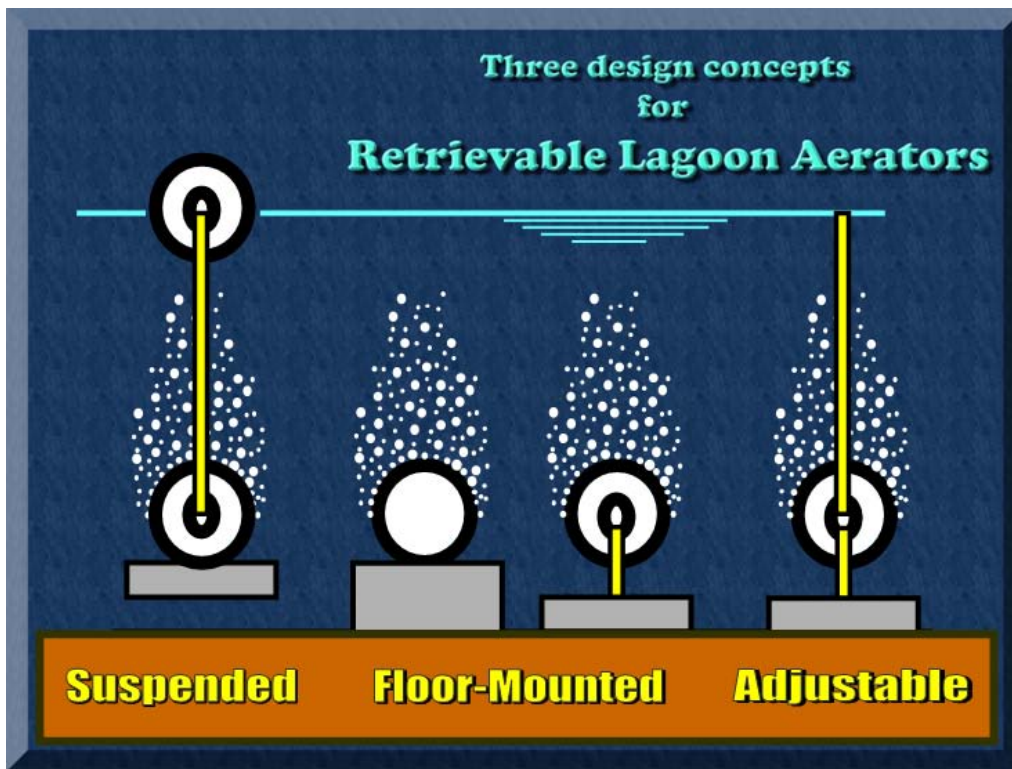




AERRESEARCH
There Is No Equal



Three Designs For Retrieval Lagoon Aerators

AerResearch offers three designs in its line of retrievable lagoon aerators. Each has its own advantages and disadvantages, and each may be the best choice for individual applications. When you receive a design recommendation from AerResearch, you can be sure that all options have been evaluated for your particular needs, and only the option with the greatest advantage is included in your recommendation.

AerResearch recommendations will include process calculations, digital drawings of layouts and details, complete specifications, references who can assist you in your evaluation of alternatives, and dependable budget estimates. In short, AerResearch provides all the information needed so that you can make an informed and wise decision.

The following pages compare AerResearch's three designs for retrievable lagoon aerators as follow.

1. Suspended – Ballasted aerators suspended beneath a floating pipe.
2. Floor Mounted – Ballasted aerators sitting on the floor with or without a spacer device.
3. Adjustable – Aerators which are positioned independent of their ballast.



**COMPARISON OF THREE DESIGNS
FOR
RETRIEVABLE LAGOON AERATORS**

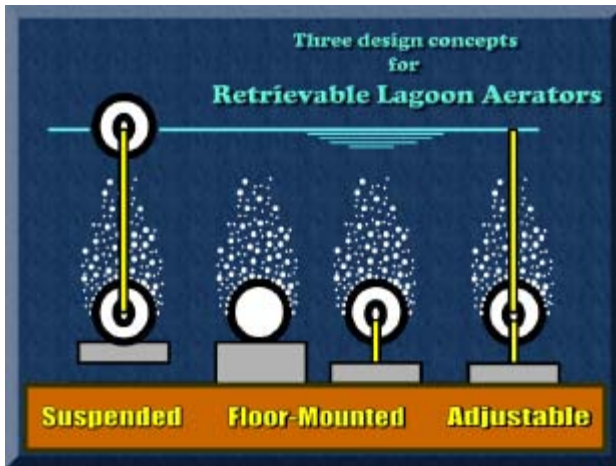
	Design Feature	Adjustable	Floor-Mounted	Suspended
1	Level Floor Is Not Required	Yes		Yes
2	Pipe Is Protected From Exposure	Yes ^(a)	Yes ^(a)	
3	Aerator Elevation Remains Constant	Yes	Yes	
4	Operators Never Lift Ballast	Yes		
5	Aerators Can Be Replaced Accurately	Yes		Yes
6	Aerators Can Be Adjusted Vertically	Yes		
7	Aerators Can Be Leveled Tip-To-Tip	Yes		
8	System Is Easily Installed Wet	Yes		Yes
9	Does Not Require On-Shore Anchors	Yes	Yes	
10	Boat Movement Is Allowed	Yes ^(b)	Yes ^(b)	
11	Free Of Pipe Thermal Expansion Problems	Yes	Yes	
12	Operators Do Not Have To Adjust Cables	Yes	Yes	
13	Special Floating Work Boat Not Required	Yes		
14	Allows Increased Floor Coverage	Yes ^(c)	Yes ^(c)	
15	Allows Enhanced Mixing Layouts	Yes ^(d)	Yes ^(d)	

(a) Wind, ice, ultra-violet degradation and vandalism do not affect submerged pipes.

(b) Air supply pipes floating on the surface and attached by cables to dead-man anchor posts on shore would not allow boats to move across the pipes or cables.

(c) Aerators can be offset to both sides of the air supply pipes

(d) Aerators can be positioned to allow conservation of energy in mixing cells.

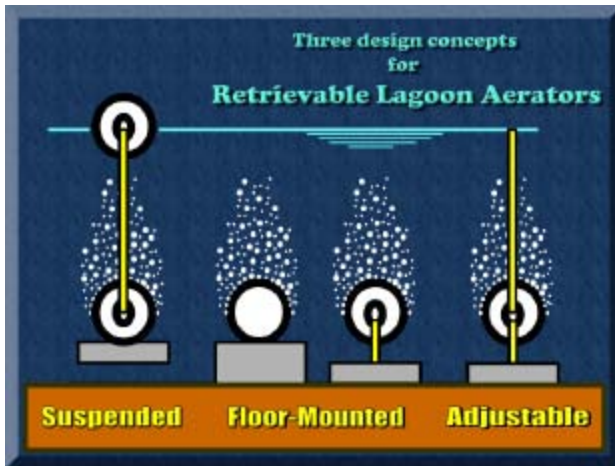


Adjustable Retrievable Lagoon Aerators

Adjustable retrievable lagoon aerators are marketed in the U.S.A. by AerResearch, Inc. They consist of separate diffuser assemblies, un-attached ballast which sits on the floor, and an adjustable system to position the aerator between the ballast and the water surface. Characteristics include:

1. Does not require a level floor.
2. Pipe can be submerged to avoid exposure to wind, ice, ultraviolet degradation, and vandalism.
3. Aerators remain at the same elevation even if the water depth fluctuates.
4. Operators do not handle ballast when retrieving/replacing aerators.
5. Aerators can be replaced to original submergence after retrieval.
6. Aerators are easily replaced to original submergence after retrieval
7. Aerators are adjustable vertically while operating.
8. Aerators are levelable from tip to tip while operating.
9. Can be easily installed with water in the basin.
10. Dead-man anchors and tethers to maintain position are not required.
11. A system to maintain tether tension to compensate for thermal expansion and contraction of the air supply pipe is not required.
12. Can be installed offset from the air supply pipe.



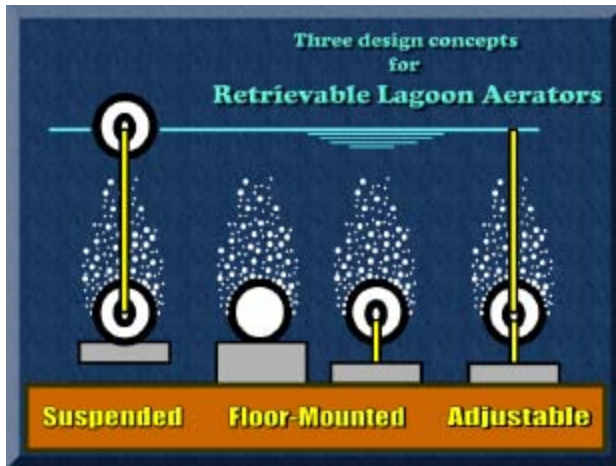


Floor Mounted Retrievable Lagoon Aerators

Floor-mounted retrievable lagoon aerators are marketed in the U.S.A. by AerResearch, Inc. and Environmental Dynamics, Inc. They consist of diffuser assemblies with attached ballast which sit on the floor. Sometimes they are offset from their ballast by a spacer device. Characteristics include:

1. Requires a level floor (or spacer device). Note that if a spacer device is used to compensate for uneven floors, there is no way of knowing whether the spacer is the correct length after the aerator has been retrieved and replaced.
2. Pipe can be submerged to avoid exposure to wind, ice, ultraviolet degradation, and vandalism.
3. Aerators remain at the same elevation even if the water depth fluctuates.
4. Operators must handle ballast when retrieving/replacing aerators.
5. Aerators cannot be replaced to original submergence after retrieval.
6. Aerators cannot be replaced to original tip-to-tip level after retrieval.
7. There is no vertical adjustment.
8. There is no leveling from tip to tip.
9. Cannot be installed with water in the basin.
10. Dead-man anchors and tethers to maintain position are not required.
11. A system to maintain tether tension to compensate for thermal expansion and contraction of the air supply pipe is not required.
12. Can be installed offset from the air supply pipe.





Suspended Retrievable Lagoon Aerators

Suspended retrievable lagoon aerators are marketed in the U.S.A. by AerResearch, Inc., Parkson Corporation, and Environmental Dynamics, Inc. They consist of diffuser assemblies with attached ballast which hang beneath a floating pipe. The pipe also serves to deliver air to the aerator through a flexible hose. Sometimes the hose is used as the suspension device. Characteristics include:

1. Does not require a level floor.
2. Pipe is exposed to wind, ice, ultraviolet degradation, and vandalism.
3. Aerators move up and down with water depth fluctuations.
4. Operators must handle ballast when retrieving/replacing aerators.
5. Aerators are replaced to original submergence after retrieval.
6. There is typically no vertical adjustment.
7. There is typically no system allowing leveling from tip to tip.
8. Easily installed with water in the basin.
9. Requires extensive dead-man anchors and tethers to maintain the positions of the floating pipes.
10. Requires a system to maintain tether tension to compensate for thermal expansion and contraction of the floating pipe.
11. Can be allowed to move rather than adjust cable tension if the floating pipes are far enough apart.
12. Floating laterals and tethers limit movement of boats around the basin.
13. Most designs require a special floating work platform capable of lifting the floating pipe in order to access the aerator.
14. Cannot be installed offset from the air supply pipe.

