CONGRATULATIONS: Since 1998, airBOOST™ pond & lake-bottom diffused aeration systems have been successfully used throughout the United States, Mexico and Canada in virtually every aquatic environment imaginable. In short, you have purchased one of the most efficient, cost effective and durable pond and lake-bottom diffused aeration systems on the market today. Your airBOOST™ aeration system has been designed and manufactured with only the highest quality components and materials available to deliver years of trouble free performance. Each airBOOST™ diffused aeration system is proudly MADE IN THE USA!

WHAT AERATION CAN DO FOR YOU:

- Complete water column “entraining” and de-stratification
- Increase dissolved oxygen levels throughout the ecosystem
- Increases naturally occurring and added biological activity
- Releases harmful gases such as hydrogen sulfide and ammonia
- Reduces aquatic weed growth when used with anaerobic bacteria
- Eliminates or reduces potential for summer or winter fish kills
- Reduces or eliminates foul odors
- Keeps ice free areas open above diffusers in northern climates

SAFETY CONSIDERATIONS: Please read this section very carefully before operation your airBOOST™ pond and lake-bottom aeration system. Failure to follow these recommendations may result in personal injury or even death to you or another. It is your responsibility to read this section. Additionally, failure to follow certain procedures and safety considerations may void the system warranty agreement.

WARNING! This product creates a drowning danger during periods of time when ice may form on a lake or pond. It is the consumer’s responsibility to mark areas around the pond or lake to WARN OTHERS such as snowmobilers, ice fishermen, skiers etc. of potential hazards due to thin ice. Operating in freezing conditions on an ice covered lake will cause large open water areas above, in proximity to and even long distances away from the diffuser location if a current is present.
WARNINGS!

- Always connect the cabinet to a properly grounded outlet. If you are in doubt, have a qualified electrician inspect the site.
- Always locate the cabinet in an area ABOVE THE HIGH WATER MARK and if a support is used it must be adequate to support the weight of the unit.
- The airBOOST™ aeration systems are equipped with a GFCI breaker inside the cabinet ON THE 115v UNITS ONLY! If you purchased a 230v model YOU MUST SUPPLY YOUR OWN BREAKER for safety. This will typically be a breaker located at a power panel.
- Never use an extension cord between the cabinet power cord and an electrical outlet.
- Always locate the cabinet away from irrigation systems.
- Do NOT allow anything to rest on any power cord.
- Do NOT place the cabinet in an area where people may be stepping on the power cord.
- Never override or “rig” any of the electrical or mechanical parts associated with this system.
- Never attempt to work on the system if the unit is plugged into a power supply. Some compressors have auto-restart! to protect them should they become hot. If you are working on a compressor while in this mode, it may restart causing you great harm.
- Never allow children or pets to play in proximity to these units.
- Never push objects of any kind into the fan guard or cooling louvers as this may injure you or cause damage to the system.
- Never operate the system if unusual noises or odors are detected. Disconnect the unit and call your airBOOST™ representative.
- Never perform any maintenance while the unit is plugged in.
- Always wear a Coast Guard approved life vest when working in or near water and follow all safety guidelines.

MAINTENANCE SAFETY: Always use parts that are supplied or approved by airBOOST™. Use of other parts may result in a hazardous situation, poor performance and may void the warranty. Do not use corrosive cleaners on the cabinet, diffusers or any other component of your system. Always unplug the unit before performing any maintenance. Never operate if the cord is frayed or damaged. Always allow your system to “depressurize” if you start, stop and then restart the system in a short period of time. Simply open the system wide control valve [see page 9] to release all air in the system, then, restart. Failure to do so may cause damage to your compressor(s).
PREVENT A FISH KILL: Upon receiving your new airBOOST™ aeration system it is very important to follow some basic directions in order to prevent a fish kill in your pond or lake. Once your airBOOST™ aeration system is installed we recommend that you gradually, over a period of 2 to 3 weeks, increase operating time to allow the pond or lake time to adjust to the new system.

- Once installed turn the system on initially for only 30 minutes on the first day then turn it off for the remainder of the day
- Restart the system on day 2 and operate for approximately 1 hour
- Again, turn the system off for the remainder of the day
- After day 2, repeat this cycle each day by doubling the operating time from the day before until you can operate your system 24/7/365. This will take about a week or so.

TYPICAL ECOSYSTEM CHANGES: Once your system is installed you may see some dramatic changes. It is not unusual for your pond or lake to take on some temporary discoloration. This will be a result of adding motion and current to your pond or lake thus disrupting some of the lighter particulates on the pond/lake bottom and suspending them into the water column. These particulates often settle out with a week or two. Also, you may see “Mat Algae” come to the surface as it detaches from the bottom of your pond. This may continue for some time but it is all part of the aquatic “rehab” your pond or lake must undergo. Adding aquatic dyes and anaerobic bacteria can dramatically shorten the period of time your pond or lake will take to become a healthy thriving aquatic ecosystem. See our “POND PATROL” products at our website www.aerationsupply.com

INSTALLATION TOOLS & MATERIALS: Your airBOOST™ aeration system is very easy to install. Many of our pond and lake aeration systems can be installed in under an hour. Of course multiple systems or systems with significant amounts of weighted aquaLINE™ air-supply tubing will take more install time, but once you have set up one cabinet and installed one diffuser with self weighted aquaLINE™ air supply tubing, you will see how easy and quick full installation will take. You will need:

- A length of nylon or other braided rope that is 2x longer than your deepest diffuser location in your pond or lake
- Utility razor or box cutter type knife
- 3’ level
- Phillips head screw driver
- Shovel
- Boat (if your pond or lake is larger)
- Small “pea” rock, sand or other similar substance to fill your diffuser basin to give it ballast to sink to the bottom of your pond
STANDARD SYSTEM MATERIALS LIST: Upon receiving your airBOOST™ aeration system, inspect each component for any damage from shipping and be sure all materials have arrived from the shipper. Your system will come with:

- Compressor cabinet with air compressor, cooling fan, electrical wiring, air manifold, adjustable valves and pressure gauge all of which are conveniently pre-installed in the cabinet
- airBASE™ self sinking diffuser assemblies
- Any necessary clamps and connectors
- Complete installation manual
- aquaLINE™ self sinking air supply tubing (sold separate)

GETTING TO KNOW YOUR SYSTEM: Depending on which airBOOST™ aeration system you purchased your system will be equipped with these major system components:

- The airBOOST™ compressor cabinet
  - Made from high grade aluminum making it rust free, lightweight and extremely durable. Baked on powder coated paint finish
  - High impact polyethylene mounting pad
  - Fully gasketed lid for noise suppression
  - Removable lid for easy maintenance of your system
  - Integrated high capacity exhaust blower removing excess heat from the cabinet
  - Full louvered venting system on one side of the cabinet allowing fresh air into the cabinet
  - Internal air manifold with pressure gauge and valves
  - Dual locking clasps
  - 5-year warranty on cabinet
### The Thomas air compressor

- 1/3 hp double WOBL piston compressor
- Designed for oil free continuous duty operation
- Multi-purpose operations deep or shallow water
- Integrated cooling fans to increase longevity
- Thermal overload compressor protection
- Custom air intake silencer/muffler
- Vibration isolators for quiet operation assistance
- Available in 115v or 230v
- 1-year manufacturer’s warranty

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<tr>
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<th>115v Model:</th>
<th>230v Model:</th>
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<tbody>
<tr>
<td></td>
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<td>2.2 Amps 60hz Models</td>
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<td>Permanent Split Capacitor</td>
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<tr>
<td>Full Load RPM [revolutions/minute = 1,670]</td>
<td>Full Load RPM [revolutions/minute = 1,427]</td>
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### The airBASE™ self sinking diffuser assembly

- Made from a heavy-duty, thick-walled HDPE polyethylene material to ensure long life and superb performance
- Multiple EPDM membranes for synergistic aquatic lifting capacity
- Integrated check valve to prevent water back-up into lines
- Self-sinking ballast basin
- Self-cleaning circular membranes
- 5-year warranty
  - (excludes circular membranes)

![Shallow Water Series Diffuser](image1)
![Deep Water Series Diffuser](image2)
**INSTALLING THE airBOOST™ AERATION SYSTEM:** Follow these simple steps to correctly set-up your new airBOOST™ aeration system from aerationsupply.com

- **Step 1:** Locate an area near a power source to place your cabinet and compressor. The system is generally inaudible at distances greater than 25’ so take that into consideration when placing your cabinet. The area that you choose should be flat. If not, add some class-5 gravel or other material to make a flat pad. Compact the site as much as possible to minimize any settling of the material. Place the cabinet on the pad. Use your level to assure the site is flat.

- **Step 2:** If your system is located more than 100’ from your pond you probably purchased our “remote valve station”. If so, you will need to dig a trench between the cabinet and the edge of the pond where the remote valve station will be located. If this is the case use EXTREME CAUTION before digging the trench. Many states required that you have locates done for all utility lines before you dig. Place the 3/4 inch non-weighted tubing in the trench and bury. Connect one end to the barbed fitting coming out of the cabinet and the other end to the barbed fitting coming out of the remote valve station. If your system is located near the pond skip step 2 and go to step 3.

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**DANGER**

**YOU MUST LOCATE ALL ELECTRICAL, GAS, PHONE AND OTHER UTILITIES BEFORE YOU DIG! IT IS THE CONSUMERS RESPONSIBILITY TO ENSURE THEIR SAFETY AND THE SAFETY OF OTHERS AT THE SITE**

- **Step 3:** Next, locate all you airBASE™ diffuser assemblies. Prepare your airBASE™ diffusers for installation shown below. A comprehensive airBASE™ install guide is found in each airBASE™ box. Follow those directions and come back to this manual for start-up procedures, testing and balancing the system.
**START-UP PROCEDURE:** Once your airBOOST™ compressor cabinet and airBASE™ diffuser assemblies are in place we can prepare for system start-up, test the system for proper operation and then balance the diffusers individually and system wide.

- **Step 1:** Before starting the aeration system, be sure all the black and chrome valved outlets are in the “full open” position. (see right) Failure to do so will over pressurize the compressor and could damage it.

- **Step 2:** Make sure that the blower shroud is in the “full open” position. (see right) Failure to do may cause overheating of both the blower and the complete system.

- **Step 3:** Be certain the union is tight. (see right) This is one portion of the system you will need to disconnect when maintenance is required on your compressor.

- **Step 4:** Check your air filter to be sure it is on tight. (see right) You will need to periodically remove this to clean the air filter. Replacement filters are available when required.
Step 5: You are now prepared to start the aeration system. Plug the unit into the appropriate voltage receptacle. If the unit does not start immediately check to see if the GFCI circuit breaker has been tripped inside the cabinet on the 115v models. If so, unplug the unit, push the “reset” button and try again. Once the system starts it will take several minutes for the airlines to “charge”. Once charged you will begin to see the “boiling” action of the bubbles (see above) coming to the surface. The boiling action can vary widely depending on the distance the diffuser is from the compressor. This is why we “balance” the system. (Note initial pressure reading upon start-up)

**BALANCING THE airBOOST™ AERATION SYSTEM:** Balancing the aeration system is accomplished in two ways. You can make “system wide” adjustments and/or “individual air-line” adjustments.

You may make “system wide” adjustments by using the variable pressure relief valve. (see right) To allow air (pressure) to “bleed” or be released from the system, rotate the black knob on the top of the air manifold in a “counter-clockwise” direction. You will see the pressure gauge needle adjacent to the knob begin to move downward showing you that pressure is being released from the entire system. You may want to do this during winter operations so the “boiling action” and thus circulation within your pond or lake is reduced during winter. To increase air (pressure) system wide, turn the black knob in a “clockwise” direction. When doing so you will see the pressure gauge adjacent to the knob move higher. **CAUTION!** Be sure not to rotate the black knob “clockwise” to far and increase the pressure to much. You can damage the system or possibly even cause a rupture of an air line. The aeration system comes with the black knob pre-set to the max air pressure allowed. Look at the numbers on the valve and note what it is set at.

Turn the knob (shown above) either “clockwise” or “counter-clockwise” to make system wide adjustments to
your aeration system. Be sure to monitor the gauge (shown right) so you do not exceed you compressor(s) maximum PSI. (Generally speaking it is best to leave your black knob set just below the max PSI for your compressor) For example; the airBOOST 1dw, 2dw and 3dw use a single 1/3hp piston compressor. The max PSI for this compressor is 25-PSI. Set the knob at about 23-PSI and make any adjustments if you desire from that point. Again, not how the pressure gauge changes as you rotate the knob.

Another way to make adjustments to your airBOOST™ aeration system is by using the black/silver valves for each “individual line”. Generally speaking the black/silver valve that is attached to the longest air line and/or deepest diffuser will have the black/silver valve in the “full open” position. (see below) The black/silver valve that is attached to the shortest and/or shallowest diffuser will have the valve open 1/4 to 1/2 open. It is very important that once you initially start your system and begin to balance it, you give any adjustments that you make time to occur. In other words, when you “turn a valve” the change in your diffuser “boil” IS NOT INSTANTANEOUS. It takes up to 3 minutes or longer for larger systems to adjust to you turning the valves and knobs. When making adjustment to the black/silver valves we recommend you make no more than 1/4 turns and then wait for results each time. Once you have “balanced” the system and the “boils” are set the way you want, write down the pressure reading indicated on your gauge. This will tell you as time goes-by if the system is operating correctly. For instance, if you were to get a plugged line your pressure gauge will increase. Or, if the pressure goes down very slowly over a period of months it may be time to change the vanes or put in a diaphragm kit in the compressor. Remember that the liquid inside the gauge will not freeze in temperatures down to -35 degrees.
MAINTENANCE AND TROUBLESHOOTING: The airBOOST™ pond and lake aeration system has been designed to operate 24/7/365. Very little maintenance is required for you system to operate effectively. However, a few preventative measures can save you time, money and your fish. 1) Be sure to keep the louvers on the side of the cabinet free from debris to allow good ventilation. 2) Make sure the blower exhaust vent in the rear of the cabinet remains free of obstructions as well. 3) Remove air filter every 6 – 9 months and either wash or replace the element. 4) The EPDM membranes on the diffusers are designed to last for many years. If you pond has large quantities of algae, is “hard water” or has lots of “particulate” matter you may want to clean your diffuser tube ever 3 to 5 years.

WINTER PRECAUTIONS & OPERATIONS: Many lake and pond owners prefer to operate their airBOOST™ diffused aeration system through the winter months. These aeration systems are designed to operate in virtually any climate. The airBOOST™ aeration systems are in operation from Alaska to Canada, across the US and Mexico. In those climates however where ice forms on lakes and ponds there are some important things to be aware of. Foremost are your safety and the safety of others due to thin ice.

YOU MUST LOCATE AND MARK ALL DIFFUSERS THROUGH THE WINTER MONTHS TO MAKE AWARE ALL SNOWMOBILES, SKIERS, AND ICE FISHERMEN. THIS IS REQUIRED BY LAW IN MOST STATES.

Operating a diffused aeration system in freezing conditions on an ice-covered lake or pond will cause large open water areas to remain at the “boil” sites. Also, the ice thickness around these open areas, up to hundreds of feet from the “boil” site, will be much thinner than ice over the remainder of the lake or pond. INJURY OR FATALITY MAY RESULT from people, snowmobiles, skiers or animals falling through the ice. AerationSupply.com and airBOOST™ aeration systems strongly recommends that this danger of thin ice be CLEARLY POSTED at frequent intervals around the entire area. Owner(s) of this system assume all responsibility for operating airBOOST™ aeration systems and marking potential hazards in all climatic conditions.

If you choose to not operate the aeration system in the winter months 1) Simply unplug the system from the receptacle. Cover the cabinet and compressor with a tarp other item to keep snow from getting into the cabinet. No further action would be required. 2) In the spring, when the system is restarted, it is possible that ice may have formed inside the airline(s). If so, just pour 1/2 cup of denatured alcohol down each frozen line.
Wait a few minutes. Start the system BRIEFLY, about 10 seconds, to push the alcohol down-the-line. Shut the system off and wait about 5 minutes. Restart the system. If the pressure gauge goes to high and the pressure relief valve “blows” then repeat the same procedure. Typically after the first or second try the system will “deice” and normal operations can begin. 3) Once the system is running, refer back to the “start-up” procedure referring to the need to run the system for a short period of time and gradually, over a week bring the system up to 24/7/365 again.

**MUCK REDUCER & CLARIFIER BACTERIA:**

Our special blend of lake and pond aerobic bacteria is a desirable product for pond and lake restoration for two reasons. (1) Our Pond Patrol bacteria brings nuisance algae under control naturally and effectively in your pond or lake. (2) Our Pond Patrol pond bacteria consumes the "muck" on the bottom of your pond or lake. This special blend of pond and lake aerobic bacteria removes excess nutrients, including nitrates and phosphates which cause problem algae blooms, excess weed growth, sludge and muck build-up as well as foul odors. The Pond Patrol strain of bacteria for pond and lake restoration is not an algaecide and does not actually "kill" algae or aquatic weeds. Rather, this lake and pond bacteria consumes the nutrients in your pond or lake that algae and aquatic weeds naturally thrive on. By doing so, we are essentially able to "starve" the algae and aquatic weeds in your pond or lake thereby restoring your pond or lake to its pristine natural beauty.

We are often asked how lake and pond bacteria helps reduce aquatic weed growth in ponds, lakes and water gardens and restore your pond or lake ecosystem. The answer is a little complicated but this is the basic idea. All ponds and lakes have naturally occurring living organisms called “bacteria”. These bacteria consume mass quantities of “nutrients” also found in every pond. The word “nutrients” is a generic term that actually is a combination of other compounds such as phosphates and nitrates, also found in every pond. These nutrients are introduced into the body of water by dead or decaying leaf matter, fish waste, fertilizers and similar sources. We know that all plants, including aquatic weeds need nutrients to survive and multiply. And so if we can reduce the amount of nutrients entering the pond we can reduce the aquatic weed growth and algae blooms at the same time. But it is often difficult, if not impossible to stop all nutrients from entering a pond or lake, and so the best way to control the nutrients is to assist those bacteria in consuming the nutrients for us. In other words, the more nutrients consumed by the bacteria, the
fewer nutrients that are available for the aquatic weeds and algae in your pond. This is done in a two-step process. First, the more aerobic bacteria you have in your pond the greater the nutrient consumption is going to be. Therefore, it is very important to continually add more bacteria to the body of water through the course of a season, as the life span of most bacteria strains is relatively short. Second, the bacteria in your pond need large quantities of oxygen, hence the term aerobic, which is the energy they need to consume the nutrients. It is for this reason that we strongly encourage our customers to have BOTH aeration and aerobic pond bacteria, for a healthy pond or lake environment. **Remember:** The Pond Patrol brand of aerobic bacteria are environmentally friendly are non-pathogenic and ARE NOT HARMFUL to people, fish of all species including Koi, domestic animals, wildlife or waterfowl. You may select from either our 25 pound pail of powder bacteria for nutrients and algae control in your lake or pond, or our 25 pound pail with 1oz pellets inside designed for removal of sludge and muck on the bottom of your pond or lake.

**POND DYE:**

All plants need sunlight to grow, by reducing the amount of light penetration into the water; the dyes effectively reduce the growth of aquatic weeds. Early application of Pond Patrol Pond Dye is critical however; dyes should be applied as early as possible in the growing season, typically right after ice out or before growth of aquatic plants begin. To apply, simply pour Pond Patrol liquid pond dye into any pond and let it work. The dye will completely mix throughout the pond within a short time. It’s important to note that pond dyes will not necessarily stop all aquatic weed growth, but used consistently, pond dyes have proven that they can greatly reduce it!

AirBOOST™ Diffused Aeration Systems are manufactured by:

Aeration Supply, Inc
PO Box 215
Cottage Grove, MN 55016
[888] 480-5027