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Principles of measurement

Conductometry

This measuring principle is based on the fact that electric conductivity changes according to the moisture content of a porous material. The electric conductivity in dry material is lower than in wet material.

For a measurement of electric conductivity two electrodes are plugged or driven in the material. The electric resistance between these two electrodes can then be measured.

An optimised measuring procedure (that doesn't feature the disadvantages of a standard resistance measurement) ensures the right measuring results also for long-term measurements.

The evaluation electronics converts the measured conductance into weight percent and shows the water content on the display.



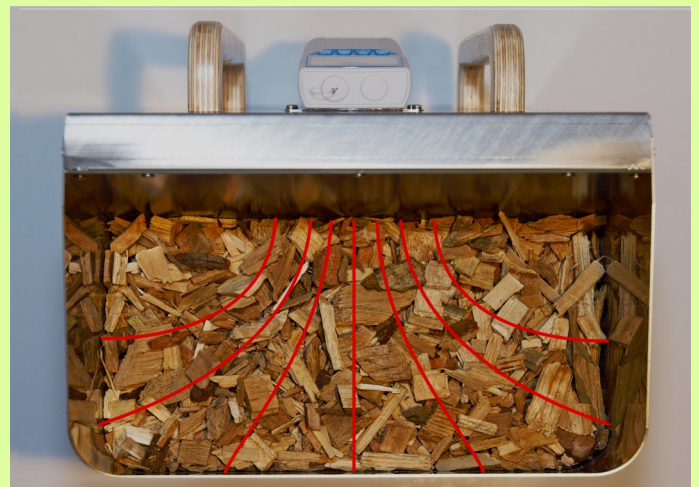
Capacitive measurement

The capacitive measuring principle utilises the different dielectric coefficient (electric field permeability of a material) of dry, nonconducting material (approx. 2-10) and water (approx. 80). The wetter the material, the higher is its dielectric coefficient.

A capacitor makes this coefficient measurable. This capacitor consists of two electrodes integrated in the sensor, that build an electric high-frequency field (dielectric) in the material to measure.

If there is material with higher water content in the stray field of the capacitor, this results in a higher capacity.

The evaluation electronics converts this capacity value into weight percent and shows the water content on the display.



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