

Electrostatic sensor, which can also be called as triboelectric sensor Sensing and filtering characteristics of electrostatic sensors for pneumatically conveyed particles.

ABSTRACT

or electrodynamic sensor, senses the electrostatic charge carried by the dry particle in pneumatic conveyor. Source of the signal induced on the electrostatic sensor is brought by the object to be measured and no excitation circuit is necessary. Electrostatic sensors are used in the process industry due their low cost and robust. Thi spaper describes an investigation into characteristics of circular and rectangular plate shapes of electrostatic sensors. Two parameters were investigated, the effect of sensor area on sensitivity and the spatial filtering effect of the sensor due to its finite size. Models were proposed and re sults obtainedand used to compare with experimental values. It was observed that relationships existed betw eensor sensitivity, sensor area and sensor spatial filtering effect.

Keyword: Sensing; Filtering; Electrostatic.