

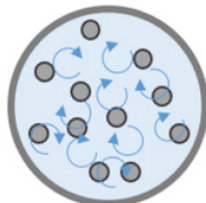
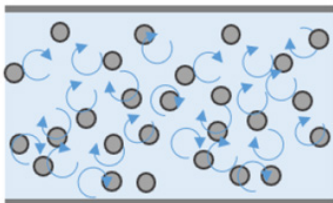
Radiometric Measurement of Percent Solids for Process Control

Percent solids measurement is a common application for radiometric pipe density. For percent solids measurement, the pipe is filled with a carrier liquid as well as solid particles. This is usually in the form of a slurry seen in mining operations where mineral ore particles are combined with water and pumped to efficiently move materials from one location to another or control water addition to maintain dilution as a means of process control.

In determining the radiometric equipment necessary for a percent solids measurement, pipe inner diameter, pipe wall thickness, carrier density and solids density are necessary. It is imperative to have the densities of the carrier liquid and the solid material to perform calculations accurately and for calibration of the detector.

The radiometric measurement principle quantifies bulk density - in the case of percent solids this is the mass of all particles in a carrier medium in a fixed volume. The measured density bulk value is then used to calculate percent solids based on the fixed carrier density and solids density. If there is variability in the solids density, then deviation between the actual percent solids vs calculated percent solids can occur.

The VEGA radiometric measurement of percent solids can offer a reliable and effect means for efficiently controlling hydro-transport of bulk solids, dilution control for plant operation, measurement of cyclone separation efficacy, and production of precipitated solids from solution reactions.



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