



### FS\_3 MM Material Moisture Basic Device

The basic device is equipped with a pile sensor for measuring the absolute moisture. Measurement of many different materials with a plan surface or of bulk material. In the FS\_3 MM few standard calibrations are pre-programmed, but the customer has the possibility to easily add his own specific calibrations. The measuring device can be calibrated for 16 different sorts. You receive measurement results within seconds and without test preparation and without destroying the material to be tested. The measuring data can be stored by pressing a key. FS\_3 also has an AutoLog function that stores data automatically. You have also the possibility to add suppliers data with the device keyboard. Afterwards you can make a print-out of this information or transfer it onto a PC.

### External sensors:



### RS\_30 Roll sensor

For measuring absolute moisture of cylindrical corpus. Through AutoLog function it is easy to make a moisture profile of the complete width for moisture-strip-search.

Absolute moisture: 0 to 50% (depending on the material)  
Temperature range: -10 to +60°C (14 to 140°F)  
Measuring depth: 30mm

### Optional accessories:



### Software package incl. data linkage cable

For an easy and quick measuring data documentation on the PC.

### Measuring data printer with battery drive

For a quick print-out of measuring data, applicable everywhere on site.



## Messtechnik Schaller GmbH

Ludersdorf 148  
A – 8200 Gleisdorf  
Tel +43(0)3112 / 6120 -0  
Fax +43(0)3112 / 6120 -2  
sales@schaller-gmbh.at  
www.schaller-gmbh.at

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with us or  
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## General information about material moisture:



In the field of moisture measuring there are two kinds of moisture:  
Relative equilibrium moisture content and absolute moisture of material.



The relative equilibrium moisture content of a material indicates the relative moisture of ambient air counterbalancing the material. In this case the material does not absorb or release any moisture.



The absolute moisture of material indicates the percentage of water content of a material referred to the total weight (paper, grain, ...) and with some materials (e.g. wood) referred to the dry mass.



Almost all materials in our surroundings are hygroscopic. This means that they soak up moisture from the surroundings or set moisture free.

## Everything depends on the content of moisture!



In case grain becomes mouldy or farmers dry wheat too long, they have to sell it at a lower price. The less moisture grain contains the lighter it becomes.



If, for example, two pieces of the same kind of material (e.g. wood) containing different levels of moisture are glued together, the pieces can break apart due to loss of moisture and shrinkage of one piece resulting from that loss. Who does not know those beautiful but shaky wooden floors as a result of loss of moisture?



Another example: Two pieces of leather, one containing a lot of moisture and the other with a moisture value adapted to the air, are sewed together. The effect is the same as the one above. The moist piece of leather releases moisture into the air while shrinking at the same time. As result you get is a wavy seam.



If grain or chips of wood are stored in a place that is too moist, they become mouldy, thus resulting in a considerable degradation of quality. There can also be problems in further processing or even a standstill of machines.



You buy water at a high product price, for example in coffee, paper etc. Or take biomass fuels for example where additionally the utilization ratio quite soon decreases by half with increasing water content.



Iron in reinforced concrete bridges rusts and Rembrandt's paintings in museums fade or get cracks.

**In order to avoid these costly mistakes, moisture of materials in manufacturing and treatment processes must be checked in order to give you the chance to take suitable measures in time.**

Should you have any problems like the ones mentioned above or any other questions concerning moisture, please contact us: **+43(0)3112 / 6120 -0 – [office@schaller-gmbh.at](mailto:office@schaller-gmbh.at)**

Order our brochure with our whole product range or our CD-ROM by fax, telephone or via e-mail! To be up-to-date regarding moisture measuring you can subscribe to our e-mail newsletter under [news@schaller-gmbh.at](mailto:news@schaller-gmbh.at).

## Application description for FS\_3 MM Material universal moisture meter

Our FS\_3 MM is a very exact moisture meter for many different applications in a lot of industry sections. You can calibrate the basic device for your own specific materials. The measuring data can be stored manually or automatically. Afterwards you can make a print-out of this information or transfer it onto a PC.



### Technical data:

Measuring range	0 to 100% (depending on sensor)
Measuring depth of pile sensor	30 mm
Temperature compensation	automatically
Sample preparation	unnecessary
Interface	RS232 for PC and printer
Measured data storage	moisture, date and suppliers data
Customer calibration	up to 16 different species
Operation temperature range	0 to +40°C (32 to 104°F)
Power supply	3 pcs. AA Mignon batteries
Display	lighted matrix display
Resolution of measured data	0.1% moisture / 0.5°C temperature
Dimensions / weight	175 x 95 x 30 mm / approx. 370 g
Scope of supply	wooden case, proof plate, batteries
Optional accessories	software-package for PC, portable printer, Roll sensor