

MEASURING FLOW PARAMETERS OF PARTICULATE AND POWDERY SOLIDS IN INDUSTRIAL TRANSPORTATION PROCESSES

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Abstract- This paper provides an overview of existing technologies to measure flow parameters, such as material velocity and material concentration, in industrial transportation processes of particulate and powdery solids with a focus on pneumatic conveying. Restrictions, advantages and drawbacks of state of the art measurement principles are discussed. We show that capacitance-based sensing with suitable electrode topology allows for non-invasive, low-cost determination of flow parameters. Two industrial applications for material transportation - by means of pneumatic conveying and of screw conveyors - are presented.