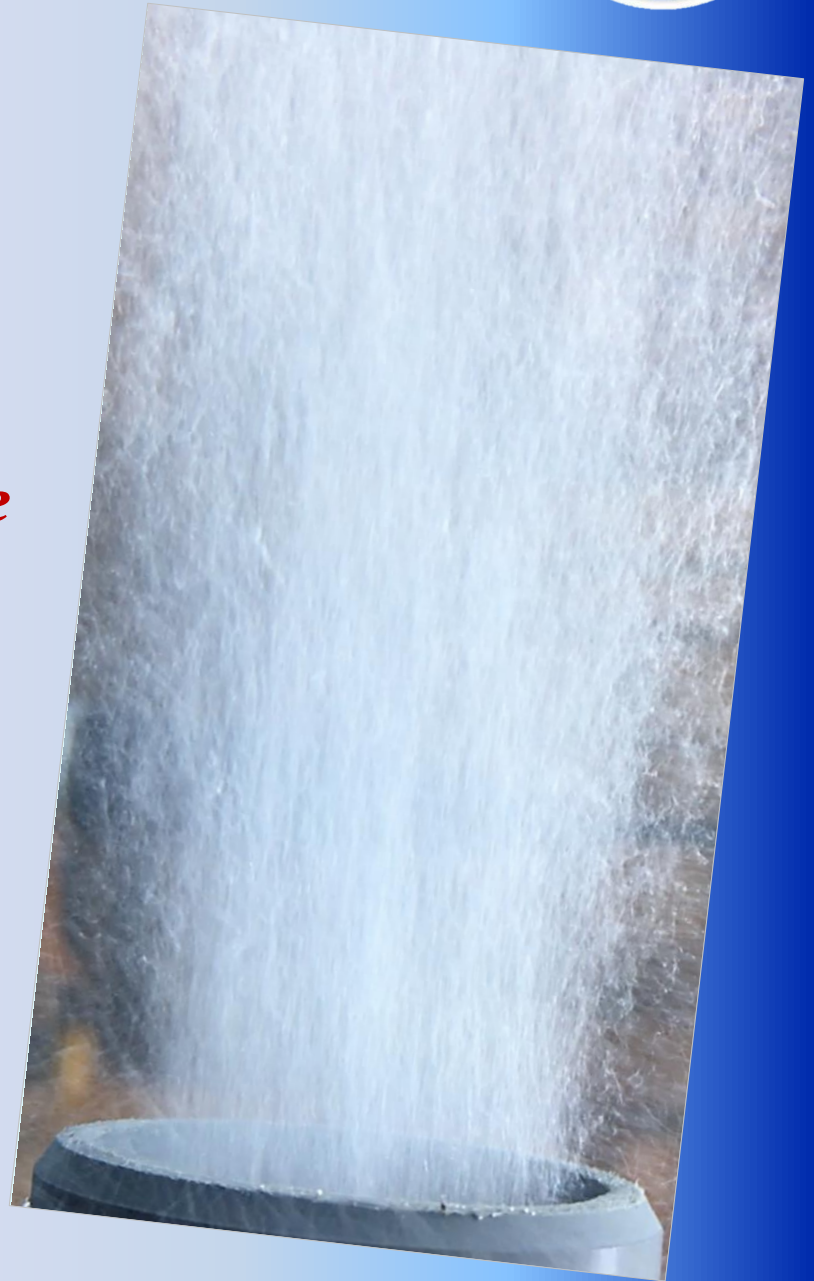


A.R.S - Aqua Royal Spring



***ARS Nanobubble
Generator
Mining Solutions
Products
For Copper ,Nickel
and Gold Heap
Leaching Process,
ILS ,PLS & Raffinate
Pond .***



***ARS Nanobubble Generator is the most
efficient aeration technology to transfer
oxygen into the leaching Solution .***

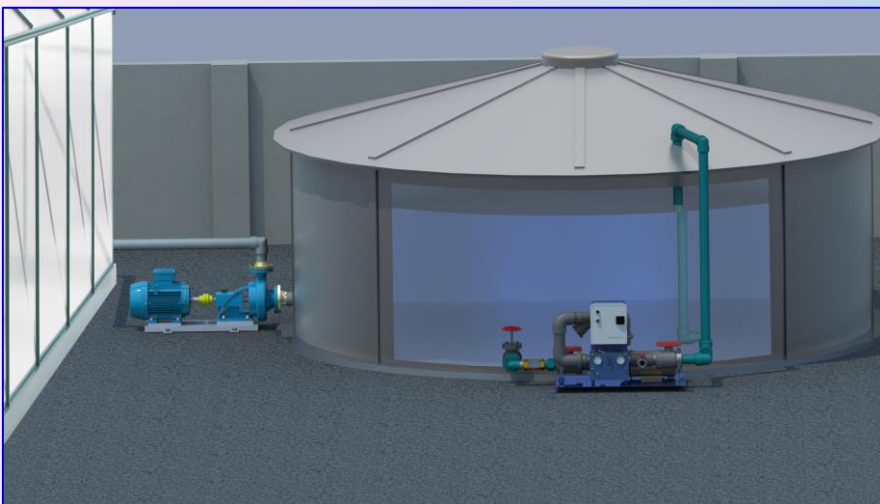
Nanobubble Generator

The ARS Nanobubble Generator is the most efficient aeration technology to transfer virtually any gas into any solution liquid. The generator produces trillions of nanobubbles, ~100nm in size, providing more than 200-times the interfacial surface area of conventional ultra-fine micro bubbles.

The ARS Generator transfers gas with greater than 90% efficiency, providing maximum utilization potential, improving the functionality of heap leaching solution, and enhancing the recovery processes. ARS Generator nanobubbles remain in suspension after saturation, creating a reserve of available oxygen/gas in the irrigation system-solution for heap leaching method.

Features & Benefits

- 💧 > 90% standard oxygen transfer efficiency ("SOTE")
- 💧 ~ 100nm in size.
- 💧 Smallest size bubbles creating 200 x the interfacial surface area compared to micro bubbles.
- 💧 Highest concentration of bubbles per cm³ (>100M bubbles/cm³)
- 💧 Nanobubbles stay suspended in the solution after solution reaches saturation during the percolation.
- 💧 Increases solutions capacity to hold a given gas.
- 💧 Low-turbulent gas diffusion.
- 💧 Reduces the density of water, therefore reducing friction.



Nanobubble Technology Is Revolutionizing Heap Leaching

Nanobubble Generators in Heap Leaching, enhancing the mining extraction processes, Nanobubble generators play a crucial role in heap leaching, an industrial mining process used to extract valuable metals and compounds from ores.

With ARS technology system we ensure to control the flow rate m2 and the amount of oxygen during the leaching time . The ratio of oxygen during the leaching is the most important and critical aspect for the ore by controlling the percolation and the oxygen in to the leaching ore .

ARS generators produce a high density of tiny bubbles, known as nanobubbles, which are injected into the leaching solution.

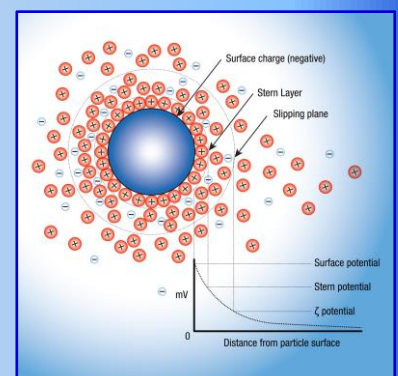
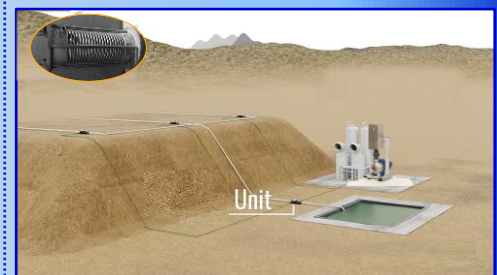
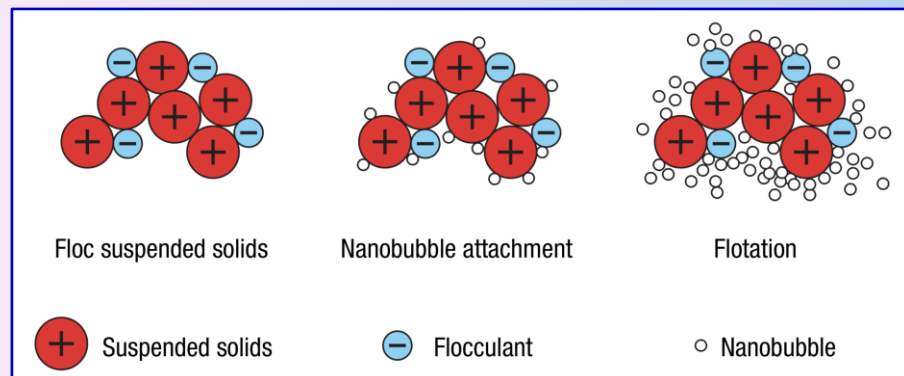
The nanobubbles significantly increase the surface area available for chemical reactions, accelerating the leaching process and improving extraction efficiency. By optimizing oxygen levels and enhancing mass transfer, Nanobubble technology offers numerous advantages in heap leaching operations.

Applications

- 💧 Sulfide Heap Leaching - PLS / ILS & Raffinate
- 💧 Bioheap bacterial leaching technology.
- 💧 Flotation.
- 💧 Biological Wastewater Treatment
- 💧 Sterilization

Features

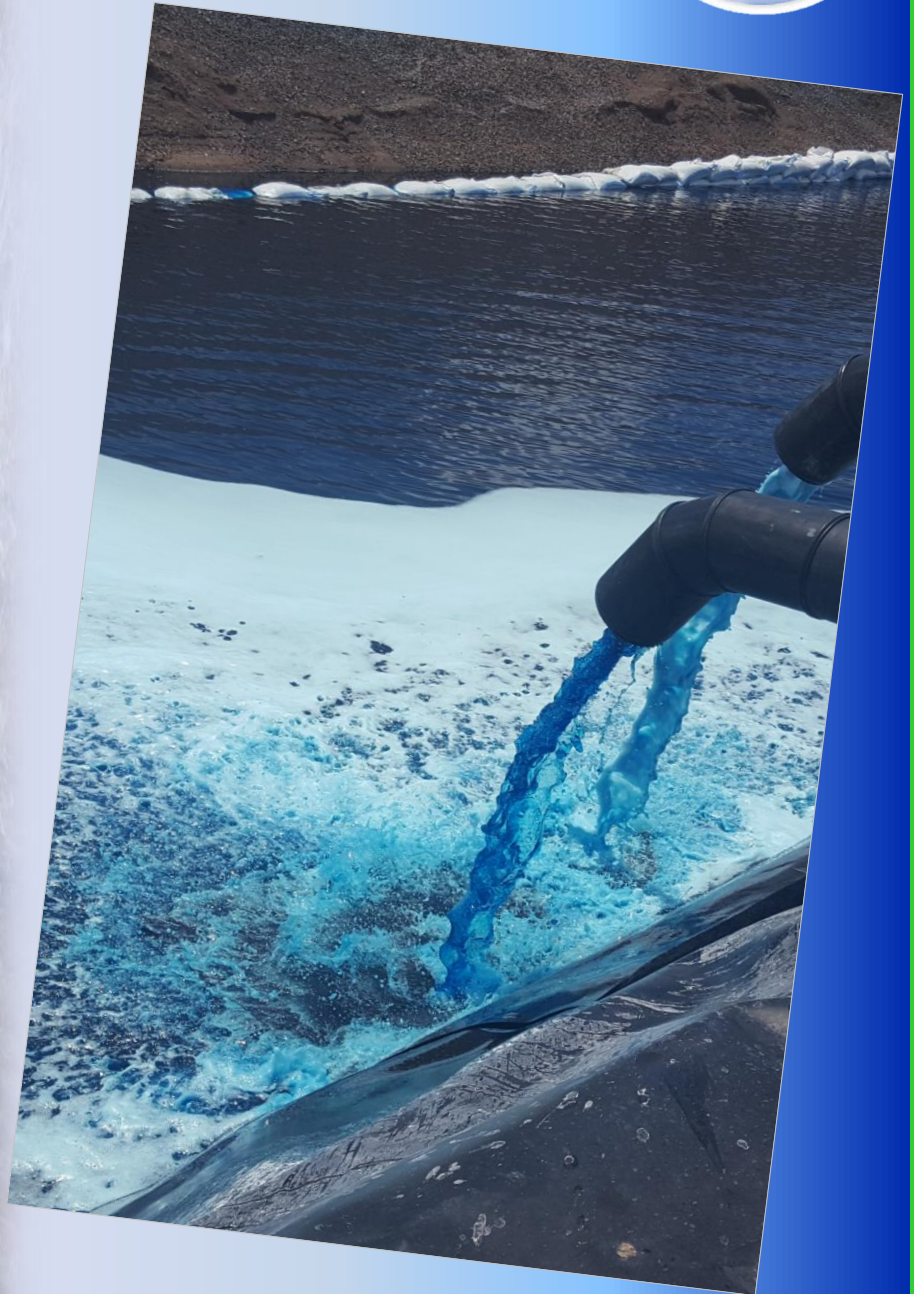
- 💧 No Moving Parts
- 💧 Plug-and-Play
- 💧 Self-Cleaning.



High Quality Nanobubble Generator



*More Oxygen
More Recovery
More Copper
More Gold
More Money*



ARS - Aqua Royal Spring
Engineering Mining Solutions

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