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› DC HOUSE 5.76CFM Pond Aeration System 500P-2 User Manual

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Model: 500P-2

1. INTRODUCTION

This manual provides detailed instructions for the safe and efficient installation, operation, and maintenance of your DC HOUSE 5.76CFM Pond Aeration System. This system is designed to enhance water quality in outdoor ponds by increasing dissolved oxygen levels, which helps maintain a healthy aquatic environment and reduces issues like algae blooms and fish stress.

ENJOY CLEANER WATER QUALITY



Figure 1.1: Visual representation of pond water quality improvement with aeration. The left images show algae blooming and muck accumulation, while the right images depict reduced algae and clearer pond conditions.

2. SAFETY INFORMATION

Please read and understand all safety warnings and instructions before operating this product. Failure to follow these instructions may result in electric shock, fire, serious injury, or property damage.

- Always disconnect power before performing any maintenance or installation.
- Ensure the power source matches the voltage requirements of the compressor (110V).
- Do not operate the compressor in wet conditions or submerge it in water. It is designed for outdoor use but should be protected from direct heavy rain.
- Keep children and pets away from the operating unit.
- Use only approved wiring and connections. Professional installation for electrical wiring is recommended if you are unsure.
- Inspect all components regularly for damage. Do not operate if any part is damaged.

3. PACKAGE CONTENTS

Verify that all items listed below are present and undamaged upon unpacking.

- 1x High-Efficiency Air Compressor (3/4 HP, 550W)
- 1x 100-foot Weighted Nylon Air Hose (3/8-inch diameter)
- 2x 10-inch High-Density Air-Hole Diffusers
- Installation Instructions
- Necessary fittings (e.g., brass leaking pressure valve, outlet connectors)
- Foot pads and mounting hardware
- Air filter



Figure 3.1: Overview of the DC HOUSE Pond Aeration System components.

4. SPECIFICATIONS

Brand	DC HOUSE
Model Number	500P-2

Power	3/4 HP (550W)
Maximum Air Flow Rate	5.76 CFM (Cubic Feet Per Minute)
Voltage	110V
Max Pond Size	Up to 3 acres
Max Pond Depth	Up to 50 feet
Compressor Dimensions (L x W x H)	12" x 6" x 10" (approx. 10.4"L x 5.0"W x 7.5"H for main unit)
Item Weight	49.3 pounds (22.43 kg)
Material	Aluminum alloy shell, Stainless Steel, Corrosion-resistant plastic base
Noise Level	65 dB (continuous operation)
Hose Length	100 feet
Hose Diameter	3/8-inch (Inner 9mm, Outer 14mm)
Number of Diffusers	2
Diffuser Size	10 inches



Figure 4.1: Detailed specifications and construction features of the compressor unit.

STRONG AIR VOLUME: 5.76CFM

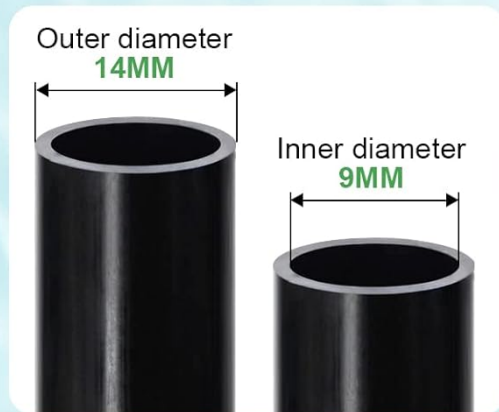
The motor draws only 2.12 amps and pumps 5.78CFM of air.



*No electricity in the water is completely safe for fish, pets or humans.

Figure 4.2: Compressor unit dimensions.

100FT PREMIUM SELF-WEIGHT AIR HOSE



Thickened
pipe wall



Corrosion
resistant



Long
service life

Figure 4.3: Specifications of the 100-foot weighted air hose.

5. INSTALLATION GUIDE

Follow these steps carefully to install your pond aeration system.

5.1 Compressor Assembly

1. **Install Foot Pads:** Attach the provided foot pads to the base of the compressor unit using the screws and nuts. These pads help reduce vibration and noise.
2. **Install Air Filter:** Securely attach the black air filter to the designated inlet on the compressor. Ensure it is tightly fitted to prevent debris from entering the compressor.
3. **Connect Brass Fittings:** Install the brass leaking pressure valve and the outlet connectors to the compressor. Ensure all connections are secure to prevent air leaks.
4. **Electrical Wiring:** The compressor requires electrical wiring. You will need to prepare extra wiring caps and a triangular plug. Connect the compressor's wires to the plug according to local electrical codes. If you are not experienced with electrical wiring, consult a qualified electrician.

INSTALLATION

Install the foot pad first



Install the black air filter



Install the brass leaking pressure valve and the outlet



Figure 5.1: Step-by-step guide for compressor assembly.

Figure 5.2: Comprehensive installation steps for the compressor unit, including electrical wiring.

5.2 Air Hose and Diffuser Placement

5. **Connect Air Hose:** Attach the 100-foot weighted nylon air hose to the compressor's outlet. The weighted hose is designed to sink to the bottom of the pond.
6. **Prepare Diffusers:** Connect each of the two 10-inch high-density air-hole diffusers to the ends of the air hose. You may need to cut the 100-foot hose into two appropriate lengths depending on your pond's size and desired diffuser placement. For optimal aeration, place diffusers in deeper areas of the pond.
7. **Position Diffusers:** Carefully lower the diffusers into the pond. The weighted hose will help them settle on the pond bed. Ensure they are positioned to provide even oxygen distribution across the pond.

HIGH DENSITY AIR HOLE DIFFUSERS



Figure 5.3: Air hose and diffuser components.

6. OPERATION

Once installed, the aeration system is ready for operation. The goal is to gradually increase the oxygen content in your pond.

1. **Initial Start-up:** Plug in the compressor. The system will immediately begin to pump air through the diffusers, creating bubbles in the pond.
2. **Gradual Aeration Schedule:** To avoid shocking the pond ecosystem, especially if the pond has been stagnant, gradually increase the aeration time over several days. A suggested schedule is provided below:
 - **Day 1:** 1/2 Hour
 - **Day 2:** 1 Hour
 - **Day 3:** 2 Hours
 - **Day 4:** 4 Hours
 - **Day 5:** 8 Hours
 - **Day 6:** 16 Hours

- **Day 7 onwards:** 24 Hours (Continuous operation for optimal results)

3. **Monitoring:** Observe your pond's water quality and fish behavior. You should notice clearer water and more active fish as oxygen levels improve.

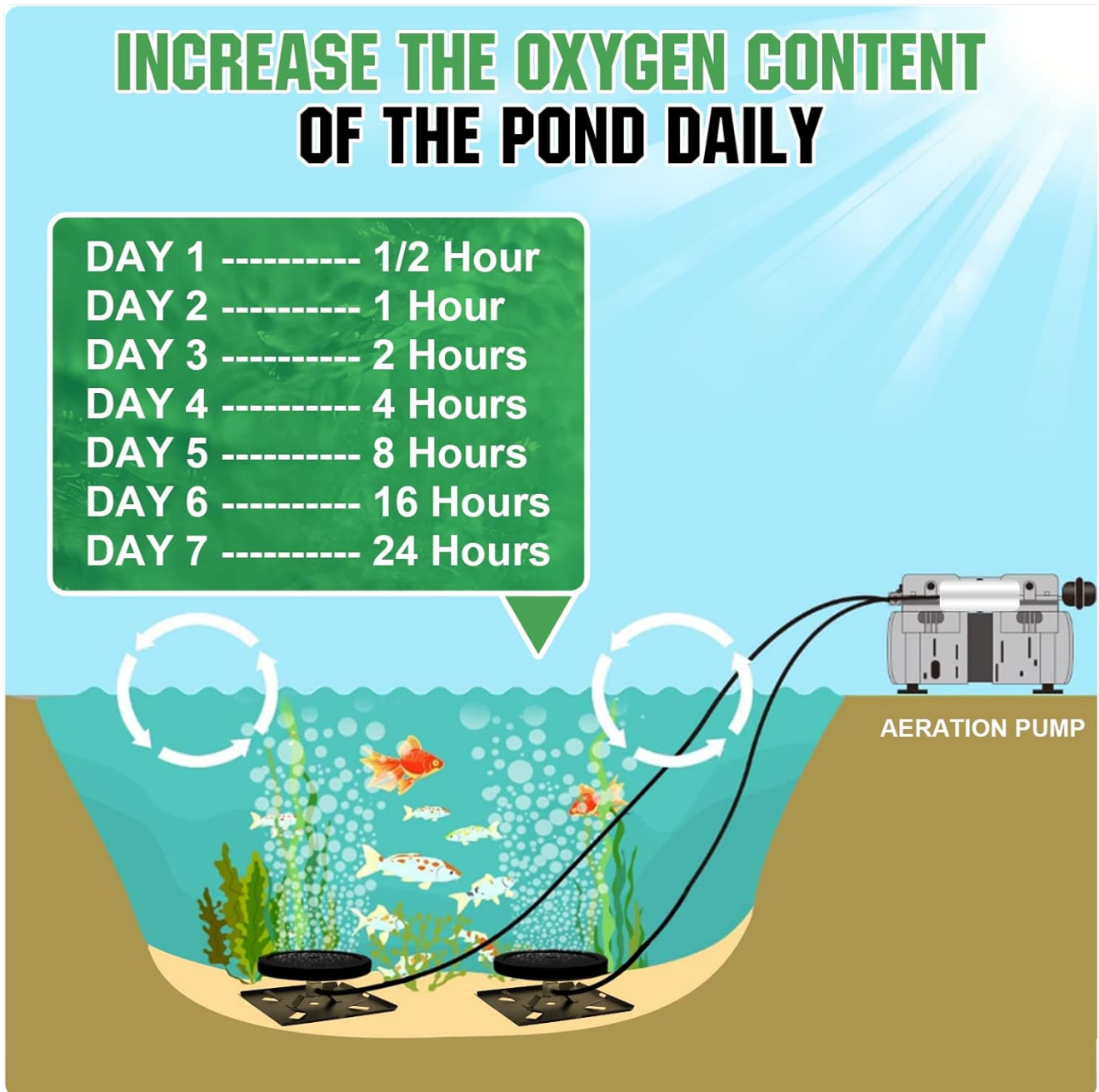


Figure 6.1: Recommended daily aeration schedule for increasing pond oxygen content.

7. MAINTENANCE

Regular maintenance ensures the longevity and efficiency of your aeration system.

- **Air Filter Cleaning/Replacement:** Periodically check the air filter for dirt and debris. Clean or replace it as needed to ensure unrestricted airflow to the compressor.
- **Diffuser Inspection:** Occasionally inspect the diffusers for blockages or damage. Clean any accumulated debris to maintain optimal bubble production.
- **Hose Inspection:** Check the weighted air hose for any kinks, cracks, or damage that could impede airflow.
- **Compressor Housing:** Keep the compressor housing clean and free from dust and debris. Ensure adequate ventilation around the unit.
- **Winterization (if applicable):** In regions with freezing temperatures, consider removing the compressor and diffusers

from the pond during winter to prevent damage from ice. Store them in a dry, protected area.

8. TROUBLESHOOTING

Refer to this section for common issues and their potential solutions.

- **No Air Flow / Weak Air Flow:**

- Check power connection to the compressor.
- Inspect the air filter for blockages; clean or replace if necessary.
- Check the air hose for kinks, leaks, or obstructions.
- Ensure diffusers are not clogged with debris.

- **Excessive Noise or Vibration:**

- Ensure the compressor is placed on a stable, level surface.
- Verify that the foot pads are correctly installed.
- Check for loose components or fittings.

- **Pond Water Not Clearing:**

- Ensure the system has been running for the recommended duration (at least 7 days for continuous operation).
- Verify diffusers are properly placed in deeper areas and are not clogged.
- Consider if the system is appropriately sized for your pond (this model is for up to 3 acres).
- Environmental factors (e.g., excessive nutrient runoff) may require additional pond management strategies.

9. WARRANTY AND SUPPORT

DC HOUSE provides a one-year after-sales service for this product. If you encounter any problems or require assistance, please contact DC HOUSE customer support. Refer to your purchase documentation for specific contact details or visit the official DC HOUSE website.

Contact Information: Please refer to your product packaging or the DC HOUSE official website for the most current customer support contact details.