

Valmet DS

Post De-Watering Dry Cake Solids Measurement

Solids measurement of dried wastewater sludge (dry cake) at waste water treatment plants contributes to significant savings in polymer dosage, energy and dewatered solids transportation.

Valmet dry solids measurement (Valmet DS) utilizes microwave technology, requiring no special certification or safety procedures, to make a stable and accurate solids measurement for dewatering control in waste water treatment. DS extracts a continuous sample from the falling cake flow after a centrifuge or screw press and measures the solid content before returning the sample back to the process.

Feedback control using the accurate dry solids measurement provided by DS can fully optimize polymer dosage and provide energy savings through better torque control of the centrifuge.

Maximizing drying efficiency to a target dry cake solids content can provide additional savings with reduced transportation costs and improved power boiler combustion.

- ◆ Reliable screw based sampling
- ◆ Solids range of 15–35 %
- ◆ Built-in calibration routine
- ◆ Industrial Internet remote access

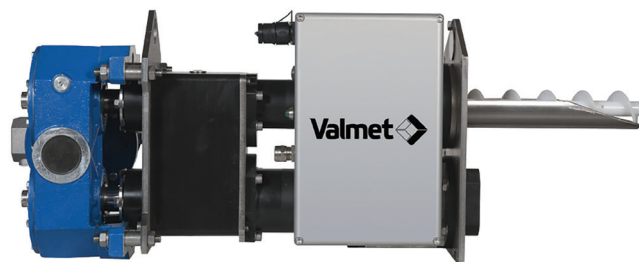
In addition to full remote access of DS functions, measurement data, alarms and diagnostics via the Industrial Internet, the Valmet DS Ethernet connection can be used for local control with a laptop or tablet computer during commissioning.

Operation

Valmet DS is typically located in the downfall section of the dry cake. A sample retrieval screw feeds a return screw which compresses and pushes the sample through the microwave sensor chamber before being returned to the process. The DS measurement is based on multivariable microwave resonance, compensated for variations in material temperature and calibrated during commissioning with samples taken from the screw and oven dried.

Continuous stable measurements

The necessity for time-consuming manual laboratory



measurements can be significantly reduced with Valmet DS. Also, uniquely to Valmet DS's measurement technology, the sample is extracted from falling cake flow after a centrifuge or screw press, before returning the sample material back to the process. Continuous measurements mean the results can be immediately utilized without needless delay from manual sampling and laboratory analysis. This offers better feedback control and real-time assessment of dewatering efficiency.

The solutions to trust

Valmet's measurement and automation solutions perform, so your staff and resources can be better focused on reaching your business goals. We have the experience and know-how in technology to give your plant measurable results, when you need them – bringing significant savings and a speedy return on investment for your business.

Benefits

- ◆ Minimised transportation costs of dry cake
- ◆ Optimised polymer dosage and torque of the centrifuge
- ◆ Reduced fuel consumption at combustion plant
- ◆ Optimization of total solids value of dry cake
- ◆ Better oversight of dewatering and process efficiency

Features

- ◆ 100% safe microwave technology
- ◆ Up to 25% or more polymer reduction

Technical Specifications

Sensor material	Ceramics / Body Aisi 317L
Measuring range	15...35 % Solids-%
Material measured	Material measured Municipal dried wastewater (sewage) cake
Temperature-range	+0...65 °C
Repeatability	0,01 %
Resolution	0,001 %
Mill system interface	4...20 mA, Ethernet
Power	24 VDC (measuring electronics) 3 phase AC (sample screws)*
IP-classification	IP65