all-aqua aeration®

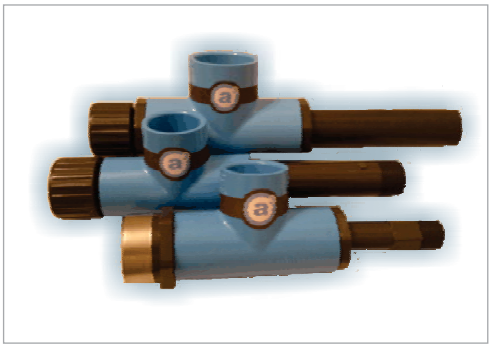
Simplicity at its finest.



The a3® System combines aeration, degassing & circulation all in one package & more importantly one energy source

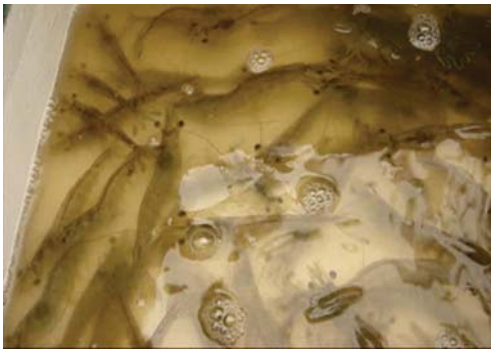
aeration

We use the power of the pump to recirculate the water through our patented nozzles naturally aspirating ambient air at 3X's the volume of water being pumped. That huge volume of air is then sheared into the finest of mirco-bubbles resulting in the highest dissoved oxygen transfer rate available anywhere.



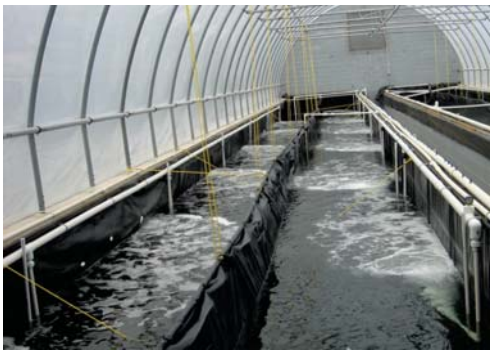
degassing

This high air to water ratio strips CO_2 from the water allowing the respratory system to absorb more oxygen and increase metabolism. Creating a naturally alkaline blood stream results in healthier faster growing animals and eliminates mortality caused by disease.



circulation

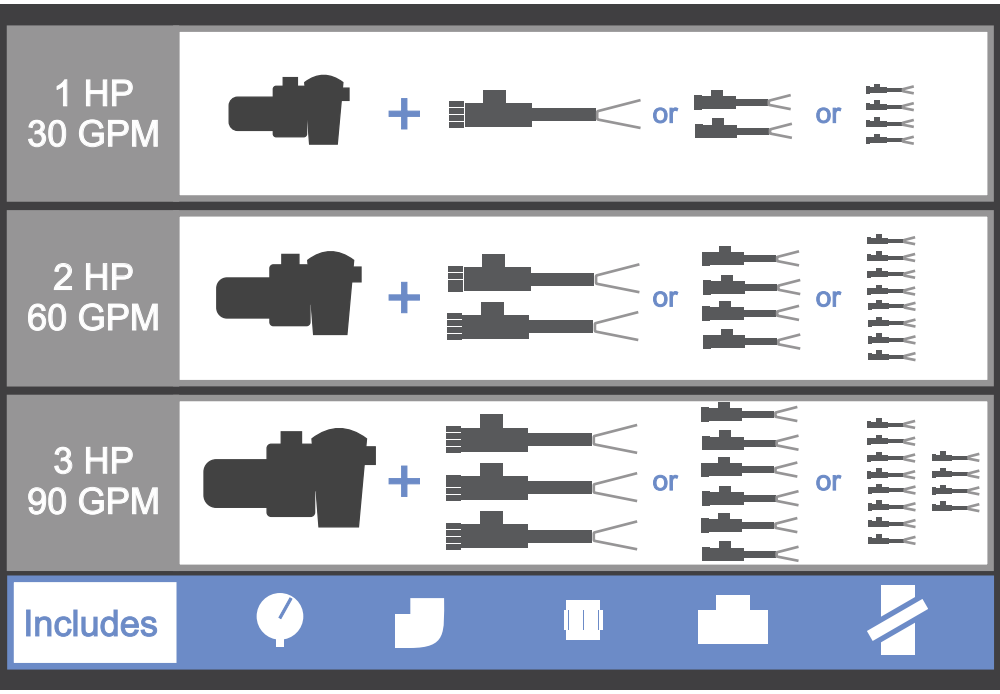
Energy isn't spent in compressing air, it's used to move water creating a more natural flow and is adjustable by turning the direction of the nozzle(s). Positioning the nozzles at the bottom of the water isn't just for improved DO transfer, it also keeps solids in suspension and from creating problematic areas that may generate H^2S hydrogen sulfide.



This truly versatile system is a perfect solution for everything from increasing the density and health of outdoor ponds to eliminating water exchange and pure oxygen in indoor tanks and super-intensive raceways. Add to the system, and manage processes like fine-protien removal and water temperature control, again all with one energy source.

No gearbox or paddles to fail
No electricity in the water
No diffusers to clog
No equipment to remove for harvest
No pure oxygen necessary

Custom Nozzle Configurations Available



ADVENT environmental systems

Bob Advent
01.407.376.4543
a3aeration.com

Super-intensive Aquaculture systems

100 M^3 Zero-exchange Shrimp Bio-floc Research Raceway

Trial	Days	Volume kg/M3	Yield kg/M3	Av. Wt. (g)	Survival %	FCR	g/wk.	Stocking density /M3	Aeration HP
2010	87	80	6.4	26	90	2.5:1	1.57	273	5
2011	92	100	8.7	25.4	86.3	1.7:1	1.47	390	4
2012	63	100	9	23	80	1.48:1	2	500	2 / 4

45 Days

Over 600 kgs. in 45 days using only 2HP for Aeration, Circulation, Degassing and Solids Removal



63 Days

Over 900 kgs. in 63 days using only 4HP for Aeration, Circulation, Degassing and Solids Removal

"Based on sampling data collected on Day-60 TAN and NO2-N remained very low (<0.5 mg/L), shrimp averaged 16.7 g in weight, grew 1.57 g/wk, with a biomass of 6.35 kg/m3 and an estimated FCR of 1.6:1. Thus far each RW has achieved an estimated total biomass of 635 kg (6.35 kg/m3) supported until this point by one 2 HP pump without supplemental oxygen."

