CWP™ Clean Water Plant

Model CWP1000

Preloaded with BioOx® enzymes

BioStack® cartridge inside

Operating Instructions

2009

MAKE SURE THESE INSTRUCTIONS ARE READ CAREFULLY AND UNDERSTOOD BEFORE STARTING OR OPERATING CWP

Distributed and Services By:

Bio-Cascade, Inc
P.O. Box 258
79 Readville St.
Readville, MA 02137
www.Bio-Cascade.com

Congratulations!

You are helping the environment and saving money with your new CWP1000.

A. Safety Guidelenes

- Do not operate in explosive atmospheres. While fan motor is totally enclosed (air-over motor is air cooled) and water pump is submersible, UNIT IS NOT RATED FOR CLASS 1 DIV 1 or 2 restricted areas. Hazardous location motors are available for use. Please contact us if you have any questions.
- Never handle the pump or fan motor plugs and cords with wet hands or when standing on wet surface.
- Handle biomass and wastewater with gloves. Wash hands when finished.
- Do not move the CWP unless the electric cords have been disconnected from the fan and the pump.
- During the CWP's operation, maintain the water level of the tank or reservoir (this may be done with an automatic watering and level control). If there is not enough water to recirculate in the tank or reservoir, the pump may overheat or be damaged.
- Do not stop water circulation by the pump indefinitely. When not in use, drain and allow to dry for storage. Just add water and BioOx, and start up when ready.
- Keep away from general foot traffic to prevent accidental knockdown. Secure fan to CWP body as shown in Installation Section. Secure CWP to a solid support to prevent accidental tipping over. When operating CWP on top of a recirculation tank, **secure fan and cartridge well**, to prevent falling or vibrational damage. Do not operate while unit is tilted or lying on its side.

B. General information

You have purchased a Clean Water Plant (CWP) consisting of:

- An enclosed-motor fan with 110v single phase motor
- a spiral sheet cartridge (biosupport),
- a water reservoir
- a plastic cartridge cylinder (body).
- additionally, BioOx® enzymes have been installed by Air & Water Solutions, Inc.

C. How it works:

The CWP is a water cleaning unit for the biological oxidation of organic chemicals, the stabilization and precipitation of heavy metals, and the destruction of dissolved gases. This unit is specially designed for the removal of **water pollutants**. The CWP requires a small amount of BioOx enzyme biocatalyst (biomass) which contains a variety of microorganisms which are able to eliminate a broad spectrum of organic compounds. These microorganisms are harmless. An MSDS Sheet is supplied at the end of this manual. The biomass is added into the CWP with water circulation right after you install it. It takes about 24 hours of water recirculation for the biomass to be immobilized on the cartridge.

In order for the CWP to operate efficiently, it must be provided with water and oxygen for aerobic oxidation. Oxygen is sufficiently supplied from the air stream, drawn in by the fan. Water is supplied to the top of the cartridge by recirculating with the pump, from the reservoir or tank.

While the CWP 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 the oxidation of pollutants. Actually, a very small amount of water is produced by the oxidation of hydrogen in pollutants and the condensation of saturated air. Because the loss of water is much more than the production of water in the CWP, there is constant water loss.

D. Installation

1. Find a proper place to install the CWP.

- It should be in a good location to draw in air.
- Away from frequent movements of people (especially children) and animals, and from dangerous or flammable sources.
- It should be secured to a solid support to prevent knockdown.

2. Insert 1 ½ inch elbow. Hand-tighten only. SEE FIGURE 1.
3. Unpack pump and install pump discharge line.
4. Connect pump discharge line to Water Box via 1 ½ inch elbow. Insert fan assembly and secure with four set screws. Plu in fan and pump to run.

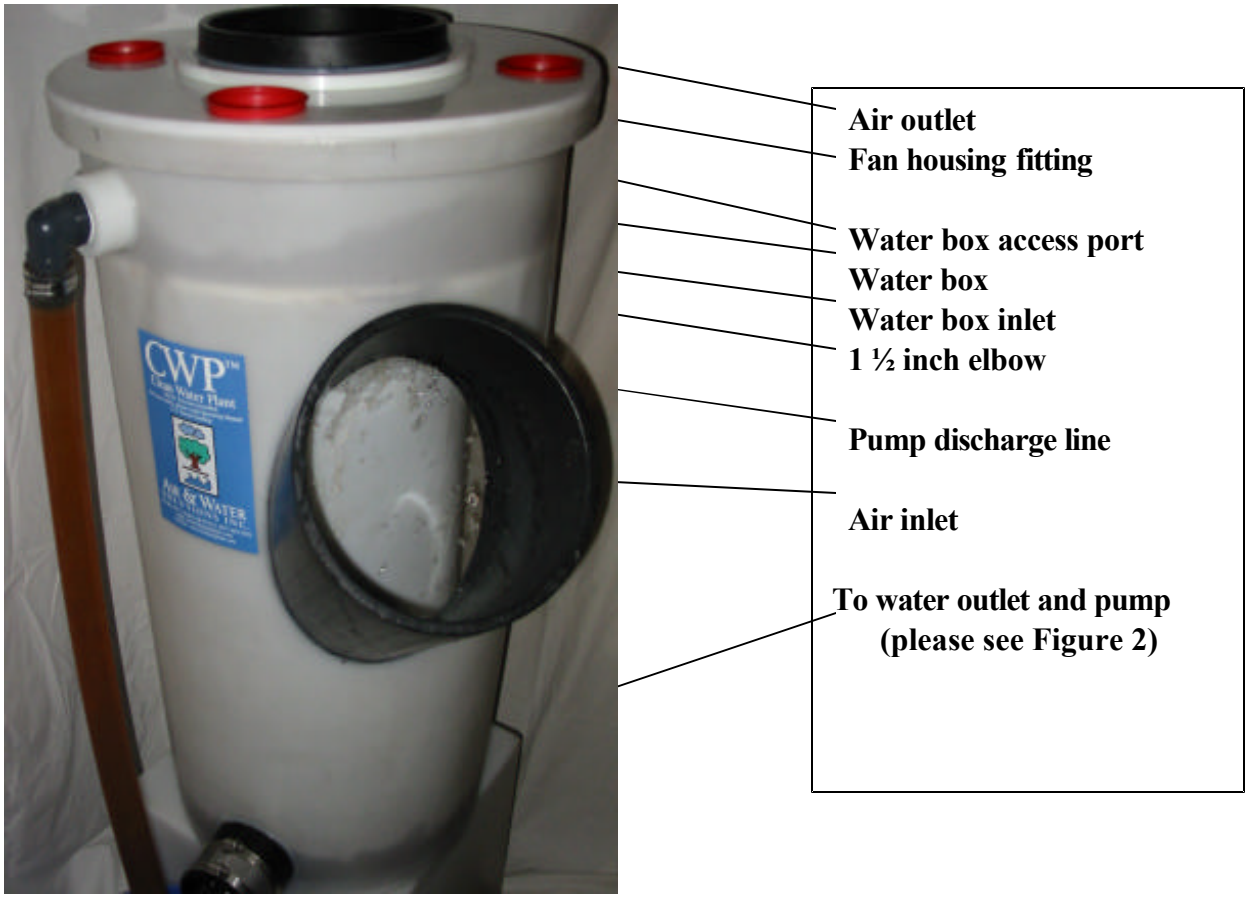

Figure 1. CWP600 and CWP1000 General Layout.

Figure 2. Example of treated water re-entering tank.

Figure 3.

Fan and housing assembly

Set screw locations (four).

FIGURE 4. CWP™ Clean Water Plant models

Recommended configuration for batch cleaning of contaminated water.

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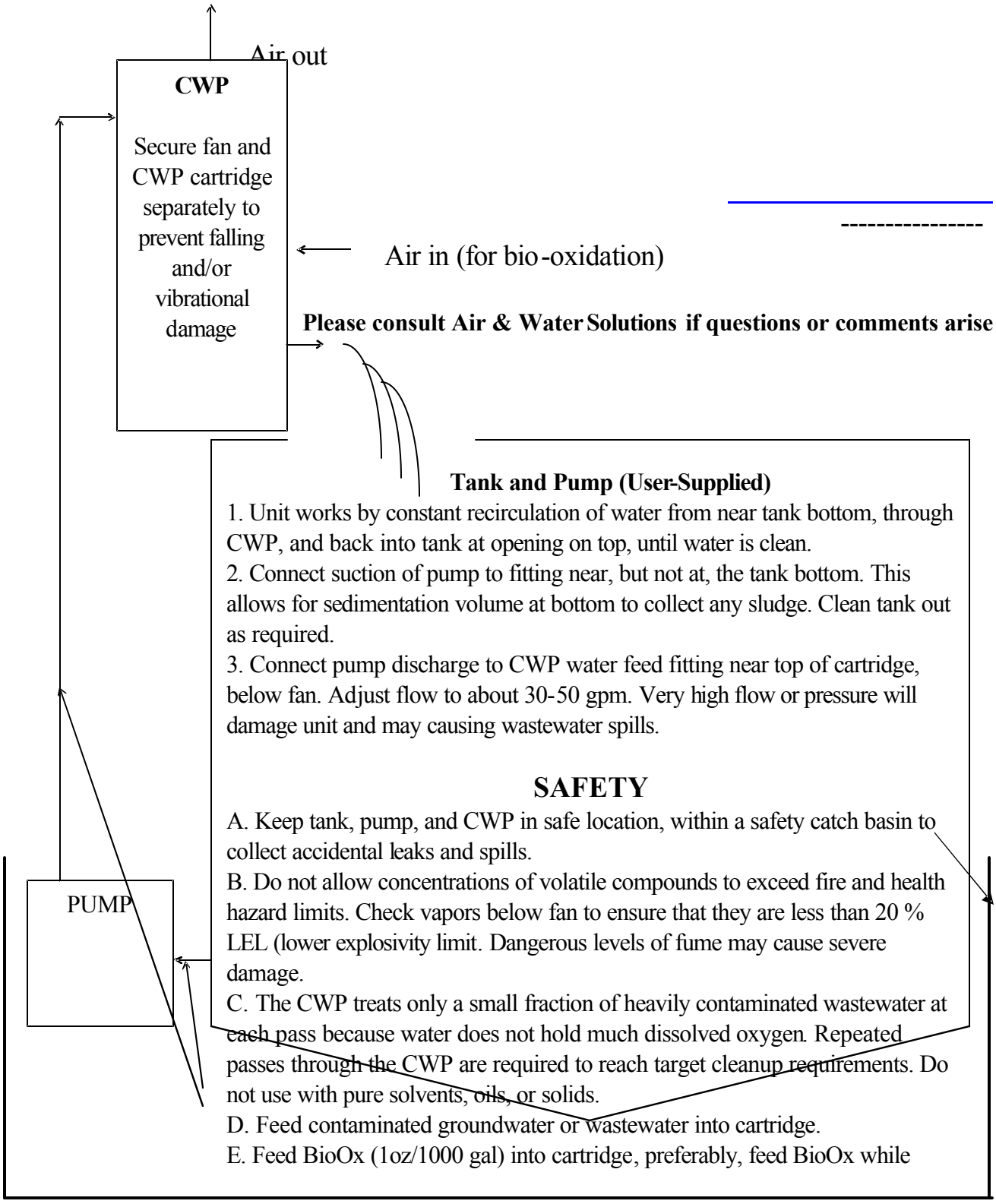

E. Maintenance

Add 16 oz. of BioOx per week, depending on usage and loading.

Every 2 months (or as needed):

Clean out the water in the CWP by flushing with clean water. Cleaning Water box holes through the access ports (Figure 2) with a shop-vac wet vacuum helps in case of plugging.

Add ½ gallon of BioOx® per tank cleanup.

If you have any question about the CAP use, please contact us:

Bio-Cascade, Inc.
PO Box 258
79 Readville St
Readville, MA 02137

Air & Water Solutions, Inc. **Material Safety Data Sheet (MSDS)**	**BioOx®**

Section 1 – Chemical Product and Company Identification

BioOx®

Air & Water Solutions, Inc., P.O. Box 627, Nutley, New Jersey 07110. 973-661-5192.

Section 2 – Composition, Information on Ingredients

Water: 95%
Biomass: 5%

Section 3 – Hazards Identification

Water not considered hazardous.
Biomass is non-pathogenic, non-genetic engineered consortium of microorganisms and enzymes used for cleaning air, water, and soil. Non-flammable. Non-explosive.

Section 4 – Fire and Explosion Hazard Data

Non-combustible liquid.

Section 5 – Reactivity Data

Non-reactive liquid.

Section 6 – Health Hazard Data

Acute health effects: none
Chronic health effects: none
Exposure limits: none

First Aid Measures:
Ingestion: Call a physician, seek medical attention for further treatment, observation and support after first aid.
Inhalation: If breathing has stopped, give artificial respiration immediately.
Skin: wash with soap and water

Section 7 – Precautions for Safe Handling and Use

Wipe up spills with towel.
Store on shelf.

Section 8 – Exposure Controls, Personal Protection

Non applicable.

Section 9 – Physical and Chemical Properties

Water: 95%. Biomass: 5%. Melting Point: 0 C. Boiling Point: 100 C.

Section 10 – Stability and Reactivity

Shelf life: indefinite.

Section 11 – Toxicological Information

Acute effects: none
Chronic effects: none

Section 12 – Ecological Information

Naturally found in the environment.

Section 13 – Disposal Considerations

Non-hazardous, non-toxic, non-flammable liquid.
Consult with state and local regulations

Section 14 – Transport Information

Not regulated

Section 15 – Regulatory Information

Not listed.

Section 16 – Other Information

Consult your copy of the Owners Manual for additional information. This Materia lSafety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Air & Water Solutions, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Air & Water Solutions, Inc. assumes no legal responsibility for use or reliance on this data.