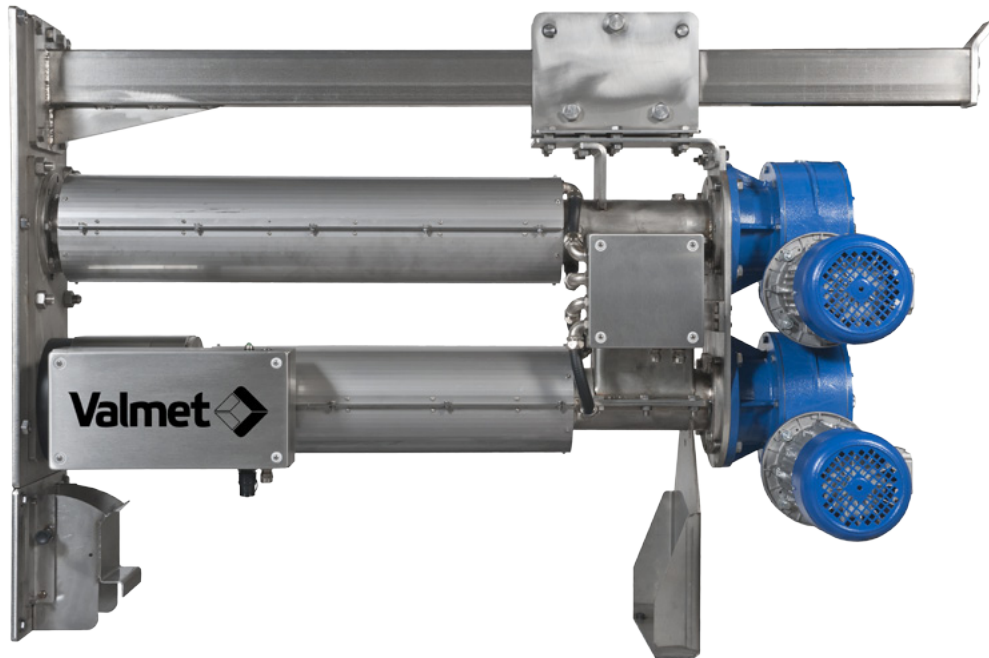


Valmet Online Wood Chip Moisture Measurement

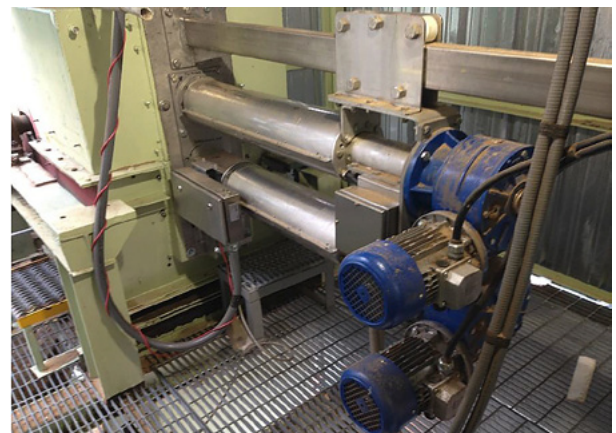
A continuous chip moisture measurement to improve digester operation and cooking liquor dosage control



Valmet Chip 'n' Bark Moisture Analyzer (Valmet CBA) utilizes microwave technology, requiring no special certification or safety procedures, to make a stable and accurate chip moisture measurement before the digester. Equipped with an integral screw feed sampling unit, a continuous sample flow is taken from the chip conveyer chute and pushed by a second screw through the unobstructed measurement chamber before being returned to the chip chute. As chip moisture affects pulp yield, kappa number and pulp quality, CBA provides a continuous measurement essential for accurate cooking liquor addition control. Applicable to all wood species, the analyzer is capable of continuous moisture measurement from 0 to 70 %. As an option, heated screw tubes are available where the possibility of frozen wood chips and ice exists.

- Reliable screw based sampling
- Moisture range of 0–70 %
- Built-in calibration routine
- Industrial Internet remote access

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



Operation

The laboratory measurement of chip moisture is typically infrequent, using small non-representative samples with results too late for use in process control. The CBA moisture measurement at the chip chute is continuous with a sample retrieval screw feeding a return screw which pushes the chips through the microwave sensor chamber before being returned to the chip chute. Periodically (at 10–60 minute intervals) the retrieval screw reverses to clear the screw tube from possible build up or foreign particles.

The CBA measurement is based on multivariable microwave resonance, compensated for variations in chip temperature and calibrated during commissioning with samples taken from the returned sample. The robust construction is designed for straightforward installation and trouble free operation under all mill conditions.

Specifications

Sensor material:	Polyethene/ Body Aisi 317L
Measuring ranges:	0-15%, 15-70 % Moisture. Dry calibration and wet calibration
Material measured:	Wood chips, bark and other forest based biomass
Sampling system:	Sampling screw diameter 100 mm, Screw material stainless steel
Total weight:	400 kg
Temperature-range:	+10...65 °C
Repeatability:	0.01 % Theoretical value of the sensor
Resolution:	0.001 % Theoretical value of the sensor
Mill system interface:	4...20 mA, Ethernet
Power:	24 VDC measuring electronics 3 phase AC sample screws
IP-classification	IP65

