

CAP™ Clean Air Plant CAP-90

Owner's Manual

Pre-Loaded With BioOx®

BioStack® inside

**MAKE SURE THESE INSTRUCTIONS ARE CAREFULLY READ AND
UNDERSTOOD BEFORE STARTING OR OPERATING CAP.**

Designed and marketed by

**Air & Water Solutions, Inc.
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www.cleanairplant.com

Congratulations!

You are the owner of a CAP™ Clean Air Plant, the first bio-hygienic system for air. Compact and portable, CAP units employ an advanced bio-filtration technology that uses biological oxidation to clean air in real time.

A. Safety guidelines

READ SAFETY GUIDELINES BEFORE OPERATING UNIT

- Do not operate in explosive atmospheres. Fan motor is not explosion-proof.
- Do not operate if pump or fan cords are damaged.
- Do not allow children to climb on unit. Anchor unit to wall or support if necessary.
- To prevent accidental knockdown, keep away from general foot traffic, children, and pets. Secure to a solid support if necessary.
- Do not tip. Operating while unbalanced or while lying on side can result in electrical shock.
- Do not stick fingers or objects through fan grid or remove top fan assembly when fan is moving or plugged in. Moving fan may cause injury.
- Do not place objects on top of unit.
- Do not move the CAP unless the electric cords for the fan and the pump have been disconnected and water has been emptied.
- Do not operate CAP on wet surface. Never handle the pump or fan motor plugs and cords with wet hands or when standing on wet surface.
- During operation, maintain the water level of the reservoir. Water should not exceed one inch below water inlet opening and should not be allowed to empty or go below water pump level. If there is not enough water to recirculate in the reservoir, the pump may be damaged and the cleaning efficiency reduced.
- Do not stop water circulation by the pump. Stagnant water can cause unpleasant smell and a harbor for insects. When not in use, drain and allow to dry for storage. Just add water and start up when ready.
- Do not intentionally introduce any form of pollutant directly into unit, i.e. smoke, hazardous or non-hazardous liquid, solvents, solids, sprays, etc. to test the unit's capabilities. The only substances that can be added directly to the CAP unit are: water and BioOx® enzymes.
- Wash hands with soap and water after handling BioOx® enzymes.

B. General information

You have purchased a Clean Air Plant (CAP) consisting of a fan motor, a spiral cartridge element (BioStack®) enclosed in a plastic cylinder body, a submersible water pump, and a water reservoir. Prior to shipping, your unit has been tested and BioOx® enzymes have been added. Use only BioOx® enzymes, supplied by Air & Water Solutions, Inc., in your CAP™ Clean Air Plant.

How it works :

The CAP is an air cleaning unit, which biologically oxidizes organic chemicals and contaminants and removes dusts and other particles from the air. This unit is specially designed for the removal of **indoor air pollutants**. The CAP has been loaded with BioOx® enzymes (biomass) which are able to eliminate a broad spectrum of organic pollutants as their carbon source (oxidation).

In order for the CAP to operate efficiently, it must be provided with water and oxygen for biological oxidation to take place. Oxygen is sufficiently supplied from the contaminated air stream, drawn in to the unit. Water is pumped from the reservoir and sprayed over the top of the BioStack® cartridge where it continually washes the cartridge element.

While the CAP is operating, the amount of water is gradually reduced by evaporation due to heating from pump operation, dry air from outside, and heat generation from bio-oxidation of pollutants. Because of this loss of water, you must add water to the CAP periodically.

C. Installation

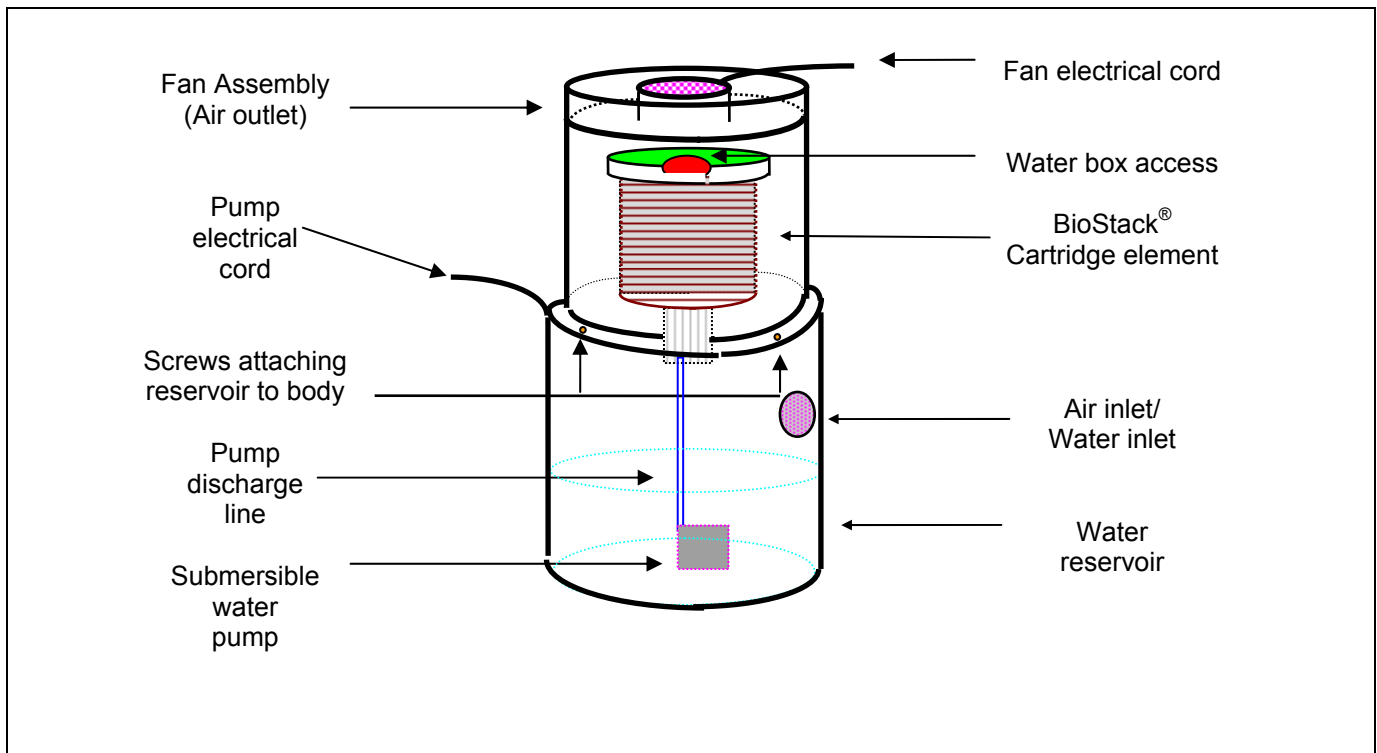
Find a proper place to install the CAP. It should be:

- In a good location to draw in major air pollutants.
- Away from frequent movements of people, especially children.
- Away from dangerous or flammable sources.

If your CAP has an automatic watering option:

Automatic watering attachment should be connected to a water source by a licensed plumber. Connection and attachment should be inspected periodically to assure proper working order and to avoid possible overflow.

D. Schematic of the CAP-90



E. Operating procedure

1. Add water to the CAP90 at the Water Inlet. Fill to above the pump level but below the water inlet level. Plug the water pump cord into your electric outlet (120 volts). Make sure water is recirculating by checking the water level or by hearing the sound of water flowing. (The level should drop slightly as water enters the cartridge).
2. Plug the fan motor cord into the electric outlet (120 volts). Place hand near fan, making sure air is flowing out of the sides in a horizontal direction. The CAP should now be operating automatically.
3. Maintain the water level above the water pump but below the water inlet. (Do not exceed the water inlet level because some water may overflow out of the CAP.)
4. **Check water level daily. Add water periodically before the water level drops below the water pump level.** Allowing the water to run dry will damage the pump.
5. Add BioOx[®] enzymes regularly. We recommend adding 4 oz. every month, depending on your particular air quality. During peak periods, add more BioOx or add BioOx more often (every week).

F. Adding BioOx[®] enzymes

We recommend adding BioOx[®] enzymes to your CAP according to the schedule below. Use only BioOx[®] enzymes in your CAP. To order BioOx[®] enzymes, call Air & Water Solutions at (877) 661-5192 (in New Jersey: 973-661-5192).

BIOOX SCHEDULE Add BioOx [®] Enzymes according to schedule	
CAP-90	Add 4 oz. every month

To add BioOx[®] enzymes to your CAP unit:

1. Shake bottle containing BioOx[®] enzymes well.
2. Mix BioOx[®] with approximately 1 gallon water.
3. Pour into CAP water inlet. Be sure not to overflow reservoir. Empty water from reservoir before adding BioOx[®] if required.
4. Be sure pump and fan are running.

G. Troubleshooting for the CAP

If water flow slows or ceases OR if water consumption decreases to almost nothing: check for a malfunctioning pump.

1. Unplug the water pump and the fan from electrical outlet.
2. Lift off fan assembly.
3. Plug water pump in and look into water box access opening to see if water is flowing.

If you observe an “aquarium smell”:

1. Check for obstruction in water circulation line or malfunctioning pump. (See instructions above).
2. CAP may need thorough cleaning. (See instructions for CAP cleaning in Maintenance Section).

3. Add 4 or more ounces of BioOx® enzymes to water and add to unit.
4. If odor persists: flush cartridge. (Refer to flushing instructions in Maintenance Section). Repeat for the next 3 to 4 times that you add water to your CAP unit.

H. Vacation

When leaving for a few days: turn off pump and fan.

When not in use for a week or longer: disconnect fan and pump plugs from the electric outlet. Drain out water from the reservoir.

When no in use for several months: Drain out water from reservoir. Allow to dry. You can store the CAP for years in this manner. When ready to use, refill with water and startup. Unit may need thorough cleaning and addition of BioOx® enzymes.

I. Maintenance

Monthly: In heavily contaminated areas, flush the cartridge once per month.

Every six months (or sooner) depending on your particular indoor air quality: we recommend cleaning your CAP. (Salons regulated for fire hazards need to clean their CAP every 3 months. Check with your local fire department for any additional requirements). Accumulation of sludge and particles in the reservoir can cause damage to the pump and lower the unit's cleaning ability. Add two to four ounces of BioOx® enzymes after cleaning.

To maintain your CAP: ***Do not dismantle the BioStack® cartridge element. Doing so will destroy the cartridge and void the warranty. For assistance, call Air & Water Solutions, Inc. at (973) 661-5192.***

To flush/clean your cartridge:

1. Unplug fan and pump cords from electrical outlet.
2. Lift and remove fan assembly from top of unit.
3. Remove red cap at top of water box.
4. Pour water from bucket through top of unit. Repeat several times. (Be sure that reservoir does not overflow.)

If there is sludge or solids at bottom of reservoir:

1. Detach BioStack® cartridge element and body of unit from reservoir by unscrewing screws with wing nuts.
2. Pour water and accumulated sludge down toilet or other suitable drain.
3. Clean out reservoir with scrub brush or sponge.
4. Reattach BioStack® and body to reservoir.
5. Add water and BioOx® enzymes and start up unit.

To clean fan:

1. Unplug fan assembly from electrical outlet.
2. From bottom of fan, clean each individual blade with cloth.

J. Questions or comments regarding the CAP should be directed to:

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