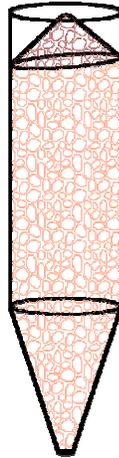
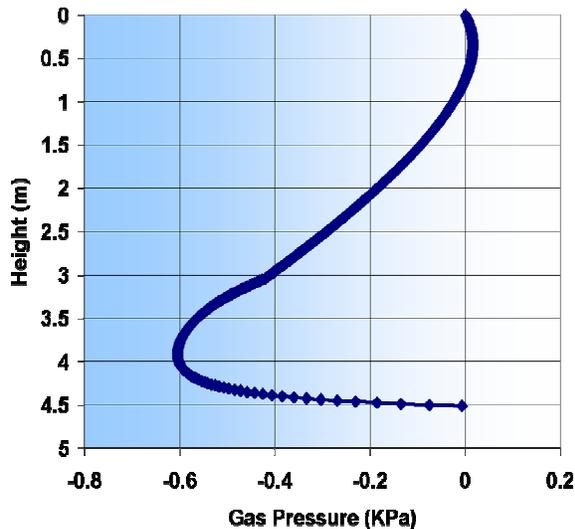

Modeling Gas Effects

Material Flow Solutions, Inc.



Gas Effects. Air or other gases can become entrained in bulk materials during process handling, creating semi-fluidized conditions. It may take several minutes, or even hours, of storage time to dissipate the excess gas generated during typical handling. Fine powder behavior is dependant on the degree of entrained gas within the material. Excess gas leads to flooding and flushing. Too little gas can lead to severely limited process flow rates.

At Material Flow Solutions, Inc., we compute the flow behavior of

aerated material in a variety of bin and hopper configurations to simulate your current or proposed process conditions. Our predictive calculations allow us to determine the flow behavior in process equipment with gas flow effects. Gas pressures and gas pressure gradients can change the mass flow, arching, and rathole characteristics of a given material in either a positive or negative manner. The placement and operation of gas injection systems is critical to successful process operation. Using our predictive capabilities, we solve gas-induced problems in your process equipment.

PRACTICAL APPLICATIONS of understanding *gas effects* include, but are not limited to:

- Overcoming limiting rates
- Enhance de-aeration
- Control erratic flow
- Prevent gas-induced arches
- Prevent gas-induced ratholes