

Application Note for Pellets Moisture Measurement

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In modern wooden pellets production from saw dust or wooden chip waste, a moisture analysis is mainly necessary before and after drying processes, but also for moisture testing for incoming raw material and outgoing finished products. Wooden pellets are used for heating processes - in private households and in different industries. The energy and CO₂ balance will be improved (carbon-neutral). To keep the energy costs and the CO₂ output low, also in the wood pellet production process the use of energy mainly in drying machines (ovens, belt presses) should be kept as low as possible.

Pellet production plants have capacities of 150,000 ton / year (average, new ones up to 500,000 ton / year). Wood pellets are carbon (CO₂) neutral and reduce the percentage of greenhouse gas emissions significantly. The raw material (sawdust) must be dried to around 4 % moisture content (dry weight basis). This level of moisture makes them burn well. Inline moisture analyzers measure the moisture content very accurately (0.2 %). In the laboratory mainly desktop analyzers or drying ovens are used to doublecheck and correlate the inline sensor results. During the production process (different stages) also handheld moisture meters are used (based on capacitive or microwave measurement principle).

In general the moisture analyzer is the first choice in pellets moisture content measurement.