Fluidization

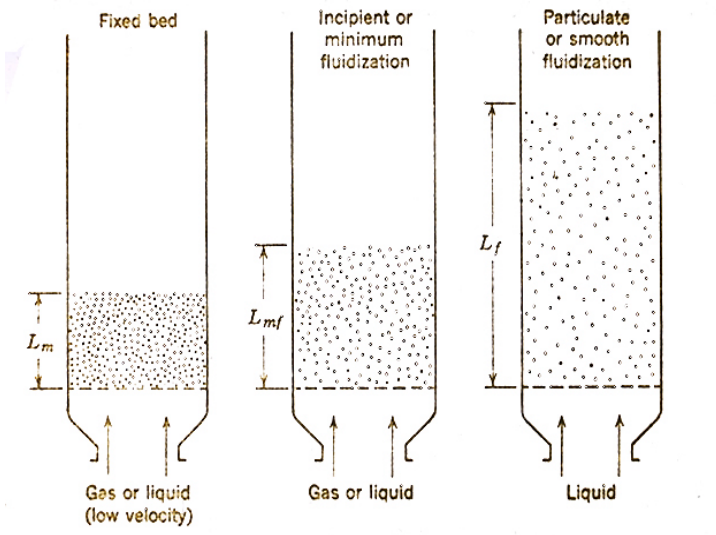
References:

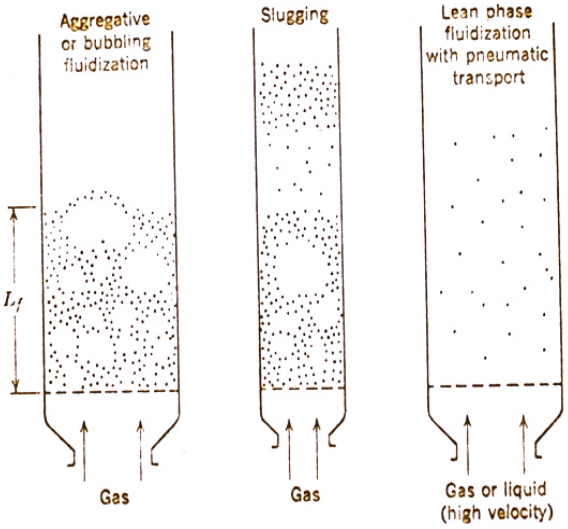
Sparks, RSJ, 1978, Gas release from pyroclastic flows: an assessment of the role of fluidization in their emplacement. Bull. Volcanol., **41**:1-9

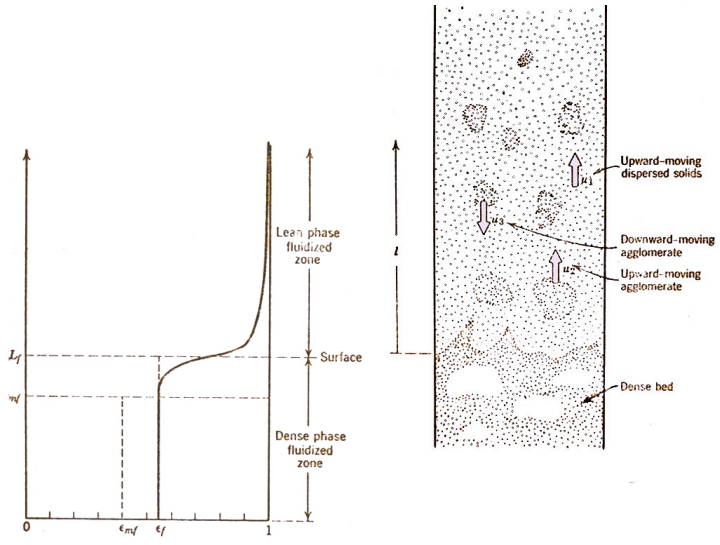
Wilson, CJN, 1980, The role of fluidisation in the emplacement of pyroclastic flows: an experimental approach. J. Volcanol. Geotherm. Res., **8**:231-249.

System Properties

- Upward gas velocity supports particles
- A large range of sizes supported
- Low viscosity
- Elutriation

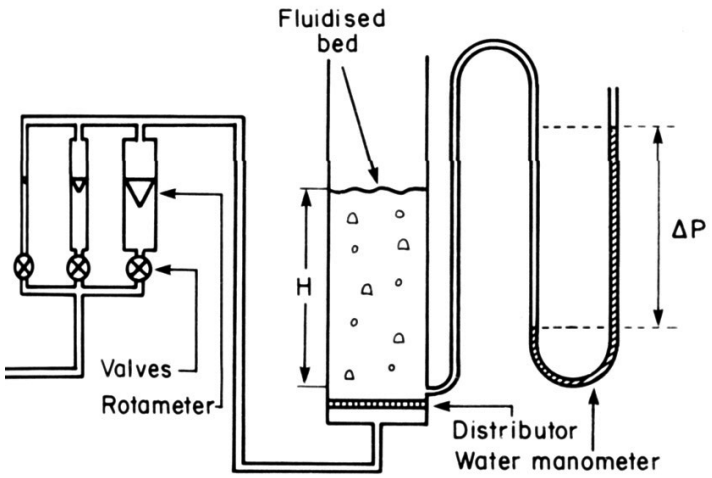


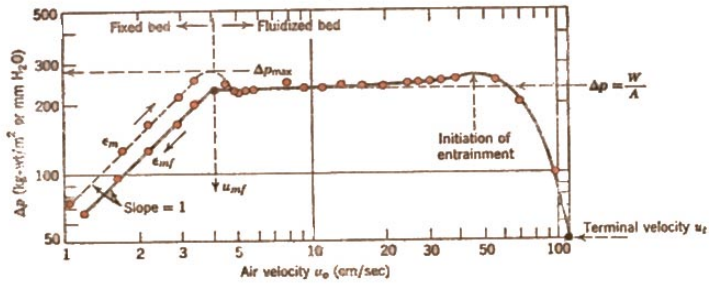


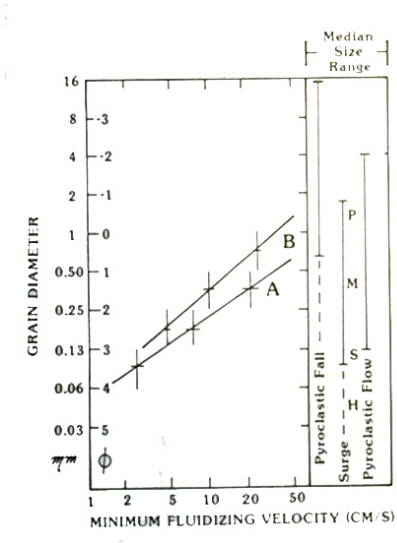


Fluidization Experiments

- Vertical tube containing particles
- Control valve for gas flow (v_g)
- Pitot tube to measure pressure drop (ΔP)







Deposit Characteristics

- Very large sorting coefficient
- Gas escape structures
- Pumice concentration zones
- Low viscosity