



Lake Bed Aerator



Shallow Pond Aerator



Pond Bottom Circulator





LAKE BED AERATION

Pond and Lake Ecology

A thermocline is the boundary between warmer surface water and cooler deep water. These areas do not usually mix naturally. The surface water is oxygenated by contact with the air and supports marine life. The deep water soon loses its oxygen through digestion of organic matter on the pond bottom and cannot support desirable marine life, including the beneficial aerobic bacteria that digest organic matter using oxygen. This aerobic digestion of organic matter does not release nutrients that would promote re-growth of undesirable plants like algae. However, digestion of organic matter without adequate oxygen is done by anaerobic bacteria that work much more slowly, that release nutrients back into the water, and that release noxious gases that often cause ponds to smell bad.

The ACI Lake Bed Aerator (LBA) is designed to pump large volumes of water from near the bottom to the surface where it spreads out in contact with the air and becomes oxygenated. The pumping action is created by millions of tiny bubbles emitted by the diffuser that rise and entrain water with them. The spacing of the diffuser tubes on the proprietary AirPro diffuser optimizes the pumping action compared to disc diffuser. The circulating water forces an inflow to the diffuser, thus quickly circulating the entire pond with well oxygenated water so that organic digestion is accomplished aerobically.

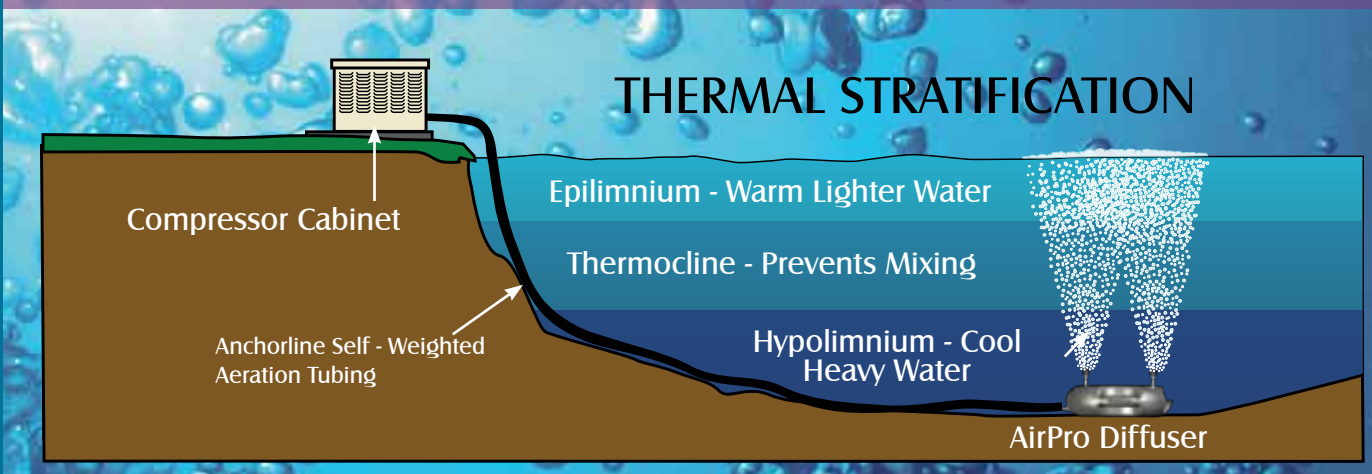
Problems Related to Stratification

- Fish kills
- Bad water clarity
- Low oxygen levels
- Foul odors
- Algae growth
- Weed growth

Benefits of Lake Bed Aeration

- Increases the breakdown of fish waste by providing the habitat for beneficial pond bacteria to flourish
- When operated continuously in freezing climates, these pumps will keep open areas in the ice to allow toxic gases to escape and sunlight to enter
- Promotes a healthy ecosystem and larger fish by eliminating oxygen highs and lows and creates equal water temperatures from top to bottom

LAKE BED AERATION





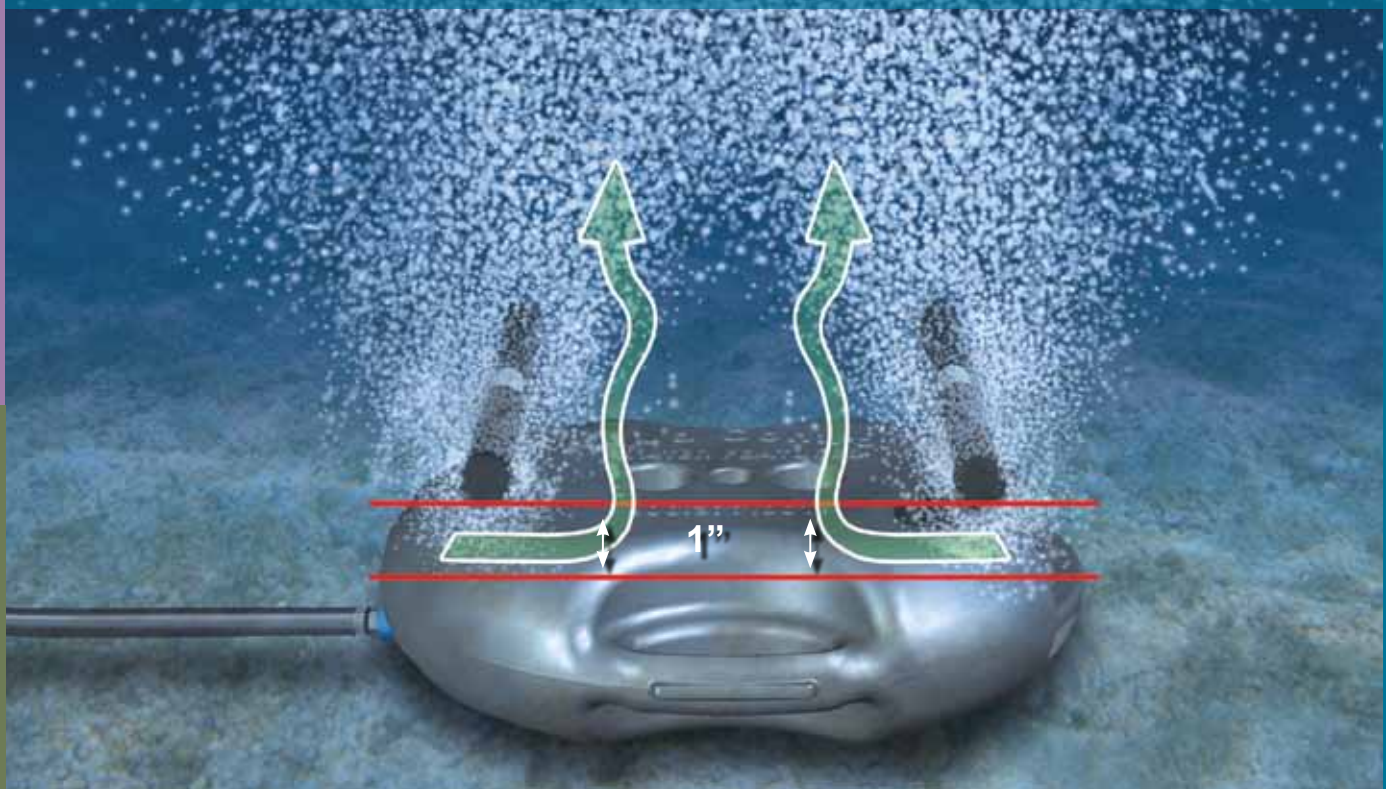
The Aqua Control Solution

Unlike disc diffusers which begin entraining water into the bubble column at a minimum of 10" above the bottom, the Aqua Control tube style membrane diffuser interfaces with the water only inches from the pond or lake bottom at the Mud /Water interface.

The Mud / Water Interface is the location on the pond bottom where "ooze" (a limnological term, where limnology is the study of lakes) and water meet each other. This substance has no texture and is composed of hydrogen sulfide, carbon dioxide, and other nutrients. These nutrients are released into the water column and are used by algae and aquatic weeds as a food source.

By aerating and circulating this area of the pond bottom, the toxic gases are removed, thereby increasing the habitat and health conditions for the fish. Nutrients that feed problematic algae and aquatic weeds are bonded to the pond bottom sediments, thus rendering them inactive. The results are improved overall water quality and a reduction in algae and weeds due to a starving of the food source.

LAKE BED AERATION



For optimum breakdown of pond bottom organic mass, it is best to lift the water from the lowest possible area in the water body.

Water becomes entrained into the bubble column on the Aqua Control tube style diffuser system at about 1" below the diffuser surface.



Features:

- Professional grade
- Available for use with up to six AirPod™ diffusers
- Powder coated aluminum enclosure features a **LIFETIME WARRANTY** against corrosion in fresh water applications
- 1/3 HP WOB-L™ piston compressors are oil free and feature a 2 - year warranty
- AirPod™ diffusers are self-cleaning and feature a 5 - year warranty
- AirPod™ diffuser bases are self weighted at the factory - no need to add pea gravel or weight
- AnchorLine™ self-weighted air tubing features a 15 - year warranty
- Quiet operation - Compressors are inaudible at 25 feet
- Timer included for operation of AirPro systems
- AirPod™ diffusers release air only inches from the pond bottom preventing disruption of settled organics
- Oversized 300 CFM cooling fans have sealed bearings
- AirPro™ system available in 120v or 230v single phase @ 60Hz or 230v single phase @ 50Hz
- GFCI protection for 120 volt systems
- Aerates water bodies from 6' to 35' deep
- Equipment base comes standard with every unit, eliminating the need for a concrete base
- The oil free WOB-L™ piston compressors are easily and economically maintained
- ETL Listed
- CE Certified



Why buy from Aqua Control?

- **Best warranties in the industry**
- **Lower cost than competition**
- **AirPro™ enclosure engineered to remove heated air at a faster rate than competitive angled lid designs**
- **Quietest equipment on the market**
- **Industry's finest customer support**
- **Aerial mapping service, GPM and electrical cost calculators available via the Aqua Control website www.aquacontrol.com**



LAKE BED AERATION

Visit www.aquacontrol.com for aeration sizing calculator

Lake Bed Aeration Systems	AirPod™ Diffusers Included	Amps @ 120v	Amps @ 230v 60Hz / 50Hz	Airflow CFM @ 20 PSI	Air Flow Liters / min @ 2.0 Bar	GPM Pumped 60Hz / 50Hz	KW 60Hz / 50Hz
AirPro 1	1	4.5	1.2 / 1,2	2.16	33	4,200 / 2,400	.28 / .26
AirPro 2	2	5.5	2.4 / 1,9	3.84	93	8,300 / 7,100	.59 / .47
AirPro 3	3	5.5	2.4 / 1,9	3.84	93	12,500 / 10,700	.59 / .47
AirPro 4	4	11	4.8 / 3,8	7.68	187	16,500 / 14,200	1.18 / .94
AirPro 5	5	11	4.8 / 3,8	7.68	187	21,000 / 18,000	1.18 / .94
AirPro 6	6	11	4.8 / 3,8	7.68	187	25,000 / 21,500	1.18 / .94



What are the benefits of an Aqua Control Aeration System?

- Increases water clarity
- Eliminates foul pond odors
- Prevents fish kills by increasing oxygen levels
- Eliminates thermal stratification
- Reduces nutrient and associated algae levels
- Reduces mosquito hatches



Features:

- Perfect system for the homeowner
- Available for use with up to three AirPod™ diffusers
- Fiberglass NEMA Type 3R outdoor enclosure features a 2 - year warranty
- 1/3 HP WOB-L™ piston compressor is oil free and features a 2 - year warranty
- AirPod™ diffusers are self-cleaning and feature a 5 - year warranty
- AirPod™ diffuser bases are self weighted at the factory - no need to add pea gravel or weight
- AnchorLine™ self-weighted air tubing features a 15 - year warranty
- AirPod™ diffusers release air only inches from the pond bottom preventing disruption of settled organics
- Timer included for operation of AirEco systems
- 240 CFM cooling fan has a sealed bearing
- AirEco™ system available in 120v or 230v single phase @ 60Hz or 230v single phase @ 50Hz
- GFCI protected equipment for safety on 120v applications
- Aerates water bodies from 6' to 35' deep
- Equipment base comes standard with every unit, eliminating the need for a concrete base
- The oil free WOB-L™ piston compressor is easily and economically maintained
- ETL Listed
- CE Certified

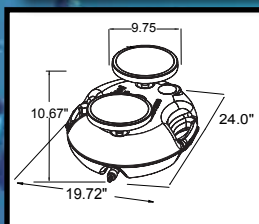
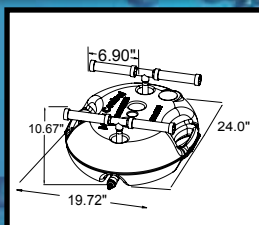
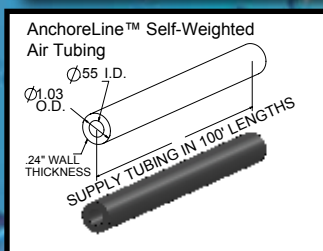
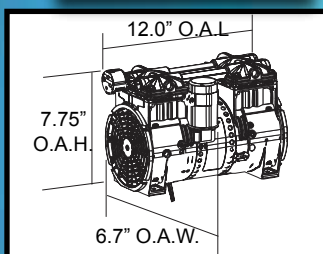
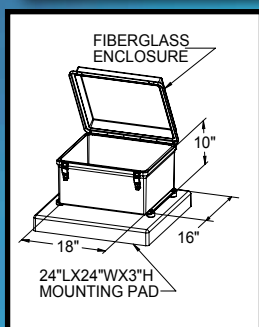
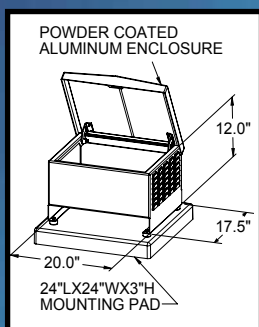


Visit www.aquacontrol.com for aeration sizing calculator

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AirEco 1	1	4.5	1.2 / 1,2	2.16	33	4,200 / 2,400	.28 / .26
AirEco 2	2	5.5	2.4 / 1,9	3.84	93	8,300 / 7,100	.59 / .47
AirEco 3	3	5.5	2.4 / 1,9	3.84	93	12,500 / 10,700	.59 / .47



SPECIFICATIONS



AirPro & AirEco Outdoor Enclosures

The AirPro enclosure is constructed of powder-coated aluminum and provides a *LIFETIME WARRANTY* against corrosion in fresh water applications. The AirEco enclosure is NEMA Type 3R fiberglass and provides a 2-year warranty against corrosion. Both lids are fully gasketed and contain either key locks (AirPro) or padlock eyes (AirEco) for protection against tampering, theft and vandalism. Both enclosures have louvers and fan(s) placed in such a manner to allow for cross-ventilation to provide optimal cooling. Enclosures are mounted to a heavy duty polymer base (24" x 24" x 2"). The enclosures for 115 volt equipment come equipped with a GFCI outlet and an eight-foot plug-in cord.

WOB-L™ Compressor

1/3 HP, 115v or 230v 60Hz and 230v 50Hz, 1 phase piston-type compressor built for quiet continuous use and equipped with a thermal overload. The compressors have lightweight pistons to allow for quiet and efficient performance at high pressure levels. The oil-less pistons allow for long life and economical performance. Compressors require only periodic cleaning of the intake filter as scheduled maintenance.

AnchorLine™ Self-Weighted Air Supply Tubing

Used as a connection from compressor cabinet locations to final AirPod™ diffuser location, air supply tubing is lead-free and self-weighted for submersible capabilities and can be used in direct burial applications. Tubing is made of PVC composite and remains flexible in cold temperatures. Tubing is compatible with the use of standard 1/2" insert coupler fittings.

AirPod™ Diffusers

AirPod Membrane Tube Diffusers have four 6" x 1" diameter EPDM self-cleaning tube membrane diffusers. Diffusers produce 0.5 mm bubbles and are spaced in such a manner to optimize water pumping. The diffuser base is constructed of linear low density polyethylene (LLDPE) plastic and rotationally molded for rigidity and durability. The base has handles for ease of carrying and holes to allow for lowering to pond bottom. The base is hollow and self-weighted at the factory.

AirPod Dual Disc Membrane Diffusers have two 9" diameter round flexible EPDM self-cleaning membrane diffusers. Diffusers produce 0.5 mm bubbles and are spaced in such a manner to optimize water lifting synergistically. The diffuser base is constructed of linear low density polyethylene (LLDPE) plastic and rotationally molded for rigidity and durability. The base has handles for ease of carrying and holes to allow for lowering to pond bottom. The base is a hollow and self-weighted at the factory.

SHALLOW POND DIFFUSED AERATOR



SHALLOW POND AERATOR





SHALLOW POND DIFFUSED AERATION

Below is a top view illustration of a pond which contains a Shallow Pond Diffused Aerator system. The illustration reflects the use of our Model # SP20.

This system includes the compressor, self-weighted air supply tubing, valve manifold and the membrane diffuser.

SHALLOW POND AERATOR



Diffuser with Stainless Steel Base



Compressor



Valve Manifold

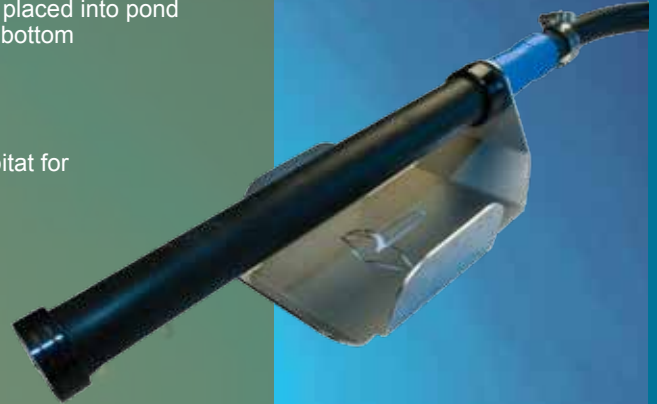
SHALLOW POND DIFFUSED AERATOR



Aqua Control's Shallow Pond Diffused Aeration systems are energy efficient and inexpensive to purchase. Designed to aerate and degas water bodies as small as ornamental backyard ponds or ponds up to two surface acres, these pumps operate only in water bodies less than 6' deep (2 meters).

Features and Benefits Include:

- Stainless steel diffuser base designed to land upright when placed into pond and the large area of the base resists sinking into the pond bottom
- Increases oxygen levels in pond which reduces fish stress
- Increases the breakdown of fish waste by providing the habitat for beneficial pond bacteria to flourish
- When operated continuously in freezing climates, these pumps will keep open areas in the ice to allow toxic gases to escape and sunlight to enter
- These pumps degas a pond by lifting harmful gases such as hydrogen sulfide and carbon dioxide to the surface, and then replacing them with oxygen
- Promotes a healthy ecosystem and larger fish by eliminating oxygen highs and lows and creating equal water temperatures from top to bottom
- Compressors are silent, oil-free and do not require a protective housing
- Compressor is housed in a heavy, cast aluminum rainproof enclosure
- Compressors pump high volumes of air at low pressure
- Designed for continuous operation
- Included manifold made of brass and stainless steel. Competitive manifolds are made of plastic that can explode in cold climates
- UL listed and CE Certified for outdoor operation
- 3 – year warranty (not including diaphragm or filter)





SPECIFICATIONS AND SIZING

SP10/102

Package Includes:
Compressor, 25' of 3/8" Anchorline self-weighted air supply tubing and one stainless steel diffuser assembly. Maximum tubing length 350'



SP20/202

Package Includes:
Compressor, 100' of 3/8" Anchorline self-weighted air supply tubing, valve manifold and two stainless steel diffuser assemblies. Maximum tubing length 166'



SP30/302

Package Includes:
Compressor, valve manifold and three stainless steel diffuser assemblies. (5/8" Anchorline self-weighted air supply tubing sold separately) Maximum tubing length 700'



SP40/402

Package Includes:
Compressor, valve manifold and three stainless steel diffuser assemblies. (5/8" Anchorline self-weighted air supply tubing sold separately) Maximum tubing length 530'



60 Hz (North American)

MODEL	APPROX. POND SIZE	DAILY OPERATING COST*	GPH PUMPED at 6' Depth	MAX. CFM AIR OUTPUT	AMPS @120V	ELECTRICAL USAGE (WATTS)	DIFFUSERS INCLUDED	LBS. OF FISH SUPPORTED
SP10	25' diameter (7.62m) or 8600 gallons	9 cents	4,500	2	0.8	38	1	125lbs
SP20	70' diameter (21.33m) or 77,000 gallons	17 cents	14,300	3.7	1.6	71	2	250lbs
SP30	One surface acre (0.4ha)	30 cents	24,000	6.1	2.1	125	3	325lbs
SP40	Two surface acres (0.8ha)	60 cents	43,500	10.5	3.4	250	3	450lbs

50 Hz (International) Power plugs are available for country of use

MODEL	APPROX. POND SIZE	DAILY OPERATING COST*	M ³ /Hr. PUMPED @ 1.8m	MAX. L/MIN. AIR OUTPUT	AMPS @230V	ELECTRICAL USAGE (WATTS)	DIFFUSERS INCLUDED	Kg OF FISH SUPPORTED
SP102	25' diameter (7.62m) or 8600 gallons	9 cents	17	55	0,44	38	1	60
SP202	70' diameter (21.33m) or 77,000 gallons	17 cents	55	110	0,94	71	2	115
SP302	One surface acre (0.4ha)	30 cents	91	160	0,72	115	3	150
SP402	Two surface acres (0.8ha)	60 cents	165	180	1,2	210	3	205

* = based on a power cost of 10 cents per kilowatt hour

POND BOTTOM CIRCULATOR

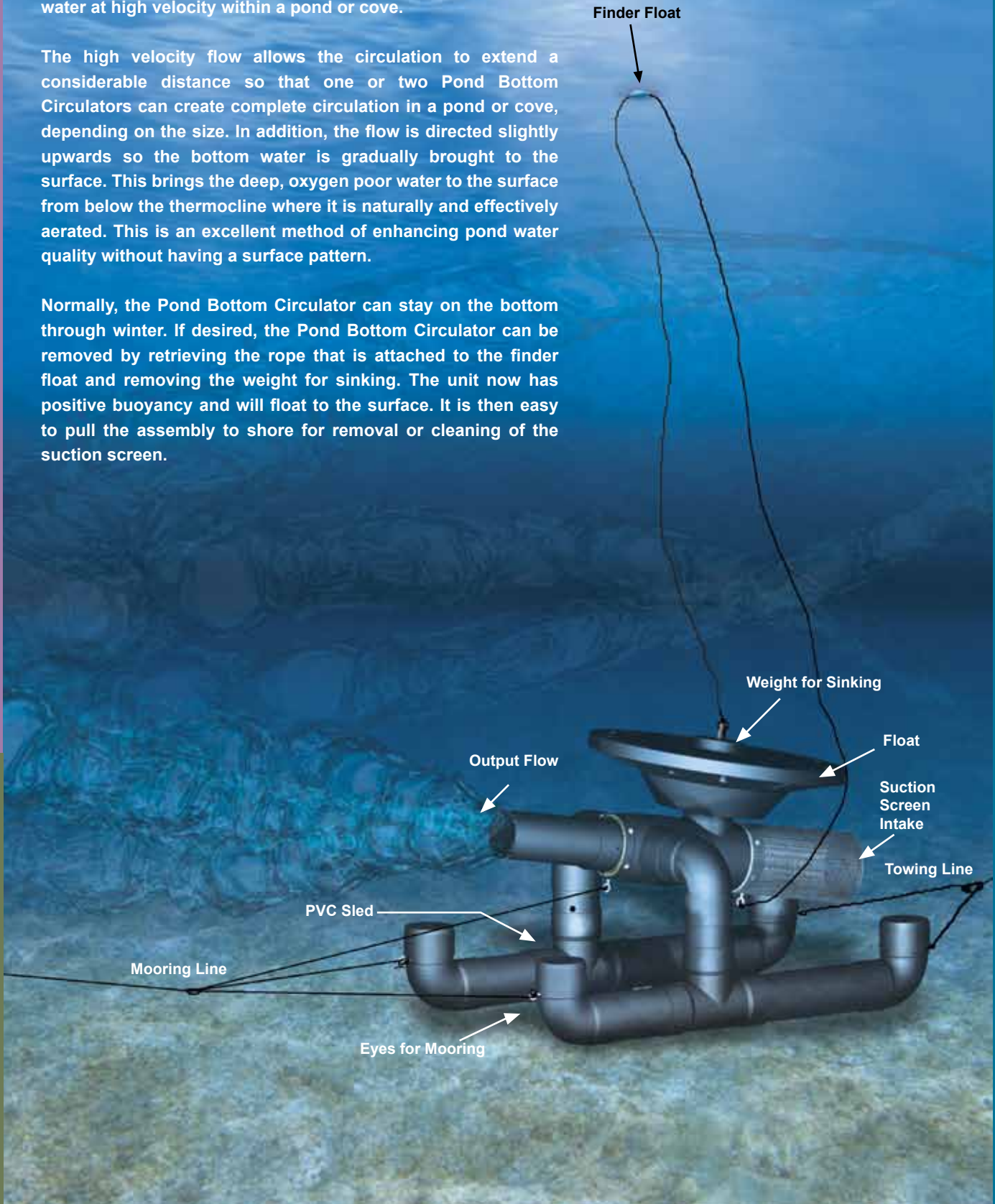


BOTTOM CIRCULATOR

The Patented Pond Bottom Circulator design uses the very high volume Select Series Aerator pump to circulate high volumes of water at high velocity within a pond or cove.

The high velocity flow allows the circulation to extend a considerable distance so that one or two Pond Bottom Circulators can create complete circulation in a pond or cove, depending on the size. In addition, the flow is directed slightly upwards so the bottom water is gradually brought to the surface. This brings the deep, oxygen poor water to the surface from below the thermocline where it is naturally and effectively aerated. This is an excellent method of enhancing pond water quality without having a surface pattern.

Normally, the Pond Bottom Circulator can stay on the bottom through winter. If desired, the Pond Bottom Circulator can be removed by retrieving the rope that is attached to the finder float and removing the weight for sinking. The unit now has positive buoyancy and will float to the surface. It is then easy to pull the assembly to shore for removal or cleaning of the suction screen.





POND BOTTOM CIRCULATOR

POND AREA CIRCULATED

1HP	1 SURFACE ACRE OR 0.4 HECTARE
2HP	1.5 SURFACE ACRES OR 0.6 HECTARE
3HP	2 SURFACE ACRES OR 0.8 HECTARE



BOTTOM CIRCULATOR

60 Hz (North America)

50 Hz (International)

HP	PERFORMANCE		DEPTH		AMPS				KW
	GPM	Minimum Operating Water Depth (Inches)	Single Phase		Three Phase				Power Use
			120v	208v -240v	208v	230v	460v	575v	
1	900	36	16	11/10	5	5	3		2
2	1050	36		15/13	9	9	5	4	3
3	1200	36		19/17	13	12	7	5	4

M ³ /H	PERFORMANCE		DEPTH		AMPS		KW
	M ³ /H	Minimum Operating Water Depth (Meters)	Single Phase	Three Phase		Power Use	
			230v	230v	400v		
130	1	8	4	2	2		
170	1	12	7	4	3		
190	1	18	11	6	4		