into a grounded wall receptacle. If the Indicator light does not come on, press the "RESET" button and observe the indicator light is lit. If it does not light, use another wall outlet.



4. Go Inside the Bio Cart to test the electrical system.
 - a. Confirm the interior LED light, Mounted on the bottom of the Power Strip, is on. If it is NOT on reset the Circuit breaker described in “b” below.



- b. If there is no Power, remove the Pre-Filter in the Air scrubber section and press the Circuit Breaker Button on the Retractable Power Cord on the Right side of the Air Scrubber. The button may move slightly even if it is not tripped, but it will snap when reset after it is tripped.



- c. Use the red Rocker Switch on the Control Panel to turn on the Air Scrubber Motor and confirm it starts and runs and the “IN USE” light should also light – but is only visible from outside of the door.



- d. The last control to be tested on the panel is the Power Lift. The Bio Cart has a maximum height 10 feet 2”, so you may not be able to fully raise it at this time if you have a lower ceiling.
 - i. Press the UP (Right Side) of the Rocker switch on the control panel, and the GREEN light will light. The top of the Bio Cart will begin to rise with the yellow and black bellows. RELEASE the switch and it will stop. When raising it to the ceiling, release the button just as it touches the ceiling to prevent any damage to the ceiling or the cart.
 - ii. Press the DOWN (Left Side) of the rocker switch and the RED light will light and the top will lower back to the transporting position. Release the button when the bellows are fully down.

The operational test is now complete.

Safety Information

Air-Care Bio Carts are designed to minimize hazards from dust and debris released from the Ceiling area when work is performed there. The Bio Cart has electrical power and components around which common sense and normal safety procedures must be followed to minimize exposure to any possible dangers.

The Electrical Plug is fitted with a GFI (Ground Fault Interrupter) to shut down power if there is a defective device with improper ground plugged in to the Bio Cart power. Do NOT replace this plug with a normal, non-GFI plug. Do NOT remove the ground pin on the GFI plug. Always plug the power cord into a grounded electrical outlet.

When the Bio Cart is located in the work area, set the Wheel Brakes before stepping inside the Cart to prevent movement that May cause the technician to lose their balance.

Observe all electrical safety procedures when using lights, Power Tools or other electrical devices in the Bio Cart. 120 Volts AC is present in all of the outlets. All power wires are enclosed in protective, insulated tracks or coiled cords. If any wire or covering appears to be damaged, it must be repaired immediately.

The Top of the Bio Cart is lifted and lowered with a Powered actuator. As with all mechanical devices, use caution when operating it and keep all materials clear of the moving parts of the actuator.

If you have any questions regarding the safe and reliable operation of the **Air-Care Bio Cart HEPA 10**, contact Air-Care, 800-322-9919 or info@air-care.com.



Introduction to Portable Containment Carts

During Construction, maintenance or when inspections are performed in an area that may contain dust, dirt or biological contaminants, there is always the possibility for those contaminants to be released into the room and picked up by the air currents and spread to additional areas.

When Major remodeling or repairs are performed it has been standard practice to install a long term, but temporary containment area with spring poles and plastic film using HEPA air scrubbers to filter out the contaminants and exhaust clean air out of the contained area and provide a NEGATIVE PRESSURE in the work area to prevent particulates from escaping from any tiny holes or seams in the structure.

Installing this type of containment actually creates dust hazard during the installation and removal so the area immediately around it must be evacuated of sensitive individuals during that time.

If the work to be done is a simple re-lamping or running a new IT cable, the time to evacuate, build and remove a temporary containment room is much greater than the time to do the actual work. A more efficient way to provide HEPA containment with Negative Pressure for normal work, without evacuation, the Portable Containment Cart was developed. It is rolled into place, plugged in to start the HEPA Air Scrubber, which will immediately start filtering out dust and exhausting clean air while the top is raised up to seal off the area of the ceiling where the work is to be done in a very short period of time. The area is protected while the work is performed, the ceiling tiles or light diffusers replaced. The Top of the cart is lowered just enough to clear the ceiling while it is transported to the next work area. If the next work area is in another room or on a different floor, the top can be fully retracted to move the cart through doors or into an elevator to reach that area.

The Bio Cart has added some features to make this process even more efficient. The Top is raised and lowered with one finger on the Power Lift switch. The air scrubber exhausts clean air out the bottom in a diffused pattern to prevent disturbing paperwork on tables and desks in the area.

Operation of the Air Care Bio Cart HEPA 10

The Bio Cart HEPA 10s are the simplest Portable Containment carts to operate, and they also have more features than other carts. Most of the features can be set to operate in Normal situations and remain in that configuration unless special settings are required for a particular jobsite.

- The Bio Cart is first moved to the area to be contained, located under a ceiling tile or light fixture so that all 4 sides of the Bio Cart are outside that area.



- The wheel brakes should be set.
- Pull out enough Power Cord to reach a nearby Plug. **DO NOT CROSS** a busy hallway with the power cord. If that cannot be avoided, be sure the cord lays flat and use appropriate measures to eliminate it as a trip hazard. Always use a Grounded outlet.
- Step inside the door, close it and press the UP button on the Control Panel, located near the door on the left wall. When the Foam seal touches the ceiling, release the button. If the top is raised too far, the ceiling may be damaged.
- The Air Scrubber Motor operates at Maximum speed when turned on at the Control Panel.
- The Bio Cart 10 bellows reach to 10 ft+, so using your 6 ft or 8 ft step ladder is sufficient. (Ladder NOT included)

- Before opening the ceiling, put on your PPE (safety glasses, Dust mask, disposable clothing, etc).
- Climb the ladder and move the ceiling tile out of the way and store it to the side of the opening. For re-lamping light fixtures, you will not normally need to remove any ceiling tiles.
- If power tools are required, plug them in to the AC sockets above the Control Panel.
- KEEP THE AIR SCRUBBER RUNNING DURING THE ENTIRE PROJECT AND EVEN WHEN YOU EXIT THE Bio Cart. This will maintain Negative Pressure in the Bio Cart and prevent any airborne particles from escaping into the area around the cart.
- Once the job is complete, leave the air scrubber on while the bellows is lowered all the way down.
- Remove any protective clothing that may be contaminated with debris and store in a plastic bag inside the cart.
- Step outside the Bio Cart and close the door securely. It could be locked now.
- If required, install the Top Cover of the Bio Cart and secure with the Velcro straps before it is moved to the next work area. **This Top is NOT durable enough for transporting the Bio Carts in an open trailer or truck at highway speeds!**
- Unplug the 40 ft retractable cord and let it wind back up into the cart.
- Unlock the Wheel Brakes and carefully move the cart to the next work area.

Maintenance

Cleaning

The single most important maintenance activity for the Bio Carts is keeping them clean. Since the Bio Cart will be used in a variety of environments, the degree of cleaning will vary with each environment.

The Cleaning protocol for each area that the Bio Cart will be used must be understood prior to transporting it to those areas. In Operating Room environments, the cart must be totally wiped down with the proper sanitizer inside and out and all wheel surfaces. In other areas, lesser measures are required. Consult with the staff in the planned work areas for detailed Infection Control procedures. Contact Air-Care if you have questions about how to meet specific requirements.

Generally, Cleaning the inside of the cart after each use is recommended. With the Air Scrubber running, the air in the Bio Cart is HEPA filtered. It is recommended that the the air scrubber is left running while vacuuming debris of the floor, shelf, ladder and other surfaces.

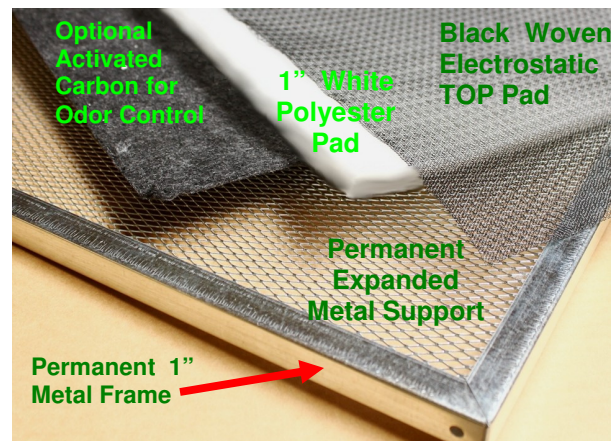
Wiping down the pleats in the bellows with a damp cloth, inside and out, between all pleated surfaces is recommended. A suitable biocide can also be used.

The Wall surfaces should also be wiped down regularly.

Replacing the Pre-Filters.

There are 2 layers of Pre-Filters in the Bio Cart Air Scrubber unit, and an optional Odor Control Carbon Pad as a 3rd layer. These all fit into a removable 12-1/2 x23-1/2 x1" frame with an expanded Metal screen to support the Filter pad materials.

1. First stage is a Disposable Layer of woven Electrostatic material.
2. Second is a Disposable, 1" thick pad of nonwoven polyester.
3. Third is an Odor Adsorbing Carbon Pad that is placed behind the First first 2 Stages Pre-Filter. This Pad cannot be washed, it must be replaced when dirty or the activated carbon has become fully loaded. There is LESS air flow when the Carbon Pad is in place, so unless there is a need to remove odors, it does not need to be installed.



HEPA Filter Replacement

DO NOT REPLACE THE HEPA while at a work site. Unplug the Bio Cart and open the HEPA door by turning the 2 latches on the Door. Slide the old HEPA out and dispose in the proper manner. It is best to place it in a plastic bag and seal it with Tape before removing it from the area. Some contaminants require the HEPA be Doubled Bagged in 6 mil plastic bags and labeled – check your local regulations for disposing of contaminated materials.



Routine Inspection of Electrical Wiring

Observe the wires that are visible such as the Power Lift wires and the “IN USE” light wired and if the insulation appears compromised, have it repaired or replaced immediately.

Routine Inspection of the Wheels

The 4 caster wheels must not be broken or loose. Be sure the Locking mechanism works on all of them.

Handles, Door Lock, Hinges, Window and Cart Frame.

Test the Door Handle for secure latching when closed and verify that the lock works from both inside and outside. The hinges must not be damaged or missing parts. If the Gaskets are worn, broken or missing, contact Air Care for replacement materials.

Check the window and frame for loose or missing screws and replace immediately. If the windows become so scratched that the operator cannot see through them clearly, call Air-Care and order replacement panels.

Part List

Description	Bio 10 p/n
Complete Bio Cart HEPA 10, 120 Volt version	FG0185
Operator Manual	MM0200
HEPA air Filter, 99.97% at 0.3 microns 18x24x6	F0046
Pre-Filter, Pad and Frame 12.5 x 23.5 x1 with Poly Ester and Polypropylene pads	SABio0019
Pre-Filter Pad Set (Package of 5 sets)	SABio0156
Pre Filter, Disposable Carbon Pa, 11.75" x 22.5"	SABio0120
Wheels, 4" Swivel with Total Lock (Combined Swivel lock and Brake) x 4	COM0547
Power Lift Unit, 45 Inch travel (Progressive) OR	BIO0064
Power Lift Unit, 60" Firgelli with 2 Sliders	SABIO0039
Window, Hinged pass through with knob	SABio0023
Interior Light	BIO0030
Power Strip, with 6 outlets	Bio0031
Document Holder, unbreakable Polycarbonate	Bio0011
Retractable Power Cord, 14 ga, x 40 feet	Sabio0116
Power Supply for Power Lift, (12 VDC) for Progressive Lift only	COM0155
Power Supply for Power Lift (30 VDC) Call for Firgelli lift	Call
Control Panel Assembly	Sabio0125
Bellows assembly, 32 x 27.5 x 45" w/ 3" pleats	Bio0058
Door Lock assembly	Bio0008
Door Hinges	Bio0006
HEPA door plate	Sabio0121
Side, end and door Panels (Melamine/Duramine)	Call
Gasket Material, 3/4" wide x 1/4" thick, Adhesive backing and clear plastic cover	COM0030
Air Scrubber Motor and Fan assembly	DLTC0004
Power Lift Control Switch	Bio0042
Replacement wiring, connectors and terminal strips	Call
Bio Cart Insert	MM0196
BioCart Gate Fold	MM0197
Top Foam Seal, 2" x 2" x 64" for sides	Bio0028
Top Foam Seal, 2" x 2" x 32" for ends	Bio0029
"IN USE" Light	SABIO0048
Cable pulling pass through	SABio0108
Coiled extension for "IN USE" Light	Bio0021
Control Panel DECAL Bio Cart 10	SABIO0063
Top Dust Cover (coroplast with Velcro straps)	SABio0123
First Air Kit	OPTIONAL
Work Light, 120 Volt Halogen	OPTIONAL
Work Light, 5- LED headband with Magnetic holder	OPTIONAL
Disposable Clothing	OPTIONAL
Shoe Covers	OPTIONAL
AAA Batteries for 5- LED light	OPTIONAL
Safety Glasses	OPTIONAL
N95 Dust Mask	OPTIONAL

Specs: Bio Cart Model Comparison

The Bio Cart comes in two models that meets the requirements of any service professional. The fully equipped Bio Cart 13 reaches ceiling heights of 13 feet and comes with a number of features that can make the job easier or take less time than other competing models provide. If you're in the market for a more affordable option the Bio Cart 10 doesn't have as many bells and whistles as the Bio Cart 13 and reaches heights of 10 feet for more standard ceilings.

(* Denotes An Exclusive To Air-Care Bio Carts)

Bio Cart 13		Bio Cart 10
73" L x 32" W x 77" H (inches)	Size Collapsed:	73" L x 32" W x 77" H (inches)
73" L x 32" W x 158" H (inches)	Size Fully Extended:	73" L x 32" W x 120" H (inches)
445 lbs with ladder and tool box & Filters	Weight:	400 lbs
Extruded aluminum frame with walls with Duramine skin with easy to clean white thermal bonded surface. Aluminum, power lift mechanism.	* Construction:	Extruded aluminum frame with walls with Duramine skin with easy to clean white thermal bonded surface. Aluminum, power lift mechanism.
One hinged, lockable, as a tool pass through from the outside and one fixed window.	Windows:	One hinged, Lockable, as a tool pass through from the outside.
Cable feed though with 4 rollers and a heavy bristle air seal.	Cable Pass Through:	Cable feed though with 4 rollers and a heavy bristle air seal.
2- stage power lift with foam seal at top, for ceilings from 7 ft to 13 ft 2 inches high.	* Top Lifting Mechanism:	Power lift with foam seal at top, for ceilings from 7 ft to 10 ft 2 inches high.
Fire retardant black and yellow vinyl that is 3 inches high when collapsed and 90 inches extended.	* Bellows:	Fire retardant black and yellow vinyl that is 3 inches high when collapsed and 45 inches extended.
Aluminum frame with a white thermal bonded skin that is 27 inches W 66, inches H, locking from inside or outside.	Door:	Aluminum frame with a white thermal bonded skin that is 27 inches W 66, inches H, locking from inside or outside.
4 inches dia x 2 inches wide non-marking rated at 900 Lb (for 4) with total lock for wheel brake and swivel.	* Wheels:	4 inches dia. x 2 inches wide non-marking rated at 900 Lb (for 4) with total lock for wheel brake and swivel.
880 CFM @ 300 Watt – 62 Db at max speed with variable speed control capable of reaching p to 6 air changes per minute.	* Air Scrubber Fan:	880 CFM @ 300 Watt – 62 Db.
Removable Frame with Disposable Electrostatic Pad set. Carbon odor adsorber pad. HEPA 99.97% @0.3 µm.	* Filtration:	Removable Frame with Disposable Electrostatic Pad. Optional Carbon odor adsorber pad. HEPA 99.97% @0.3 µm.

Bio Cart 13		Bio Cart 10
Externally visible LED "IN USE" light with switch.	Caution Sign:	Externally visible LED "IN USE" light with switch.
Document holder on door.	Document Protection:	Document holder on door.
2 LED light strips provide indirect lighting.	Lighting:	1 LED light strips provide indirect lighting.
Power outlet strip at top of cart and dual outlets for recharging tools on tool box shelf	Power Outlets:	Power outlet strip at top of cart
Built in with a 40 foot long retractable power cord with GFI plug and roll up guide mechanism and circuit breaker.	* Power Cord:	Built in with a 40 foot long retractable power cord with GFI plug and roll up guide mechanism and circuit breaker.
Control panel with lift up-down switch and air scrubber fan speed control plus interior light switch and "IN USE" light switch.	* Controls:	Control panel with lift up-down switch and air scrubber fan switch that also turns "IN USE" Light ON.
(5) N95 dust masks, (5) sets of disposal clothing including shoe covers, first aid kit, (2) pairs of safety glasses.	* Personal Protective Equipment:	Optional
2 UVGI germicidal lamps in HEPA chamber.	* UVC/UVGI Lighting	Not Included
15 ft. fiberglass 3 section extension ladder (6 ft closed) that Meets OSHA requirements for electrical safety and Class A rated for 300 lbs.	* Ladder:	Not Included. Will accommodate user provided, 6 ft or 8 ft Step Ladder.
HEPA door switch for fan and UVC/UVGI.	* Interlock:	Not Included
3 drawer locking steel tool box.	* Tool Box:	Optional
150 Watt halogen work light. 5 LED portable head band light with magnetic holder and batteries.	* Accessories:	Optional

Compliance Information

Bio Cart HEPA 10 complies with all relevant health and safety guidelines for portable, negative air, dust containment carts used in healthcare facilities such as ICRA 1 through 4, and others listed below.

Because the occupants of healthcare facilities are often more susceptible to contaminants introduced into the air by routine maintenance work to and above the ceilings, the Center for Disease Control (CDC) has created strict guidelines for how this work must be performed while minimizing the risks to sensitive individuals in its guidelines for Infection Control in Healthcare Facilities (ICRA).

Activities such as testing fire and smoke sensors, adding or rerouting wires and fiber optic lines for IT equipment, cleaning air system components, changing electrical wiring, all must include consideration for controlling the amount of dust and infectious particles that might be disturbed and introduced into the air.

The Bio Cart HEPA 10 is a portable containment cart that extends to a 10 ft 2" ceiling. The Bio Cart 10 provides negative pressure and air exchange rates to comply with CDC guidelines to contain dust and infectious particles with a HEPA air scrubber. The clean air is exhausted out the bottom as a diffused flow so it cannot disturb documents on desks. The Bio Cart complies with the CDC's ICRA 1-4 Guidelines, and also meets fire control guides for using flame retardant materials and is able to quickly be relocated from fire evacuation routes.

Built to Complies, Standards, and Recommendations

ASHRAE 52.2:2007

ICRA Class 1-4 Compliant

OSHA 1910.1000 Air Contaminants: Nuisance Dust

OSHA IMIS

- 9135, 9130

OSHA/ACGIH Respirable Dust Compliant

CDC/HICPAC Guidelines for Environmental Infection Control in Health-Care Facilities

- 3.b, 3.b, 3.d.iii, 3.d.iv

- Part IV Appendix B. Air,

VI.C.1. Environmental controls

- VI.C.1.a, V.I.C.2, V.I.E.



LIMITED WARRANTY

Bio Cart HEPA 10

Air-Care warrants this product to be free from defects in materials and workmanship to the original purchaser for a period of Five (5) years from the date of purchase. Components listed below are excluded from this Five year period and are covered for periods described below:

Blower Motor	1 Year
Bellows	1 Year
Cord Reel	90 Days
Lift Motor & Assembly	Progressive 1 year, Firgelli 90 Days
Ladder, 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** transferrable.

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 nature.

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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