

Energy production using biomass

Moisture measurement with M-Sens 2

Application

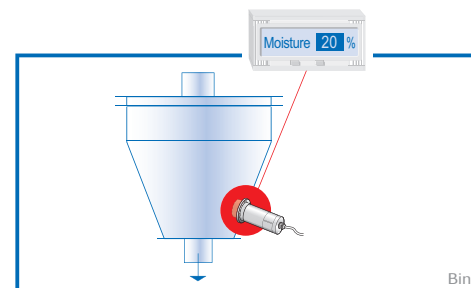
An energy provider burns biomass (waste wood), to produce electricity and heat. The biomass is delivered and stored in a self contained storage area. Following the separation process of removing (ferrous, non ferrous-metals), the remaining wood is conveyed to a fluidized-bed system, where it is burnt. The steam generated produces electricity via a turbine.

During the process of fluidized-bed combustion ash is generated, which collects in the lower area of the firing installation. From here the ash is conveyed by a slider into an airstream and conveyed to a temporary storage facility. At this point the moisture content of the ash must not exceed a certain level, because it can cause clogging of the material and the caking could damage the installation.



Process data

Customer:	Biomass power plant (Germany)
Material:	Fly ash
Transport device:	Freefall after silo
Installation place:	Silo for ash discharge of a fluidized-bed
Material humidity:	20 - 25 %

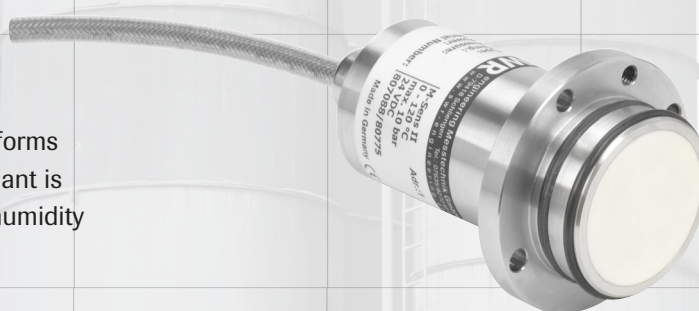


Solution

The M-Sens 2 is used for the continuous measurement of humidity on solids of all kinds in container outlets, conveyor screws, on conveyor belts, slides etc.

In the described application the humidity of fly ash in an outlet funnel should be monitored before the ash is drained by a slide and conveyed by an airstream.

If a humidity level of 20 % is reached a pre-alarm informs the plant manager, at a moisture level of 25 % the plant is shut down. The described application is typical for humidity monitoring with M-Sens 2 in hopper outlets.



Customer benefit

- Plant protection
- Process optimization and -automation
- No humidity measurement in laboratory necessary
- Free flowing of the material

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