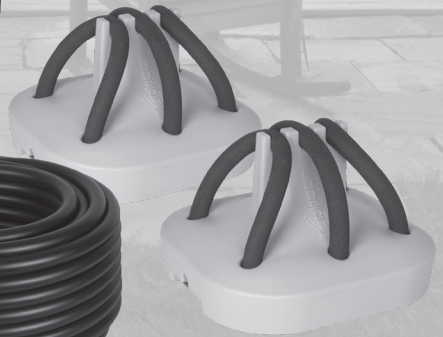




Operating Manual



Thank you for purchasing an Atlantic Typhoon Aeration System! Please refer to this manual for proper operation and maintenance procedures, to keep your system performing at peak efficiency.

To avoid an accident do not use the Typhoon Aeration System in any way other than as described in this manual. Please note that the manufacturer cannot be held responsible for any accidents arising because the product was not used as prescribed.

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Prior to Operation and Installation

Before the aeration system is installed, perform the following checks:

- Inspect the aeration cabinet, cords and components for any damage that may have occurred during shipping.
- Check the model number to make sure it is the product that was ordered and verify that all components have been received.

Caution

- DO NOT operate this product under any conditions other than those for which it is specified. Failure to observe these precautions can lead to electrical shock, product failure or other problems.
- Follow all aspects of electrical codes when installing the Typhoon Aeration Cabinet.
- Power supply must be within 110-120 volt range and 60 Hz.
- Never use an extension cord with this product. The Typhoon compressor must be plugged directly into an electrical outlet.
- The aeration cabinet is weather-proof, not water-proof. Do not submerge the cabinet. The cabinet must be installed in a level, well drained area.
- The aeration cabinet must be installed on a gravel base or concrete pad within four feet of the power source.

CAUTION: THE TYPHOON AERATION CABINET IS TO BE USED IN A CIRCUIT PROTECTED BY A GROUND FAULT CIRCUIT INTERRUPTER.

WARNING: RISK OF ELECTRIC SHOCK - THIS PRODUCT IS SUPPLIED WITH A GROUNDING CONDUCTOR AND GROUNDING-TYPE ATTACHMENT PLUG. TO REDUCE THE RISK OF ELECTRIC SHOCK, BE CERTAIN THAT IT IS CONNECTED ONLY TO A PROPERLY GROUNDED RECEPTACLE PROTECTED BY A GROUND FAULT CIRCUIT INTERRUPTER (GFCI).

Electrical Safety

- Electrical wiring should be installed by a qualified electrician in accordance with all applicable safety regulations. Incorrect wiring can cause compressor failure, electrical shock or fire.
- Typhoon Aeration Cabinets must operate on a designated, 110/120 volt circuit.
- Typhoon Aeration Cabinets must be protected by a Ground Fault Circuit Interrupter (GFCI).
- Typhoon Aeration Cabinets must be plugged into a properly grounded, three-pronged outlet.

Safety Instructions

- Do not lift, lower or handle the aeration cabinet by pulling on the electrical cord. Make sure the electrical cables do not become excessively bent or twisted and do not rub against a structure in a way that might damage it.
- Always turn off power or unplug the aeration cabinet and allow the compressor to cool prior to performing any service or maintenance.

Installation

Determine the optimal location for your Typhoon Aeration Cabinet. The compressor must be plugged directly into an outlet, protected by a Ground Fault Circuit Interrupter (GFCI), with a minimum 15 amp dedicated circuit breaker. Location of the electrical service and cabinet near the water's edge will allow the direct connection of the weighted tubing to the cabinet outlet tubing; however care must be taken to protect the system from flooding. The electrical service and cabinet may also be located remotely, away from the pond or lake, with Typhoon Direct Burial Tubing installed between the cabinet and the weighted tubing at the water's edge. The cabinet should be placed on a solid base of concrete or compacted gravel, elevated to avoid flooding and water damage.

To prepare the diffusers for placement in the water, remove the rubber fill plug and fill the diffuser with coarse sand or gravel (4-6lbs for each shallow water diffuser and 8-10lbs for the deep water diffuser). Replace the fill plug. Remove the strain relief clamp, slide the 3/8" weighted tubing onto the barbed fitting on the diffuser and secure with the included hose clamps. Replace and tighten the strain relief to firmly clamp the tubing in place. Place the diffuser on the bank where the weighted tubing will enter the water, and carefully unroll the tubing to eliminate any spiraling. If possible, unroll it in the opposite direction of the path you wish it to take underwater, to serve as a visual guide during diffuser placement. Allowing the tubing to warm up in the sun will make it more pliable and easier to deploy.

For deployment by boat, bring the craft to the bank where the weighted tubing will enter the water and set the diffuser in the boat. Pull the tubing out behind you in a straight line until you reach the intended placement site. With the air compressor running, lower the diffuser into the water using a cord run through the weep hole in the top of the diffuser.

Placement Tips

The further below the water surface the diffuser is set, the more water the rising bubbles will be able to circulate, so it is a good idea to place the diffusers as deep as possible. Determine depth by sounding with a weighted rope or depth finder on a boat. Refer to the charts below for depth/area coverage and place the diffusers accordingly.

AREA COVERED BY SHALLOW WATER DIFFUSER			
DEPTH	@2'	@4'	@6'
Circle Diameter	40'	55'	70'
Diffusers per Surface Acre	16	12	8

AREA COVERED BY DEEP WATER DIFFUSER				
DEPTH	@8'	@12'	@16'	@20'
Circle Diameter	100'	120'	150'	200'
Diffusers per Surface Acre	4	3	2	1

In natural or earth bottomed ponds and lakes, where snags or heavy vegetation might make it difficult to deploy or remove the equipment for maintenance, you may wish to clear a path across the bottom by dragging a cinder block attached to a stout rope from one side to the other. Multiple passes may be required to clear the bottom of debris or snags. **WARNING – DO NOT USE THIS METHOD** to clear a path in water features with a synthetic liner, to avoid causing costly damage.

Final Connections

The sections of blue outlet tubing provided inside of the cabinet will be used to connect the manifold to the diffuser tubing. Make sure there is room under the cabinet to feed the blue tubing down through the holes in the base of the cabinet, just under the manifold. Attach the tubing to the manifold by pushing it into the corresponding push-lock valve.

Find the 1/2" male thread x 3/8" insert fitting and the 1/2" female thread x push lock. Use Teflon tape or thread sealant on the male threads and screw the two fittings together. The push lock side of the fitting will go onto the blue tubing coming out of the cabinet.

Once the diffuser has been deployed, trim the weighted tubing to the desired length and connect to the 3/8" barbed fitting on the blue outlet tubing exiting the bottom of the aeration cabinet. Secure with the included hose clamps.

For remotely located cabinets with 1/2" direct burial tubing to the water's edge, remove the 1/2" male thread x 3/8" barbed fitting from the blue manifold outlet tubing and replace it with the 1/2" male thread x push-lock fitting included with the direct burial tubing. This will enable attachment of the direct burial tubing to the cabinet. Run the direct burial tubing from the cabinet to the ponds edge. Connect the 3/8" barbed fitting to the 1/2" female thread x push-lock fitting and connect to the other end of the direct burial tubing. Connect the weighted tubing to the barbed fitting and secure with the included hose clamp.

Operation

IMPORTANT! DO NOT RUN YOUR AERATION SYSTEM 24 HOURS A DAY IMMEDIATELY AFTER INSTALL. PLEASE READ BELOW BEFORE OPERATING.

Larger bodies of water, especially those in greatest need of aeration, are often stratified, with cooler water at the bottom and much warmer water at the surface. Because of the different density of cool and warm water, a physical barrier called a thermocline forms, blocking circulation and the passage of gasses between the two layers. The deeper cooler water, cut off from the air, becomes deoxygenated and begins to accumulate toxic methane and sulfur dioxide. If a significant amount of this lifeless, toxic water is mixed into the rest too quickly, total oxygen levels plummet, the water fouls, and everything in the water suffers. These "turnovers" can kill everything in a pond.

Aeration eliminates the threat of turnover by keeping the water constantly in motion, however, **starting the system up too quickly can actually cause turnover.** In order to avoid mixing too much oxygen-poor water into the water column too quickly, **aeration systems must be started up slowly.**

Run the aeration system for only 15 minutes the first day, 30 minutes the next, one hour the third day, doubling the time every day for the first week of operation, to avoid turnover.

After the first week the system can be run 24 hours a day, bear in mind that the tremendous circulation that will develop slowly over the next weeks or months will bring sediments and nutrients up from the bottom, potentially triggering massive algae blooms. In order to avoid the continuation of the blooms as dead algae simply decay and add their nutrients back into the water, it is critical to start a beneficial bacterial program that will remove nitrogen from the system as a gas, eventually cleaning and clearing the water and even removing organic sludge completely.

Atlantic Water Gardens offers a complete line of highly concentrated bacterial formulations to consume sludge, clear water, reduce odors and improve water quality, along with safe, easy to use pond dyes to help shade out unwanted vegetation.

Maintenance and Inspection

Regular maintenance and inspections are recommended to verify that the system is operating properly. If any abnormal conditions are noticed, refer to the section on Troubleshooting and take corrective measures immediately. Always unplug the aeration cabinet and allow the compressor to cool prior to performing any service or maintenance.

Monthly – Inspect/clean the air inlet filter on the rear of the cabinet. Adequate air flow is imperative to maintain proper operating temperatures. Pull and release the pressure relief valve to verify that it is operating correctly (deep water aeration cabinets only).

Every 3 months – Clean or replace the compressor intake filter. Allow the filter to dry thoroughly before returning to operation. Replace if needed.

Every 6 months – Purge the diffusers. Turn off the flow adjusters one at a time until only one is open, sending the total air flow to one diffuser. Allow to run for several minutes and repeat for each diffuser.

Every 12 – 24 months – Install a compressor refresh kit to ensure optimal performance. Piston seals are a wearable items and loose efficiency over time. The duration between servicing will vary depending on the installation.

Winterization

The Typhoon Aeration Cabinet is weather-proof, but can be stored inside to further protect it during the winter. Disconnect the weighted tubing from the compressor cabinet by releasing the push-lock fitting on the blue outlet tubing. Cover the ends of the push-lock fittings to keep them clean and dry over the winter months. Remove the cabinet and store it indoors.

Operating the aeration system during the winter months will maintain a hole in the ice around the diffusers and also affect the thickness of the ice in the surrounding areas, possibly creating hazardous and dangerous conditions. Owners assume all liability when operating Typhoon Aeration Systems in the winter months.

Warranty

Typhoon Aeration Cabinets and Compressors carry a two-year limited warranty. Typhoon Aeration Diffusers and weighted tubing carries a five-year limited warranty. This limited warranty is extended solely to the original purchaser commencing from the date of original purchase receipt and is void if any of the following apply:

- The aeration cabinet was not run on a dedicated circuit.
- The cord(s) have been cut or altered.
- The aeration cabinet has been misused or abused.
- Serial number tag has been removed.

Warranty Claims

In case of warranty claims, contact the place of purchase to return/exchange defective components. Warranty claims must be accompanied by the original receipt.

Troubleshooting Guide

Always unplug the aeration cabinet and allow the compressor to cool prior to performing any service or maintenance. Failure to observe this precaution can result in a serious accident. Before servicing, carefully read through this instruction booklet. If the problem persists, contact your dealer.

Problem	Possible Cause	Possible Solution
Pump and fan will not start	Power is off	Turn power on/Test or reset GFCI outlet
	Power failure	Check power supply or contact local power company
	Power cord(s) is not connected	Connect power cord
	Voltage drop / Overload	Check/Replace the GFCI (Ground Fault Circuit Interrupter)
Pump stops after starting	Pump is overheating	Check that the fan is running
	Air inlet filter is blocked	Clean or replace the inlet filter
	Power/Current overload	Check or replace GFCI
Diminished air flow	Dirty air inlet filter	Clean or replace inlet air filter
	Dirty compressor air filter	Clean or replace air filter
	Valve has been moved	Check the valve setting
	Piston seals are worn	See Maintenance section



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