



Diffused Aeration Systems

Installation, operating and
maintenance guidelines for:

**PA10 • PA12 • PA33
PA50 • PA60 • PA75 • PA100
and Windmill Aeration Systems**

Save this booklet for future reference!



Thank you for your purchase!

Your aeration system will be a great benefit to the aquatic ecosystem in which you are placing it. The following are some important guidelines regarding the installation and operation of your system.

Installation ...

- On the following pages you will find detailed instructions for assembly and installation for your system.
- The air diffuser should not be placed in the deepest part of the pond. Try to locate the diffuser at approximately 2/3 to 3/4 of the deepest point (a 15' deep pond would have the diffuser at approximately 10' to 12' deep). This allows the deepest water to remain cool in the Summer and stay warm in the Winter.
- If you purchased your aeration system without weighted tubing, you will need to supply small weights such as chimney bricks, pipe or rerod. Strap the weights securely around the tubing to bring it to the bottom.
- If your pond freezes during the winter, be sure the tubing is buried leading into the pond. If not, the ice can form around the tubing, kinking it or possibly shearing it off.

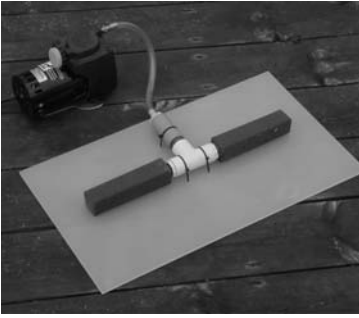
Operation ...

- All of our compressors are designed for continuous operation. It is not uncommon for these compressors to run 24 hours per day for four to five years. The only maintenance required is replacement of vanes or diaphragms when needed. All compressors have oil-less motors. **Never** oil or lubricate the motors.
- The surface of the compressor will be hot during operation. This is normal — be careful not to touch the compressor while it is running.
- If you are installing this system at a time when your pond is already stratified (warm on surface, cold on bottom), you should be careful when first starting the aeration system. If the stagnant water on the pond bottom is stirred up too fast, a temporary increase in oxygen demand will occur and, in rare cases, a fish kill could result. If your pond is severely stratified, you should only run your system one to two hours the first day. Each day after that, increase the run time by one to two hours during the first week, run continuously after that. This will slowly mix the bottom water without a sudden depletion of oxygen. Please contact us prior to start-up if you have questions.
- In addition to adding oxygen to your pond, one of the main benefits to an aeration system is the circulation it creates. It takes hours for the maximum circulation to be achieved, therefore we recommend running these systems continuously so that maximum circulation is sustained. Systems that operate a few hours each day will just get the circulation going and then it is time to shut off.

Maintenance ...

- **It is critical that the air compressors be protected from the weather.** You will need to provide a shelter for your compressor to protect it from rain, snow and other harsh elements. Be sure your shelter has adequate ventilation. Also be sure the compressor does not sit directly on the ground, as the vibration from the motor will cause dust and dirt particles to be pulled into the motor and cause premature failure.

PA10 Aeration System ...



The PA10 aerator features a 1/20th horse power continuous duty air compressor, 50' of tubing and a pond diffuser.

Once the air diffuser is assembled and the tubing is attached, you are ready to install the diffuser into the pond. Always unroll the tubing completely before installing the diffuser. The diffuser can be lowered into your pond with a rope. Often a float, such as a duck decoy or a milk jug, will be used so retrieval of the diffuser is possible.

Assembly:

1. Unpack all the parts. Compare parts with packing list below to ensure all parts were received. If a shortage occurs, please notify us immediately.
2. Screw the two airstones into the PVC manifold. Do not overtighten! Hand tighten only!
3. Slide one end of the tubing onto the barbed adapter coming out of the PVC manifold. Clamp this connection using the clamp provided.
4. Position the PVC manifold and airstones onto the white plastic underlay. Use the plastic straps provided to attach the manifold to the underlay.
5. Attach the other end of the tubing to the compressor and tighten.

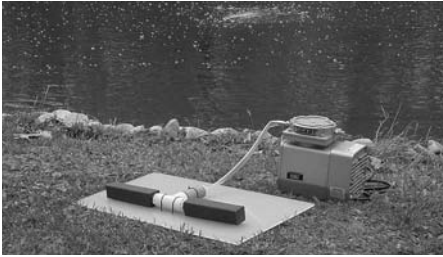
After one or two years of operation, you will possibly notice a sudden drop in air bubbles. This is a sure sign that the diaphragm has cracked and needs replacing. Repair kit DC22RK has all the items necessary to rebuild your compressor.

Be sure to clean the inlet air filter on your compressor regularly. Wash dirty air filters in soapy water. Replacement filters are available.

PA10 Packing List:

Description.	Qty.	Packed
Air Compressor w/filter	1	
PVC Manifold w/Check Valve	1	
Air Diffusers	2	
Tie Straps	3	
Tubing Clamps	2	
50' Roll Tubing	1	
_____ ' Additional Tubing		
12" x 21" Underlay	1	
Packed By:	Date:	# of Boxes:

PA12 Aeration System ...



The PA12 aerator features a 1/8 horse power continuous duty air compressor, 50' of tubing and a pond diffuser.

Once the air diffuser is assembled and the tubing is attached, you are ready to install the diffuser. Always unroll the tubing completely before installing the diffuser. The diffuser can be lowered into your pond with a rope. Often a float, such as a duck decoy or a milk jug, will be used so retrieval of the diffuser is possible.

Assembly:

1. Unpack all the parts. Compare parts with packing list below to ensure all parts were received. If a shortage occurs, please notify us immediately.
2. Screw the two airstones into the PVC manifold. Do not overtighten! Hand tighten only!
3. Slide one end of the tubing onto the barbed adapter coming out of the PVC manifold. Clamp this connection using the clamp provided.
4. Position the PVC manifold and airstones onto the white plastic underlay. Use the plastic straps provided to attach the manifold to the underlay.
5. Attach the other end of the tubing to the compressor and tighten.

After one or two years of operation, you will possibly notice a sudden drop in air bubbles. This is a sure sign that the diaphragm has cracked and needs replacing. Repair kit DC12RK has all the items necessary to rebuild your compressor.

Be sure to clean the inlet air filter on your compressor regularly. Wash dirty air filters in soapy water. Replacement filters are available.

PA12 Packing List:

Description.	Qty.	Packed
Air Compressor w/filter	1	
PVC Manifold w/Check Valve	1	
Air Diffusers	2	
Tie Straps	3	
Tubing Clamps	2	
50' Roll Tubing	1	
_____ ' Additional Tubing		
12" x 21" Underlay	1	
Packed By:	Date:	# of Boxes:

PA33 Aeration System ...



The PA33 aerator features a 1/4 horse power continuous duty air compressor, 100' of tubing and a membrane diffuser.

Once the air diffuser is assembled and the tubing is attached, you are ready to install the diffuser into the pond. Always unroll the tubing completely before installing the diffuser. The diffuser can be lowered into your pond with a rope. Often a float, such as a duck decoy or a milk jug, will be used so retrieval of the diffuser is possible.

Assembly:

1. Unpack all the parts. Compare parts with packing list below to ensure all parts were received. If a shortage occurs, please notify us immediately.
2. Screw the round rubber membrane diffuser into the PVC base. Fill base with sand or small stone.
3. Slide one end of the tubing onto the barbed adapter on the PVC base and secure with a clamp (provided).
4. Attach the 2' piece of flex pipe into the outlet side of the compressor.
5. Unroll the entire roll of pipe. It is recommended that the pond diffuser be installed at this point. This will allow you to trim any unused pipe before attaching to the pump. Once installed and trimmed, attach the other end of the tubing to the flexible hose on the compressor.

PA33 Packing List:

Description.	Qty.	Packed
Air Compressor w/filter	1	
2" Flex Hose (weighted kits only)	1	
Membrane Air Diffuser w/base	1	
Tubing Clamps	2	
100' Roll Tubing	1	
_____ ' Additional Tubing		
Packed By:	Date:	# of Boxes:

The flexible membrane diffuser is buoyant (even if weighted hose is used) unless the base is filled with sand or gravel. Be sure to fill base at least 2/3 full. After one or two years of operation, you will possibly notice a sudden drop in air bubbles. This is a sign

that the piston rings have cracked and need replacing. Repair kit RP74RK has all the items necessary to rebuild your compressor.

Be sure to clean the inlet air filter on your compressor regularly. Wash dirty air filters in soapy water. Replacement filters are available.

PA50 and PA60 Aeration Systems ...



These aeration systems come with a continuous duty compressor, 200 feet of hose and two air diffusers.

Once the air diffuser is assembled and the tubing is attached, you are ready to install the diffuser. Always unroll the tubing completely before installing the diffuser. The diffuser can be lowered into your pond with a rope. Often a float, such as a duck decoy or a milk jug, will be used so retrieval of the diffuser is possible.

Assembly:

1. Unpack all the parts. Compare parts with packing list below to ensure all parts were received. If a shortage occurs, please notify us immediately.
2. Screw the round rubber membrane diffuser into the PVC base. Fill base with sand or small stone.
3. Slide one end of the tubing onto the barbed adapter on the PVC base and secure with a clamp (provided).
4. Attach the 2' piece of flex pipe into the outlet side of the compressor.
5. Unroll the entire roll of pipe. It is recommended that the pond diffuser be installed at this point. This will allow you to trim any unused pipe before attaching to the pump. Once installed and trimmed, attach the other end of the tubing to the flexible hose on the compressor.
6. Connect the valved outlet assembly to the compressor.
7. Connect the tubing to the flex hose on the compressor. Once the compressor is running, you may have to adjust the valves to equal the air flow to each diffuser. This corrects the difference in air flow caused by a difference in operating depth and/or tubing lengths.

PA50 and PA60 Packing List:

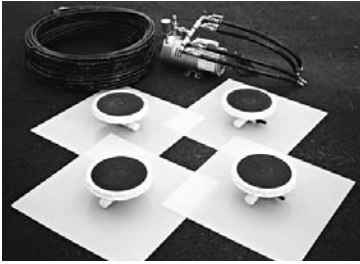
Description.	Qty.	Packed
Air Compressor w/filter	1	
Valve Assembly	1	
Membrane Diffusers	2	
Tubing Clamps	4	
200' Roll Tubing	1	
_____ ' Additional Tubing		
Packed By:	Date:	# of Boxes:

The PA50 and PA60 aeration systems are identical except for the compressor. The PA60 compressor has a higher pressure rating for deeper water operation. All other items and assembly are the same for these two kits.

After one or two years of operation, you will possibly notice a sudden drop in air bubbles. This is a sign the compressor needs new vanes. A rebuild kit is available to restore like-new performance.

Be sure to keep the air filter clean. Wash dirty air filters in soapy water. Replacement filters are available.

PA75HP, PA75 and PA100 Aeration Systems ...



The PA75HP system uses a 3/4 horse power high-pressure compressor with 600 feet of tubing and three air diffusers. It has a maximum operating depth of 90 feet.

The PA75 system uses a 3/4 horse power high-volume compressor with 800 feet of tubing and four air diffusers. The maximum operating depth is 18 feet.

The PA100 system uses a 1 horse power compressor with 1000' of tubing and five air diffusers, maximum

operating depth is 18'.

Assembly:

1. Unpack all the parts. Compare parts with packing list below to ensure all parts were received. If a shortage occurs, please notify us immediately.
 2. Screw the round rubber membrane diffuser into the PVC base. Fill base with sand or small stone.
 3. Slide one end of the tubing onto the barbed adapter on the PVC base and secure with a clamp (provided).
 4. Attach the 2' piece of flex pipe into the outlet side of the compressor.
 5. Unroll the entire roll of pipe. It is recommended that the pond diffuser be installed at this point. This will allow you to trim any unused pipe before attaching to the pump. Once installed and trimmed, attach the other end of the tubing to the flexible hose on the compressor.
 6. Connect the valved outlet assembly to the compressor.
 7. Connect the tubing to the flex hose on the compressor. Once the compressor is running, you may have to adjust the valves to equal the air flow to each diffuser. This corrects the difference in air flow caused by a difference in operating depth and/or tubing lengths.
- **The PA100 system installs the same as PA75, it simply has five airlines instead of four.**

PA75HP, PA75 and PA100 Packing List:

Description	PA75HP Qty.	PA75 Qty.	PA100 Qty.	Packed
Air Compressor w/filter	1	1	1	
Valved Assembly	1	1	1	
Membrane Diffusers	3	4	5	
Clamps	6	8	10	
200' Rolls Tubing	3	4	5	
____ Additional Tubing				
Packed By:	Date:	# of Boxes:		

The PA75 hp and PA75 aeration systems are similar except for the compressor. The PA75HP compressor has a higher pressure rating for deeper water operation. All other items and assembly are the same for these two kits.

After one or two years of operation, you will possibly notice a sudden drop in air bubbles. This is a sign the compressor needs new vanes. A rebuild kit is available (Part #RV75V for 3/4 HP compressor, RV100V for 1 HP) to restore like-new performance. Be sure to keep the air filter clean. Filters can be washed in soapy water. Replacement filters are available.

Windmill Aeration System ...



The windmill pond aerator is an excellent alternative to electric pond aerators. The windmill has a complete set of instructions included with it. Please follow these instructions to assemble the windmill head and tower. We supply the air hose and air diffuser for this windmill kit.

Note: A check valve is included with the windmill to go in the airline underwater by the air diffuser. Our air diffuser includes a built-in check valve so you will not need the one included with the windmill.

When you get to page 5 in the instruction book, please follow these instructions for the diffuser installation:

Fill base of air diffuser with sand or gravel. Screw membrane diffuser into top of base. Attach end of tubing to outlet and clamp. Unroll the tubing completely before attempting to install the diffuser assembly in your pond.

Tubing needs to be weighted to sink. Usually a three to

five pound weight every six to eight feet is adequate. Weights can be landscape bricks, rod, etc., and should be strapped tightly to the tubing with electric ties. Omit this step if you are using self-weighted tubing.

A 20' piece of black plastic hose is included with your windmill. This tubing connects to the outlet on the compressor at the top of the windmill and runs down the tower to the ground. A connector is included to connect to the 100' roll of tubing at this point.

After installing the manifold in the pond, connect the other end of the vinyl tubing to the end of the black tube coming off the windmill.



Windmill Packing List:

Description.	Qty.	Packed
Windmill Package (# of boxes varies)	1	
Membrane Diffuser	1	
Tubing Clamp	1	
3/8" Vinyl Tubing, 100' roll	1	
12" x 21" White Underlay	1	
Packed By:	Date:	# of Boxes: