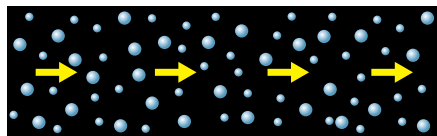


Pneumatic Conveying Modes

Material characteristics and process requirements such as distance are key in determining the optimal conveying mode for any application

Dilute Phase

Predominantly above saltation velocity



applications

- Fine powders to pellets with wide range of bulk densities
- Non-abrasive/non-fragile materials
- Sticky, cohesive materials
- Materials of mixed particle shapes and sizes
- Commonly conveyed materials include grains, milled materials, sugars, resins and compounds

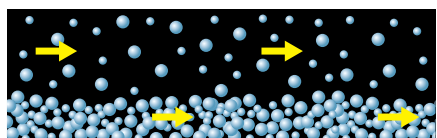
characteristics

- Highly reliable
- Higher velocities could cause particle degradation or wear of conveying elements

Dense Phase

Strand phase

Predominantly below saltation velocity



applications

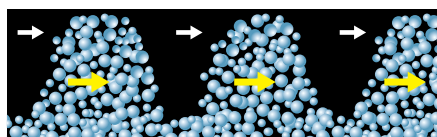
- Free flowing materials such as plastic pellets
- Coarse granular materials

characteristics

- Low energy consumption
- Smaller pipe sizes

Slug Flow

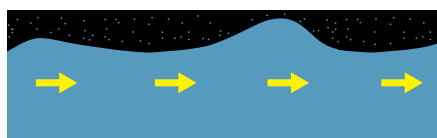
Below particle settling velocity



- Ideal for pellets and granular materials

- High material-to-air ratio
- Less dust
- No streamers
- Low wear

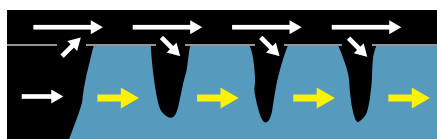
Fluidized



- Easily fluidized powders

- Full scale testing required
- Lower energy consumption
- Smaller pipe sizes
- Short distances for vacuum sequencing (<15 m [49 ft])

Internal Fluidization Bypass

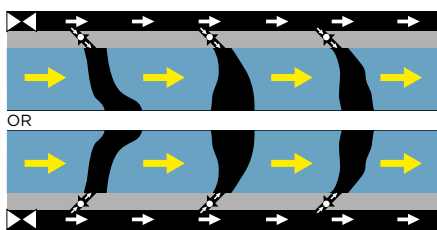


- Average fluidization
- Finely grained materials

- Self-stabilizing
- Internal tube without external air supply

External Fluidization Bypass

Below particle settling velocity



- Non-fluidizable powders
- Fine to coarse materials

- External air supply from above or below
- No obstruction in convey line
- Gentle conveying

