



BIO CART HEPA 10

USER GUIDE





BIO CART HEPA 10



Bio Cart 10 with telescoping ladder

Bio Cart HEPA 10, 120 Volt P/N FG0185 Rev A
MM0200 Manual, Bio Cart 10

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INTRODUCTION

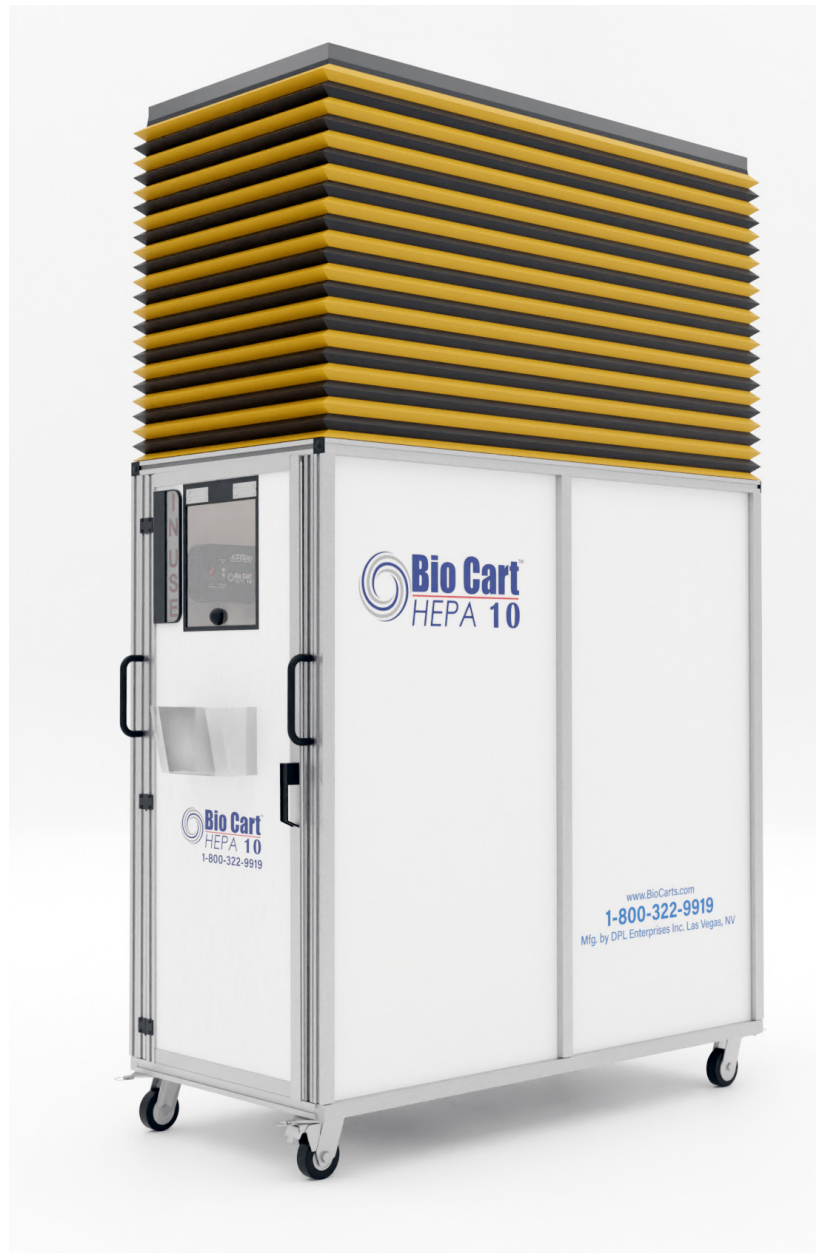
During Construction, maintenance or when inspections are performed in an area that may contain dust, dirt or biological contaminants, there is always the possibility for those contaminants to be released into the room and picked up by the air currents and spread to additional areas.

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.



UNPACKING

DO NOT ACCEPT A PALLET THAT SHOWS VISIBLE DAMAGE.

- Report damage to driver, delivery company
 - Take photos of the damage
 - Refuse the shipment
 - Contact Air-Care at 800.322.9919 or cs@air-care.com.

Remove packing and straps from exterior of Bio Cart and pallet. Do not dispose of packing until you have completed your inspection of the Bio Cart inside and out. If the Bio Cart needs to be returned due to damage, you will need the packaging to repack.

Carefully lift the Bio Cart from pallet with appropriate fork lift and place on 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.

Control Panel



1. AC power with (2) USB connectors
2. Bellows up and down
3. Air scrubber on/off

TESTING

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 cs@air-care.com.

1. Test the brakes on both wheels with locks to be sure they will secure the cart in working position. The foot actuated lever is a brake for the two wheels. The other two wheels have swivel locks.

Press 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 grounded 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 GFI wall receptacle.

4. Go Inside the Bio Cart to test the electrical system.

a. Confirm the interior LED light 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.

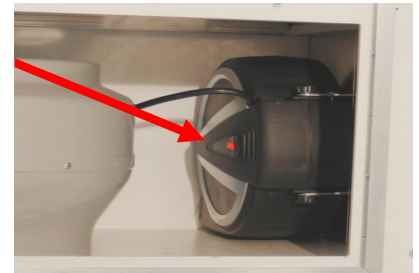
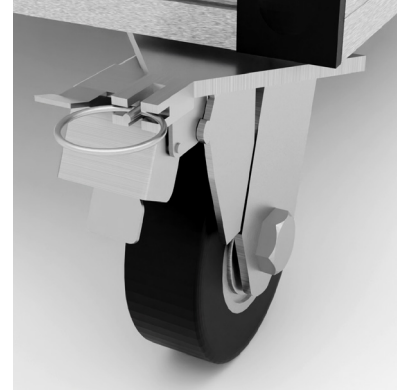
c. Use the red rocker switch on the control panel to turn on the air scrubber motor and confirm it starts and runs and the "IN USE" light should also light – but is only visible from outside of the door.

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 on the rocker switch on the control panel. 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 on the rocker switch 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.



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 grounded plug. Do NOT replace this plug with a normal, non-GFI plug. Do NOT remove the ground pin on the grounded plug. Always plug the power cord into a grounded GFI electrical outlet.

When the Bio Cart is located in the work area, set the wheel brakes and swivel locks 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.

Operator's Manual



OPERATION

The Bio Cart HEPA 10 is 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 job site.

- 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+.
- 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 in 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.



"Operation" Continued on Page 9...

OPERATION

- 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 Cart in an open trailer or truck at highway speeds!
- Unplug the 40 foot retractable cord and let it wind back up into the cart.
- Unlock the wheel breaks 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 air scrubber is left running while vacuuming debris of the floor, shelf, ladder and other surfaces.

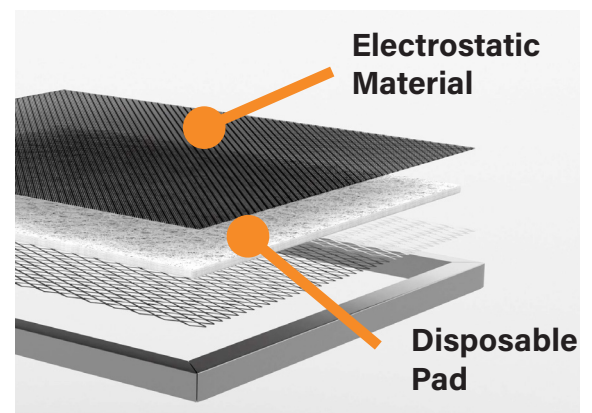
Wiping down the pleats in the bellows with a damp cloth, inside and out, between all pleated surfaces is recommended. A suitable biocide can also be used.

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. These all fit into a removable 12x24x1" 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 non woven polyester.



"Maintenance" Continued on Page 10...

MAINTENANCE

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 window becomes so scratched that the operator cannot see through them clearly, call Air-Care and order replacement panels.



PARTS LIST

DESCRIPTION	PART NUMBER
Complete Bio Cart HEPA 10, 120 Volt version	FG0185
Operator Manual	MM0200
HEPA air Filter, 99.97% at 0.3 microns (SABio0049)	F0046
Pre-Filter, Pad and Frame 12.5 x 23.5 x1 with Poly Ester and Polypropylene pads	SaBio0019
Pre-Filter Pad Set (Order a package of 5 sets)	SaBio0156
Wheels, 2 Swivel Locks,	Bio0328
Wheels, 2 Wheels with Brakes	Bio0293
Power Lift Unit	Bio0188
Window, Hinged pass through with knob	Sabio0023
Interior Light	-----
Document Holder, unbreakable Polycarbonate	Bio0011
Retractable Power Cord, 14 ga, x 40 feet	Sabio0116
Power Supply for Power Lift, (12 VDC)	-----
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	SaBio0201
Power Lift Control Switch	Bio0042
Replacement wiring, connectors and terminal strips	Call
Bio Cart Insert	MM0196
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	SaBio0284
Cable pulling pass through Bio0009	SABio0108
Coiled extension for "IN USE" Light	Bio0021
Control Panel DECAL Bio Cart 10	SABIO0063
Top Dust Cover (coroplast with Velcro straps)	Bio0279
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

SPECIFICATIONS

SPECIFICATION	DESCRIPTION
Accessories	Optional. 150 Watt halogen work light. 5 LED portable head band light with magnetic holder and batteries.
Air Scrubber Fan	880 CFM@300 watt • 62 Db
Bellows	Fire retardant black and yellow vinyl that is 3 Inches high when collapsed and 45 Inches extended.
Cable Pass Through	Cable feed through with heavy bristle air seal.
Caution Sign	Externally visible LED "IN USE" light.
Construction	Extruded aluminum frame and walls made of white melamine with a thermal coating skin provide a durable and easy to clean surface.
Control Panel	Control panel with lift up/down switch and air scrubber fan speed control.
Document Protection	Document holder on door.
Door	Aluminum frame with a white thermal bonded skin that is 27 Inches W, 66 Inches H, locking from inside or outside.
Filtration	Permanent and washable electrostatic pre-filter. 99.97% 0.3 Micron HEPA.
Ladder	15 ft. telescoping ladder
Lighting	Interior white LED lighting.
PPE	Optional.
Power Cord	Built In 40 ft. long retractable power cord with grounded plug, roll up guide and circuit breaker.
Power Outlets	2 power outlets with USB charger on control panel.
Size Collapsed	73 L, 32 W, 77 inches H.
Size Fully Extended	73 L, 32 W, 120 Inches H.
Tool Box	Optional
Top Lifting Mechanism	Power lift with foam seal at top, for ceilings from 7 ft to 10 ft 2 in high.
Weight	720 lbs with ladder, tool box and all air scrubber filters installed.
Wheels	4 Inches dia x 2 Inches wide non-marking. Two with wheel brakes and two with swivel locks.
Window	One hinged, lockable, as a tool pass-through from the outside.

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 Comply with, 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, VI.C.2, VI.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 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 UPS 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.

Division of D.P.L. Enterprises Inc.

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