



The Venturi Aerator

Aeration Systems

There are a number of aeration systems available. Surface aerators agitate the slurry and cause it to splash into the air. This exposes a larger surface area for oxygen absorption.

Other systems push air into the slurry either by direct injection from a compressor (bubbler system) or by entraining it into a flow of slurry using a venturi.

The Venturi Aerator

Slurry is pumped through a narrow nozzle. As it picks up speed, its pressure drops and the resultant part-vacuum draws in air from the air supply pipe which is vented to atmosphere. The action of the venturi can be assisted by using a compressor to force air down the supply pipe. The nett effect is the formation of a large number of small bubbles within the liquor. This provides the greatest surface area contact between the entrained air and the slurry so maximum oxygen transfer can take place.

Venturi aeration is one of the most efficient ways of introducing oxygen into a liquid and has a number of important practical benefits.

Benefits of Venturi Aeration

- 1 The jet of slurry keeps the slurry in the store mixed, preventing unwanted separation and crusting.
- 2 Efficient smell reduction.
- 3 The components of a venturi aerator are extremely simple and need very little maintenance.
- 4 With some systems it is possible for all the working components to be positioned outside the slurry store for ease of servicing.
- 5 Venturi aeration creates a homogeneous slurry that is easier to pump and can be applied more evenly.
- 6 The Venturi pump can be used to empty the store into a tanker or directly through a low volume irrigation unit.

*Farm Energy Centre
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