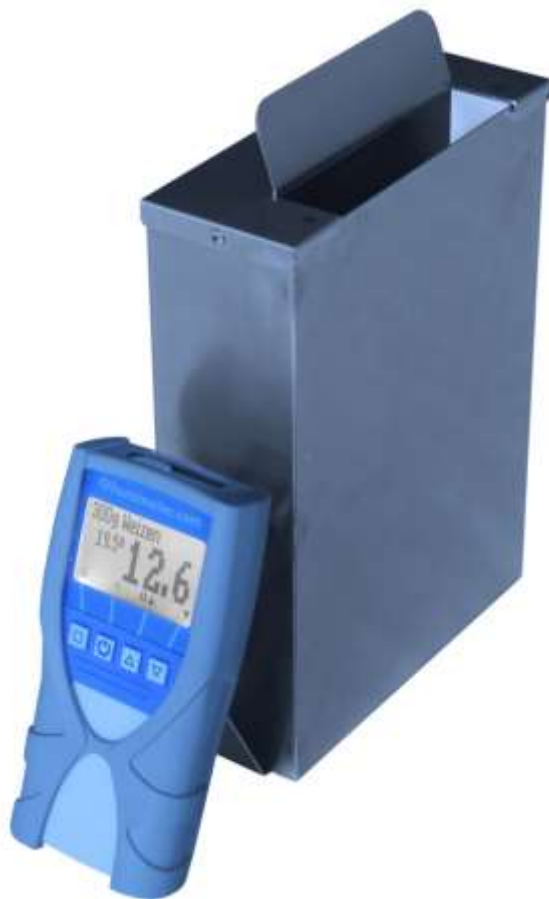


User manual




grain moisture meter

Moisture Analyser FS2


1. Place the empty provided cup (0.5 litre) on the scale and turn the scale on. It shows 0.0 gram.

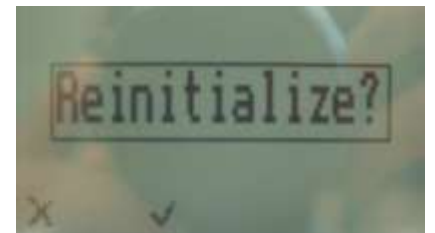




2. Make sure that the measuring chamber is completely empty. It is important that no material is left in the measuring chamber when you turn on the device.

3. Switch on the moisture analyser FS2 by pressing the power button () for 3 sec.



4. The next step is a self calibration. The word “reinitialize” will show up on your display. Accept by pressing the  button.



5. Select the right calibration curve for your material under test using the buttons  or .



6. Fill up the cup with the sample material (+/- 1.0g). **The filling quantity needed is shown on the upper left corner of the display of the device.**



7. Fill up the measuring device with the sample material. The filling needs to be done slowly and constantly to ensure reproducible results.







8. The display shows the measuring result.




9. If the measuring value is blinking, the valid measuring range has been exceeded (limits see list on page 5). In this case the accuracy decreases.



10. To save the results in the store menu press the  (↓ button). Storage was successful when the number in front of the symbol  increases. To reach the store menu please press  until the  appears.



11. To name the saved results press the  button.



12. Empty the moisture analyser and ensure that no grain rests are accumulated in the measuring chamber.

Changing batteries

If the batteries are empty, please proceed as follows:

- 1.) Press with your finger onto the arrow of the battery cap und pull it back.
- 2.) Remove the empty batteries.
- 3.) Put four new batteries in the device. Check the right position of the battery poles.
- 4.) Press down the batteries and close the cap.








If the battery symbol appears in the measuring window resp. if a critical charge of battery is shown in the status, the batteries have to be changed IMMEDIATELY.



Also remove the batteries if you do not use your moisture analyser device for a longer period. For eventual resulting damages we cannot provide any warranty.



List of calibration curves

Press the  or  key in the measuring window for at least 3 seconds and a list with all available sorts will appear. Select your sort by pressing  or  and confirm with the  key. The measurement will continue automatically.



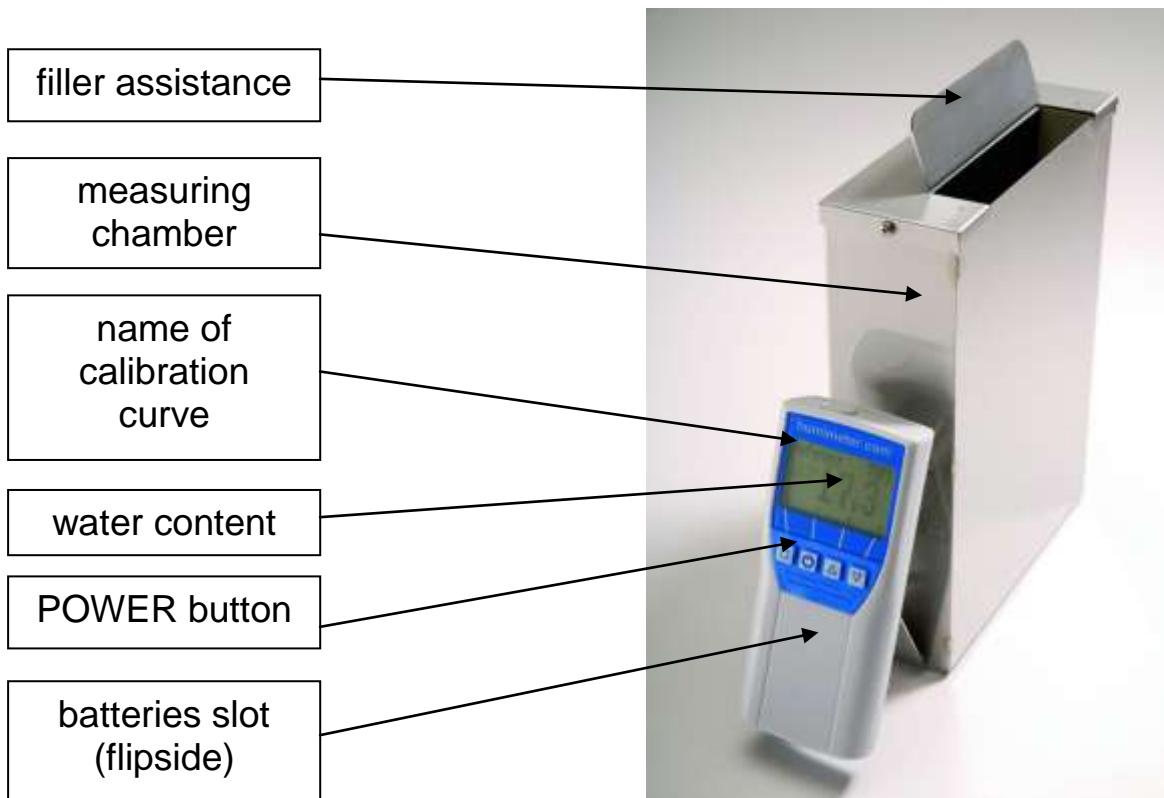
Calibration curves

name of calibration curve	material under test	filling quantity	measuring range
300g corn stand.	corn standard	300g	5 up to 40%
300g hand corn	corn hand reaped	300g	5 up to 40%
300g rye	rye	300g	5 up to 28%
300g triticale	triticale	300g	5 up to 28%
300g wheat	wheat	300g	5 up to 28%
300g spelt peel.	spelt peeled	300g	5 up to 28%
300g barley	barley	300g	5 up to 28%
190g oats	oats	190g	5 up to 25%
300g rape	rape	300g	5 up to 18%
230g pumpkin	pumpkin seed	230g	2 up to 20%
310g peas	peas	310g	5 up to 25%
300g soybeans	soybeans	300g	9 up to 18%
295g horse beans	horse beans	295g	10 up to 20%
277g beetle bean	beetle beans	277g	8 up to 25%
180g sunflower	sunflower seeds	180g	5 up to 18%
300g rice peeled	Peeled rice	300g	9 up to 25%
250g rice unpe.	Unpeeled rice	250g	4 up to 30%
300g rice brown	Brown rice	300g	4 up to 26%
300g buckwheat	buckwheat	300g	5 up to 18%
200g Jatropha	jatropha	200g	5 up to 18%
Reference	To test the humimeter – must not be used for measuring!		

Additional calibration curves:

On request PCE Instruments can develop customized calibration curves for your specific product. PCE can also enter already existing calibration curves subsequently.

Design of the device



Determination of the material reference moisture

The principle is a comparison measurement with the dehydration method according to **EN ISO712**. Take the measured sample and weigh it. Dry it out in an oven and weigh it again.

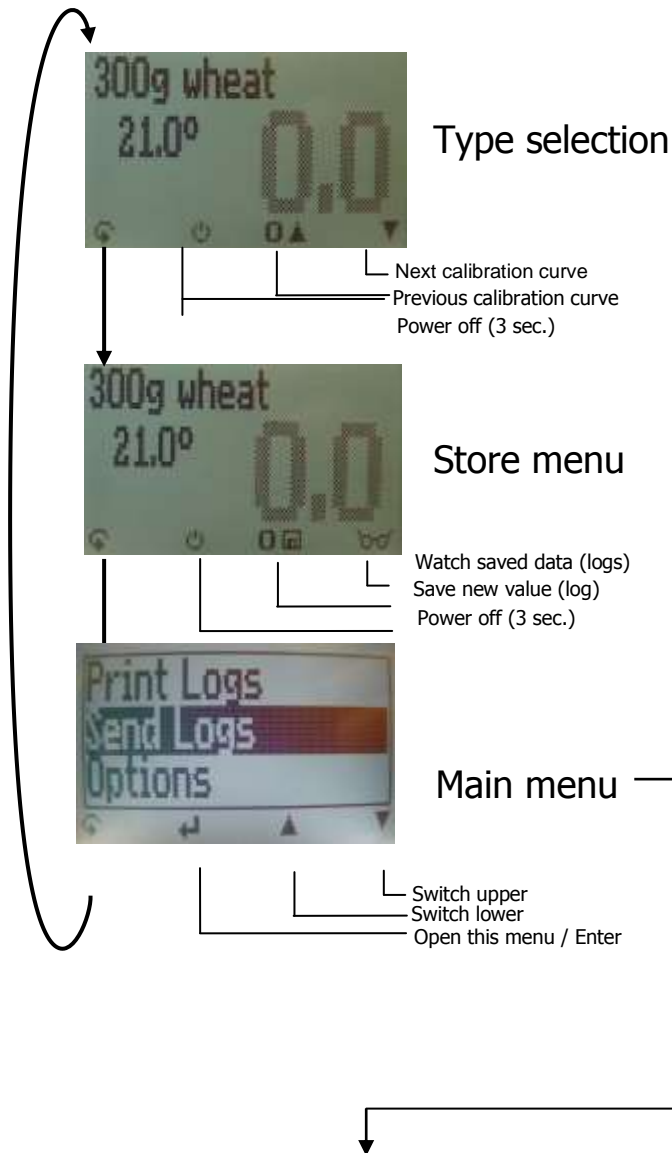
$$\%F = \frac{M_n - M_t}{M_n} \times 100$$

M_n : Mass with average moisture content

M_t : Mass of the dried sample

%F: Calculated moisture content

Menu level overview



Overview main menu

<i>Edit Logs</i>	<i>Options</i>
Manual Logs	Date / Time
Clear Logs	Log Time
<i>Options</i>	Language
<i>Status</i>	Unlock
	°C / °F
	o Userlevel
	Materialcalib.
	Password
	Reset

Keypad symbols

Measuring window:

- Rolling Menu
- Power ON / OFF
- Switch upper
- Switch lower
- Save
- Hold
- Watch saved data
- Add suppliers data

Menu:

- Enter
- Switch upper
- Switch lower
- Exit
- Enter numbers
- Enter letters
- Next or right
- Left
- Yes
- No
- Shift
- OK

Notes

A series of horizontal dashed lines for writing notes.

Notes



A series of 20 horizontal dashed lines for writing notes.

Exemption from liability

For miss-readings and wrong measurements and of this resulting damages we refuse any liability. This is a device for the quick determination of moisture. The moisture depends on multiple conditions and multiple materials. Therefore we recommend a plausibility check of the measuring results. Each device includes a serial number and the guarantee stamp. If those are broken, no claims for guarantee can be made. In case of a faulty device, please contact PCE Instruments.

Activation of the “super user” function

2 times  - *Options* – Unlock


Enter the 4-digit password using the  button (standard is the 4-digit serial number) and confirm by pressing the  button.

Changing the Userlevel



Changing from advanced user to single user:


Make sure that you have activated the “super user” functions according to the instructions above. Afterwards change to the menu and choose „Options“.

In the submenu please select „o Userlevel“ (2 times  - *Options* – o *Userlevel*)

Confirm by pressing the  button. Now the single user is activated.

Changing from single user to advanced user:

Keep both the buttons  and  pressed directly after switching on the device. Your humimeter automatically starts the main menu. Activate the “super user” function according to the instructions above.

Navigate to “*Options* – o *Userlevel*” and confirm by pressing the  button.

Technical data

Resolution of the display	0.1% water content 0.5°C temperature
Measuring range	5 up to 40% depending on the material
Operation temperature	0 up to +40°C (32 up to 104°F)
Storage temperature	-20°C to +60°C
Temperature compensation	automatically
Power supply	4 pcs. 1.5 Volt AA <u>Alkaline</u> batteries (900 measurements)
Auto Switch OFF	After approx. 6 minutes
Current consumption	60mA (with light)
Display	128x64 matrix display, lighted
Dimensions	260 x 70 x 250 mm
Weight	approx. 1.3 kg (with batteries)
Degree of protection	IP 40
Scope of supply	FS2 incl. plastic case digital scale (max. 500g; 0.1g) measuring cup 0.5 liter 4 pcs. 1,5Volt AA Alkaline batteries

! IMPORTANT ! please read

Most common reasons for miss readings

- ***Product temperature out of application range***

Material of a temperature **below 0°C** resp. **above +40°C** (32 to 104 °F) may cause faulty measurements. The storage of cold material in a warm storage area usually creates condensed water which may lead to major measuring errors.

- ***Not adjusted material under test***

Let your humimeter adjust to the surrounding temperature of the material for approx. half an hour.

A very high temperature difference has a negative effect on the stability of the measurement results.

- ***Wrong calibration curve***

Before measuring your sample, please double-check the correct selection of the calibration curve.

- ***Wrong filling quantity***

Fill in exactly the right weight ($\pm 1.0\text{g}$) of material in the measuring chamber.

- ***Wet or mouldy material***

- ***Stored and fermented corn silage from whole grains may lead to higher value***

- ***Frozen measuring material***

Device maintenance instructions

To provide a long life of your device please do not expose it to strong mechanical loads or heat e.g. dropping it or direct sunlight exposure. Clean your device using a dry cloth. The measuring chamber needs to be cleaned with a dry and soft brush.

Any kind of wet cleaning damages the device. The instrument is not rainproof. Keep it in dry areas. When the device is not used for a longer period (6 months) or when the batteries are empty, they should be removed to prevent a leakage of the battery acid.