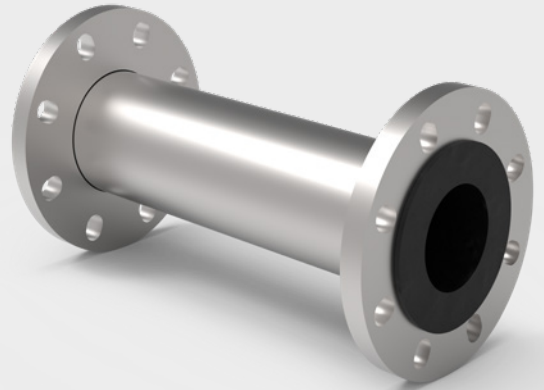


Metso

Metso SonicSparger™ Vent for ColumnCells



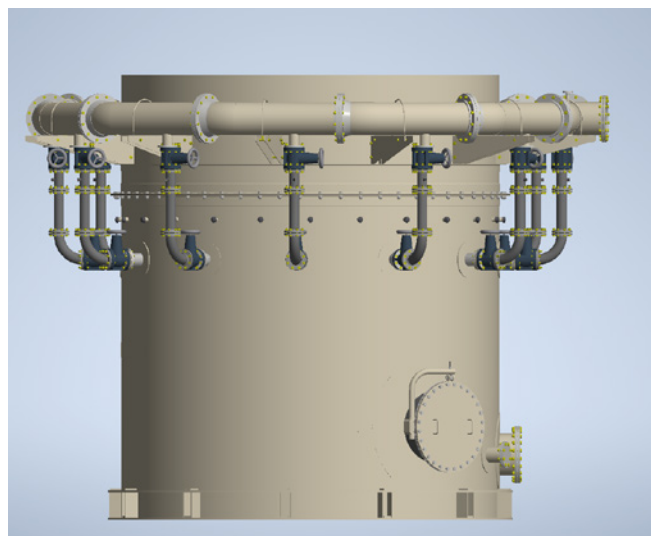
Aeration is one of the most important aspects of pneumatic flotation, aerated leaching tanks and other processes that require air/gas dispersion.

Based on the Venturi principle, SonicSparger Vent creates a large number of small and energetic bubbles which promote the collection of fine particles to enhance process performance and recovery. In flotation, the attachment of fine particles to bubbles is more difficult because they are lighter.

Instead of rupturing the interface of water surrounding the bubbles and contacting the air, fine particles tend to follow the liquid streamlines around the bubble. A larger number of small and more energetic bubbles promotes the collection of fine particles, increasing the probability of collision due to the larger number of bubbles as well as attachment - due to the higher energy in the bubbles and their smaller size, with thinner interfaces.

Cavitation phenomena provide the best way to generate microbubbles for flotation, and this principle is used by Metso SonicSparger Vent. Among the different forms of promoting cavitation, the best way to create the smallest size of bubbles is through a Venturi tube.

A venturi tube comprises a constricted section, typically centralized within a pipe, after which the tube gradually returns to the original diameter.



Sparger systems for enhanced recovery in column cells

Air injection for the best bubble size distribution

In SonicSparger Vent, air injection is an extra source for generating bubbles, which creates the best bubble size distribution for flotation. Air is introduced before cavitation constriction, guaranteeing the flexibility to control the total air flow rate in accordance with the flotation demands.

Excellent flotation performance and long lifespan

SonicSparger Vent is designed with the most appropriate angles to provide longer life for the smallest bubbles, minimizing bubble disruption after constriction. The design is based on recent studies in the Venturi tubes applied to flotation. The results were evaluated not only based on bubble size distribution but mainly in terms of flotation performance.

SonicSparger Vent features an extended internal ceramic nozzle to minimize wear by abrasion, ensuring longer life for the sparger. SonicSparger Vents can be replaced during operation by closing the sparger's isolation valves.

Benefits

- Promotes the best size distribution of energetic microbubbles
- Reliable with no moving parts inside the column
- Easy to handle, assemble and disassemble
- Durable with an extended internal ceramic nozzle that minimizes wear

