

WÖHLER

**Manual
Wood Moisture Meter**



Wöhler HF 550

Best.-Nr. 23851 – 2016-08-02

The Measure of Technology

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1 General Information

1.1 Operation Manual Information

This operation manual allows you to work safely with the Wöhler HF 550. Please keep this manual for your information.

The Wöhler HF 550 Wood Moisture Meter should be employed by professionals for its intended use only.

Liability is void for any damages caused by not following this manual.

1.2 Notes



WARNING!

Not following this warning can cause injury or death.



CAUTION!

Not following this note can cause permanent damage to the meter.



NOTE!

Highlights tips and other useful information.

1.3 Proper use

When the Wöhler HF 550 Wood Moisture Meter is connected to the Hammer Probe or the Lance probe, it is suitable for the determination of the moisture of firewood logs according to VDI 4206, sheet 4 and the 1. BImSchV. (Federal Immission Control Act)

When the Wöhler HF 550 Wood Moisture Meter is connected to the Wöhler FW 550 Moisture Scale, it is suitable for the determination of the moisture of bulk material according to the requirements of VDI 4206, sheet 4.

1.4 Transport



CAUTION!

Improper transport can harm the meter, scale and probes.

Always transport the meter, scale and probes in the provided carrying case in order to prevent damage.



WARNING!

Always secure the sharp probe needles with the protection cap.

1.5 Information on disposal



Electronic equipment does not belong into domestic waste, but must be disposed in accordance with the applicable statutory provisions.

You may hand in any defective batteries taken out of the unit to recycling places of public disposal systems or to selling points of new batteries or storage batteries.



1.6 Manufacturer

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2 Technical Data

2.1 Wöhler HF 550 Wood Moisture Meter

General technical data	
Connections	Wöhler Hammer Probe, Lance Probe, Wöhler FW 550 Moisture Scale, Temperature Probe, USB-data transfer
Power supply	Lithium-ion battery 3.6V, 2,250 mAh, charging via USB
Working time	ca. 20 h (depending on the operating mode and the Display Backlight)
Storage Temperature	-20°C to +50°C
Operating temperature	+5°C to +40 °C
Weight	255 g (without probe)
Size	59 x 38 x 200 mm
Moisture measurement of firewood logs	
Display	Wood moisture u displayed in % relative to the dry mass of fuel; user can switch to water content w displayed in % relative to the moist mass of fuel
Wood species	14 wood species to choose from
Temperature compensation	Measures temperature of material by means of a temperature probe
Measurement principle	Electrical resistance measurement
Range	Moisture: 10.0 % u - 40.0 % u, resolution 0.1 % u Water content: 9.0 % w - 29.0 % w, resolution 0.1 % w
Accuracy	± 40 % of reading according to VDI 4206 page 4

2.2 Wöhler FW 550 Moisture Scale for Bulk Material

Moisture Measurement of bulk material	
Display	Wood moisture u displayed in % relative to the dry mass of fuel; user can switch to water content w displayed in % relative to the moist mass of fuel The readings are displayed on the HF 550 screen or on the PC screen
Bulk material	Selectable: wood chips and pellets, as well as six species of grain
Measurement principle	Dielectric mass measurement
Range	Moisture: 0.1 % u to 70.0 % u , resolution 0.1 % u Water content: 0.1 % w to 41.0 % w , resolution 0.1 % w
Accuracy	0.1 % u to 5.0 % u , if 2 % u ± 40 % of reading in the range 5,0 % u to 70,0 % u For fuels tested according to the requirements of VDI 4206 Part 4

3 Device components and connections

3.1 Meter



1. Connection for temperature probe
2. Screen
3. Keypad
4. Infrared port for the data transfer to the Wöhler TD 100 Thermoprinter
5. Jack connection:
 - a) Hammer Probe
 - b) Lance Probe
6. USB port
 - a) for Charger
 - b) for Wöhler FW 550 Moisture Scale
7. Transport lock for activating the accu.

Fig. 1: Device components

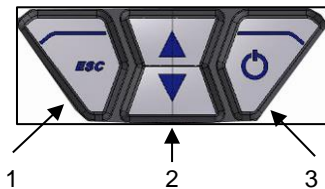


Fig. 2: Keypad

1. **ESC-key** (context-sensitive):
 - a) cancel the current function
 - b) go to the main menu
 - c) return to the measurement menu
2. **Arrow-keys:**
scroll up and down
3. **ON-/Off-key** (context sensitive):
 - a) Switch the meter on and off (press and hold for 3 seconds)
 - b) Confirm
 - c) Save value or delete saved value

3.2 Probes and Moisture Scale

! CAUTION!

The meter may only be used with the following Wöhler original accessories:

Firewood logs and bulk material

The Temperature probe has to be connected to the meter for measuring the temperature of the sample.



Fig. 3:
Temperature probe Wöhler HF 550

Firewood log

The Wöhler Hammer Probe or the Lance Probe have to be connected to meter for measuring the wood moisture of logs.



Fig. 4: Lance Probe

Operation



Fig. 5: Wöhler Hammer Probe

The result of the resistance measurement will be more exact, if the Hammer Probe is used, because the needles of the probe can be inserted more deeply into the wood, so that humidity can even be measured inside the wood.

Bulk material



Fig. 6: Wöhler FW 550 Moisture Scale for Bulk Material

The Wöhler FW 550 Moisture Scale has to be connected to the meter for measuring the moisture of bulk material.



NOTE!

The meter will automatically detect, if a hammer/lance probe for the measurement of firewood logs or the moisture scale is connected. The measurement mode for firewood logs or for bulk material will automatically be displayed in this case.

4 Operation

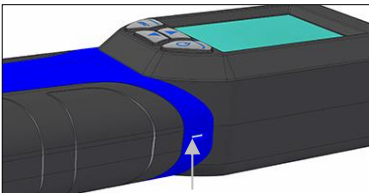


Fig. 7: Transport lock on the right side of the meter



CAUTION!

For the transport deactivate the battery with the transport lock. When the instrument is delivered, the battery is always deactivated.

- Push the transport lock to the left to activate the battery. Use a pointed object (wire or pen) for this purpose.

4.1 Switching the meter on and off

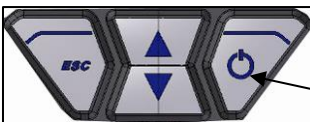


Fig. 8: Key pad with on/off-key marked

- Turning on the Meter: Press on/off-key shortly (on the right)
- Turning off the meter: Long press the on/off-key for 3 sec.

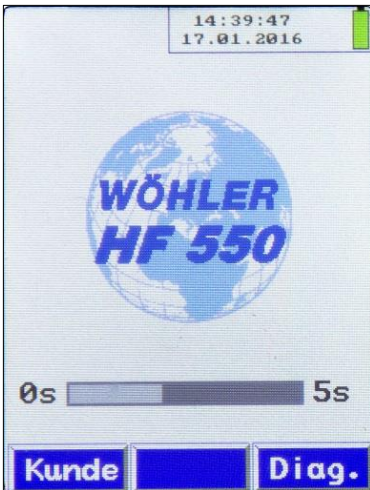


Fig. 9: Initial screen

After the meter has been switched on, a self test is carried out for 5 seconds.

During the self test the user has the possibility to enter the customer menu or the diagnosis menu.

The diagnosis menu shows information about the firmware, the version of the measurement module, the serial number of the meter, the calibration date, the production date and the identification number of the meter (MIN).

For information about the customer menu, see chapter 9.2.

After the self test, the measurement screen appears. If the Moisture Scale FW 550 is not connected, the measurement mode “firewood logs” will appear automatically on the screen. If the Moisture Scale FW 550 is connected, the measurement screen “bulk material” will appear automatically on the screen.



NOTE!

Only if the Moisture Scale FW 550 is connected to the meter before the meter is switched on, the measurement mode “bulk material” will appear on screen.

- For changing the measurement mode, go to the main menu and select „Select probe”, see chapter 8.6.

5 Check battery status and charge battery

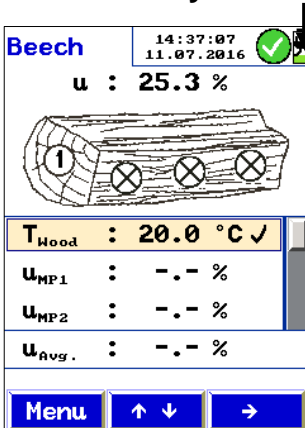


Fig. 10: Battery status



Fig. 11: Bottom of the meter with USB-port (marked with an arrow)

When the device is switched on, the battery status will be displayed in the upper right hand corner of the screen. A fully charged battery is shown as a solid green battery symbol. An empty symbol indicates a discharged battery. When the battery is almost discharged, only a red line will appear in the battery icon. In this case, finish the measurement as soon as possible.



NOTE!

It is not possible to remove the battery from the meter.

- Plug the USB connector of the recharger into the USB port at the bottom of the meter.

During the charging process a connector symbol will appear in the battery icon.



NOTE!

Recharging empty batteries can take up to 4 hours.



WARNING!

Risk of electrical shock!

Never touch a mains plug with wet hands!

Do not expose the power pack to moisture!

Never pull the cable to remove the power pack from the socket outlet - it could rip out the cable!

Operate the power pack only when the mains power supply is the same as the voltage stated on the rating plate!

6 Measuring the wood moisture of logs

The Wöhler HF 550 can measure the wood moisture of logs according to VDI 4206, part 4. This measurement is based on a resistance measurement. In order to obtain an exact measurement, the respective material is considered.

The wood moisture depends on the temperature of the material. For this reason, the wood temperature must be measured at first. The meter will automatically perform a temperature compensation afterwards.



NOTE!

For measuring the wood moisture of logs the Hammer Probe or the Lance Probe must be connected to the meter.

6.1 Theoretical background

The resistance measurement uses the needles of the Hammer Probe or the Lance Probe. The meter will automatically determine the wood moisture u . This is the water mass m_w bound in the fuel and related to the absolute dry fuel mass m_B according to equation (1):

$$u = \frac{m_w}{m_B} \cdot 100\% \quad \text{Equation 1}$$

Explanation:

u = wood moisture

m_w = water mass bound in the wood

m_b = absolute dry fuel mass



NOTE!

According to the above equation the wood moisture may be higher than 100 %.

Measuring the wood moisture of logs

The wood moisture must not be confused with the water content. The water content is the water mass related to the total mass of fuel and water (wet basis).

$$w = \frac{m_w}{m_B + m_w} \cdot 100 \% \quad \text{Equation 2}$$

Explanation:

w = water content

m_w = water mass bound to wood

m_B = absolute dry fuel mass

The wood moisture can be converted to the water content as follows:

$$w = \frac{u}{1 + u} \cdot 100\% \quad \text{Equation 3}$$

Explanation:

w = water content

u = wood moisture

6.2 Connecting the Probe

For the determination of the wood moisture it is necessary to connect two probes to the meter :

1. Temperature probe, connection at the top of the meter, see figure 1, part 1
2. Wood Moisture Probe (Hammer Probe or Lance Probe), connection at the bottom of the meter, see figure 1, part 5



CAUTION!

Before the meter is used, a visual check of the meter and the probes must ensure that all functions work properly.

Before start measuring, check that the needles/electrodes of the Hammer Probe or Lance Probe are not bent. If the electrodes are bent, the distance will not be 25 mm any more, so that the measurement result may not be correct.



Fig. 12: Top of the meter with temperature probe connected.

- Plug the Temperature probe into the correspondent port at the top of the meter, see figure 1, part 1.

 **NOTE!**

The (+) plug is smaller than the (-) plug. Therefore it is only possible to plug in the temperature probe in the correct direction.



Fig. 13: Bottom of the meter with Hammer Probe connected

- Plug the jack of the Hammer Probe or the Lance Probe into the correspondent plug at the bottom of the meter, see figure 1, part 5.

 **NOTE!**

The result of the resistance measurement will be more exact, if the Hammer Probe is used, because the needles of the probe can be inserted more deeply into the wood, so that humidity can even be measured in the inside of the wood.

For using the Wöhler Hammer Probe please observe the manual of the Hammer Probe.

6.3 Measuring

- Switch on the Meter, see chapter 4.1.

After the self test, the meter will automatically switch to the measuring mode.



NOTE!

If there is no probe connected to the meter, or if the hammer or lance probe is connected to the meter, the measurement mode of firewood logs will automatically appear on screen. If the Wöhler FW 550 Moisture Scale is connected to the meter, when the Meter is switched on, go to the main menu, select "Select Probe" and then select "Log probe".

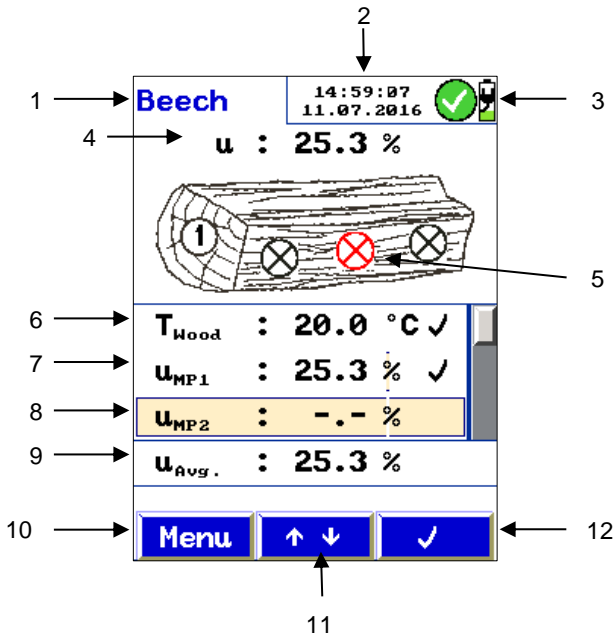


Fig. 14: Measurement screen: Logs

Explanation

1. Selected type of wood
2. Date and time
3. Battery status
4. Actual reading of the wood moisture u
5. Actual measurement point (red)
6. Wood temperature
7. U-value: measurement point 1, already saved
8. U-value: Measurement Point 2, not measured yet
9. Average u -value, calculated from the u -values that have already been saved.
10. Menu- key
11. Scroll
12. Context sensitive key to save the value (✓) or to delete a value that has already been saved (trash can icon).

The display is divided into a status, a menu and a readings segment.

The type of wood is shown in the left status segment. The status window is shown in the right status segment. It shows the time, the date and the battery status.

The readings segment shows the measured data and a drawing where the selected measured point is shown in red.

The menu segment is situated at the bottom of the display. It consists of three soft keys.

Selecting the type of wood

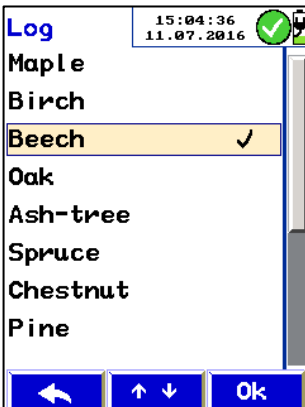


Fig. 15: "Log choice" menu to select the type of wood

- Press the Menu-key to bring up the main menu.
- Select "Log Choice" and confirm with OK.

The user can select between 14 types of wood, see chapter 8.7.

- With the arrow keys go to the selected type of wood and confirm with OK.
- Press the "Escape"-key to exit the "Log choice"-menu.
- Press the "Escape"-key again, to bring up the measurement menu.

Measuring



Fig. 16: Driving in the Hammer Probe

Average value

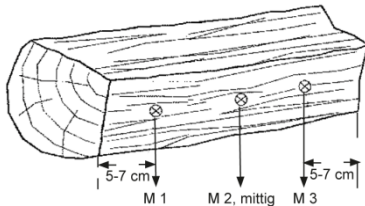


Fig. 17: Situation of the measurement points at the log

Please note the following points when performing the measurement:

Temperature Measurement

- Split the wood log in the middle and perform the measurement immediately at the inside part of the log.
- Drive the electrodes of the Lance Probe or the Hammer Probe into the material.



NOTE!

Measurements are to be performed diagonally to the direction of the fibres; in other words, a line drawn between the measurement needles would dissect the fibre of the wood.

In general the wood moisture should be measured at three different points (see adjacent figure). The meter will automatically calculate the average of the three measurements. For a precise calculation of the result, this triple measurement has to be repeated three times. Therefore the meter proposes 9 measurement points in total.



NOTE!

Chose a measuring point without any knobs, resin or fissures.

- Do not measure at the front side or at the exterior side of the split log.



NOTE!

The wood to be measured should have a temperature of 0°C to 30 °C.

The Wöhler HF 550 will automatically perform a temperature compensation when measuring the wood moisture. Therefore it is necessary to measure the temperature before measuring the wood moisture.

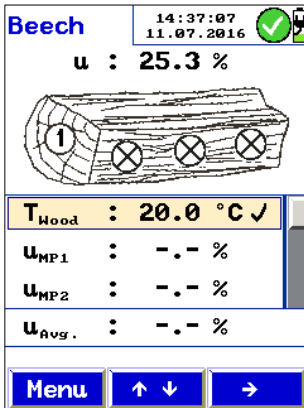


Fig. 18: Temperature Measurement screen

Measurement 1

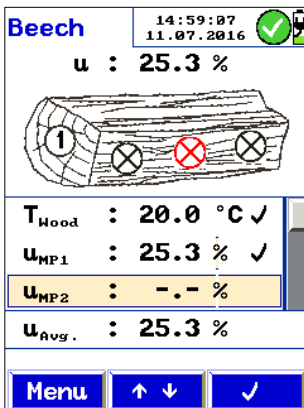


Fig. 19: The wood moisture value of the Measurement Point 1 has been saved.



NOTE!

We recommend to measure the wood temperature at the stock location of the wood.

- With the arrow keys scroll to the temperature line T_{wood} , see adjacent figure.
- Drive the the needle of the temperature probe into the log.
- Wait some seconds until the temperature value is stable.
- Confirm by pressing ✓-key.



NOTE!

You have the possibility to delete a temperature value that has already been saved by pressing the right key (trash icon) and to measure it again.

If you do not have a temperature probe, it is possible to enter the temperature value manually:

- With the arrow keys scroll to the temperature line T_{wood} , see adjacent figure.
- With the right arrow key select the temperature value and change it with the up and down arrow keys.
- With the up- and down arrow keys scroll to the first measurement point U_{MP1} .
- At the first measurement point, drive the needles of the moisture probe (hammer probe or lance probe) into the wood.

The screen shows a drawing of a log with the current measurement point marked in red.

The current reading of the wood moisture u will be shown on screen above the drawing of the wood

- Press ✓-key to save the reading of the first measurement.



NOTE!

You have the possibility to delete a value that has already been saved by pressing the right key (trash icon) and to measure it again. The trash icon will only appear, if you select the correspondent line.

Measurement 2-9

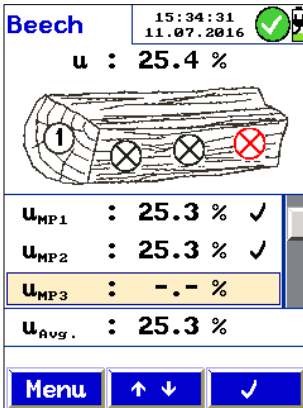


Fig. 20: The wood moisture value of the Measurement Point 2 has been saved.

After the measurement

- With the arrow keys, scroll to the next measurement point
- Drive in the electrodes of the probe at the next measurement point of the log.
- Proceed as described for the measurement point 1.

At the bottom of the readings segment, the average u-value will be displayed. The meter calculates the average value automatically from the values that have already been measured.

After the measurement, the readings can be saved in a customers file or printed, see chapter 8.5.

7 Moisture Measurement of bulk material

The Wöhler HF 550 can determine the moisture of bulk material (wood chips, pellets and cereals).



NOTE!

For the moisture measurement of bulk material the Wöhler FW 550 Moisture Scale must be connected to the meter. If the Wöhler FW 550 Moisture Scale has not been connected to the meter, when the Meter is switched on, go to the main menu, select "Select Probe" and then select "Moisture Probe".



CAUTION!

Always transport the Moisture Scale in the correspondent plastic case Wöhler HF 550 (see accessories).

Otherwise the bottom plate or the surface coating could be damaged. In this case a correct measurement will not be possible any more.

7.1 Measurement procedure

First, the user has to select the type of bulk material in the meter. After that he will determine the mass of the bulk sample with the moisture scale .

The meter will now determine the moisture u or the water content w .

The user can as well measure the temperature of the bulk material with the meter for documentation purposes.

7.2 Preparation of the measurement

7.2.1 Positioning the Moisture Scale

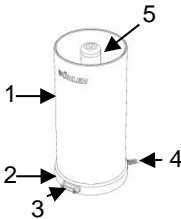


Fig. 21: Wöhler FW 550 Moisture Scale with cylinder (1), base plate (2), calibration socket for the test laboratory (3), cable connection (4) and electrode (5).

7.2.2 Connections



Fig. 22: Bottom of the meter with temperature probe connected.

- Place the scale on a flat clean surface.

! CAUTION!

The cylinder of the scale has a rugged surface coating. Nevertheless, take care that the coating will not be damaged. An undamaged surface coating is absolutely necessary for a correct measurement result.

- Plug the Temperature probe into the correspondent connection jack at the bottom of the meter, see figure 1, part 1.

👉 NOTE!

The (+) plug is smaller than the (-) plug. Therefore it is only possible to plug in the temperature probe in the correct direction.



Fig. 23: Bottom of the meter with Moisture Scale connected.

- Connect the Wöhler FW 550 Moisture Scale to the meter. Plug the cable of the Moisture Scale into the sleeve at the bottom of the meter, see fig. 1, part 5.

7.3 Measuring

Selection of the bulk material

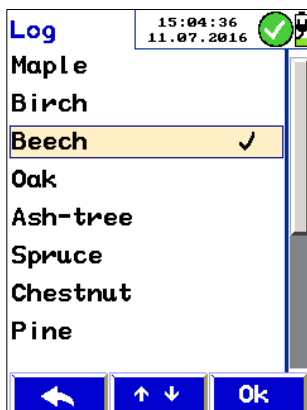


Fig. 24: Selection of the bulk material

- Switch on the meter.
After the self-test the meter will automatically display the measurement mode for bulk material, if the Moisture Scale is connected.
 - Press the menu key to open the menu.
 - Select “Bulk choice”.
 - Select the material: Pellets, woodchip, barley, oat, maize, rape, rye, triticale or wheat.
 - Press OK to confirm.
- The meter will save your selection and the measurement mode will automatically be displayed.

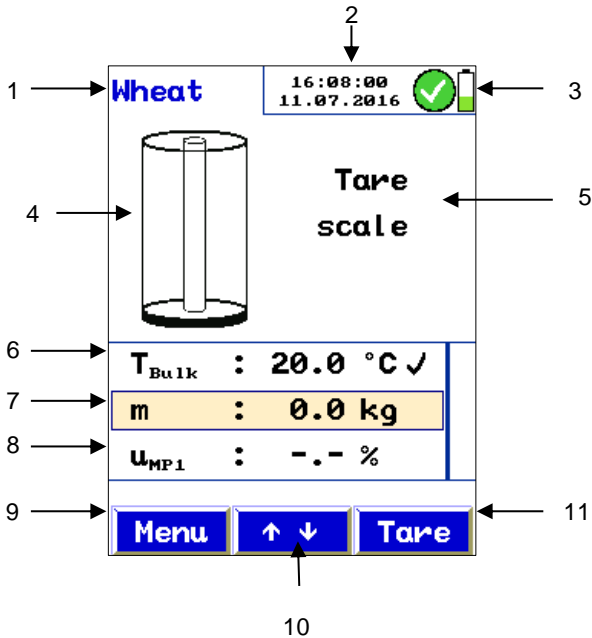


Fig. 25: Measurement mode “bulk material”

Explanation

1. Sample material (woodships, pellets or grain)
2. Date and time
3. Battery condition
4. Charging level of the Moisture Scale
5. Next step
6. Material temperature
7. Mass m of the sample
8. Moisture value of the sample
9. Menu- key
10. Arrow-key for scrolling
11. Context sensitive key to save the value (✓) or to delete a value that has already been saved (trash can icon).

Temperature Measurement

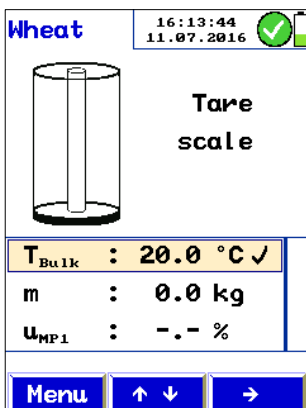


Fig. 26: Temperature Measurement

- Use the arrow keys to go to the temperature line (T_{Bulk}).
- Place the temperature probe in the bulk material.
- As soon as the temperature value is shown stable, confirm the value with the ✓-key.

The meter will save the temperature value T_{Bulk} . On screen a hook will appear next to the temperature value.

The temperature value is used for documentation purposes.



NOTE!

After the temperature value has been saved, a bin icon will appear at the right bottom of the corner, if the temperature line is highlighted. Press the bin key to delete the temperature value and start a new temperature measurement.

Determination of the mass

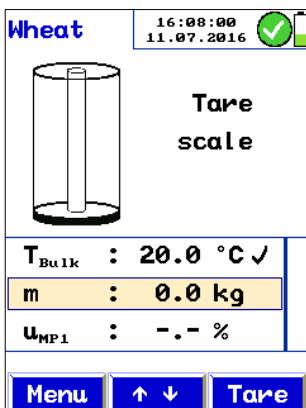


Fig. 27: Zeroing the Moisture Scale with the tare key.

- With the arrow keys go to the second line (mass m).
- Press the tare key to zero the moisture scale.

The Moisture Scale will be adjusted to zero. After that the message "Fill scale" appears on screen.



Fig. 28: Filling the Moisture Scale with the bulk material

! CAUTION!

Take care that the cylinder of the scale is dry, clean and not damaged.

- Fill the sample into the cylinder of the Moisture Scale.

NOTE!

For charging the cylinder, it is possible to use the filling cup.

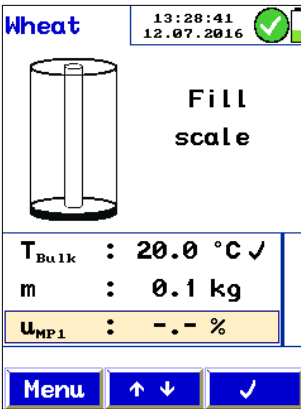


Fig. 29: Display after zeroing, when no material has been filled in.

The display of the meter shows whether sufficient sample material has been filled in:

Grey bar on the electrode: Increase amount > More sample material has to be filled into the scale

Green bar on the electrode: sufficient amount > the sample is perfect

Red bar on the electrode: Decrease amount > Reduce sample size

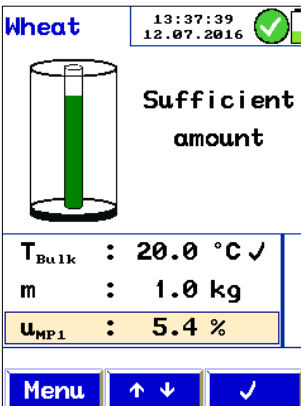


Fig. 30: Reading of the moisture value u

- As soon as sufficient bulk material has been filled in, a green electrode will appear in the display. At the same time the moisture value u will appear in the bottom line of the readings segment.
- Use the arrow keys to go to the u readings line.
- Save the u- value by pressing the ✓-key.

Moisture Measurement of bulk material

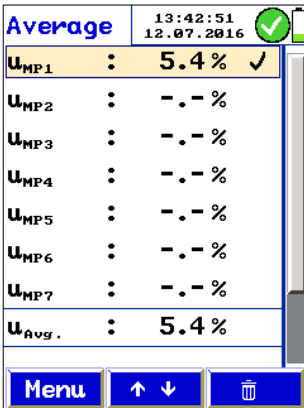


Fig. 31: Displaying the average after the measurement.

The average screen will appear.

- The U_{MP1} reading will be marked by a hook.
- If you want to repeat the measurement, delete the value with the right key (bin icon).



NOTE!

For a more representative measurement result, repeat the measurement several times with different samples. The meter will calculate the arithmetic average from the readings.

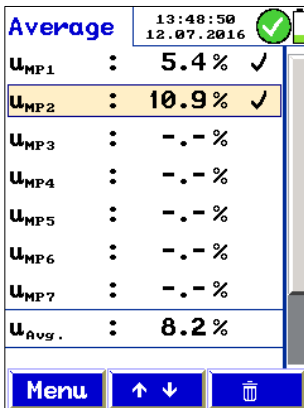


Fig. 32: Average display after two measurements. The average of the measured values is displayed at the bottom of the readings segment.

- With the arrow-keys go to the next measurement point.
- Confirm by pressing ✓-key.

The measurement display will appear.

- Perform another measurement with another representative sample.

After every measurement the average-display will appear. The last line of the readings segment will always display the average of the values measured up to that moment.

After the measurement

After the measurement, the readings can be saved in a customer's file and/or they can be printed.

8 Main menu

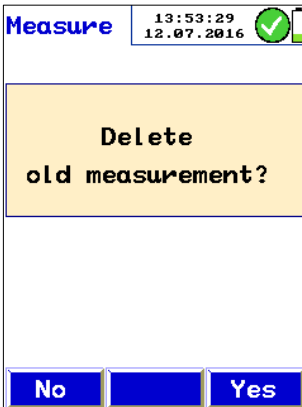
- In measurement mode, press the left key “ Menu” to open the main menu.
- With the arrow keys select a sub menu. Confirm with **OK** to enter the sub menu.
- To return from the menu to the measurement mode, press **Escape**.



NOTE!

The main menu depends on the measurement mode (Log Probe or Moisture Scale).

- 8.1 Moisture Measurement** The sub menu “Moisture Measurement” offers the possibility to delete the last measurement completely.
- Delete old measurement**



NOTE!

If you only want to delete some readings, you can do that in the measurement mode with the trash icon.

Fig. 33: Sub menu “moisture measurement”

8.2 Selection of the material

Depending on the selected measurement mode (Log probe or Moisture scale) the second sub menu is “Log choice” or “Bulk choice”.

8.2.1 Log choice (in mode)

Before measuring the moisture of logs, select the type of wood in the menu “Log choice”.

The following 14 types of wood are available: Maple, birch, beech, oak, ash-tree, spruce, chestnut, pine, larch, lime, poplar, plane, fir, elm. A hook appears next to the selected type of wood.

- With the arrow keys go to the selected type of wood and confirm with OK.

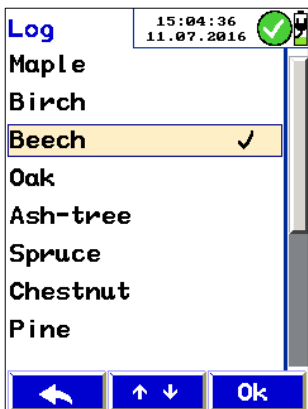


Fig. 34: Sub menu “Log choice”



NOTE!

After switching on and off the meter, the selected type of wood will stay active until you select another type of wood.

- Press the “Escape”-key to exit the log choice menu.
- Press the “Escape”-key again, to bring up the measurement menu.

8.2.2 Bulk choice (when the Moisture Scale is connected.)

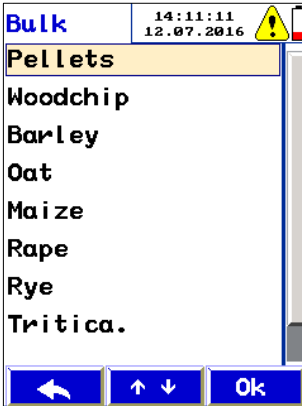


Fig. 35: Selection of the bulk material

8.3 Customer

8.4 Save

Before measuring the moisture of bulk material, select the type of bulk: Pellets, woodchips or grain.

- Select “Bulk choice” in the main menu.
- With the arrow keys go to the selected type of bulk and confirm with OK.

The following bulk materials are available: Pellets, woodchip, barley, oat, maize, rape, rye, triticales or wheat.



NOTE!

After switching on and off the meter, the selected bulk material will stay active until you select another type of wood.

- Press the “Escape”-key to exit the bulk menu. Press the “Escape”-key again, to bring up the measurement menu.

8.5 Print

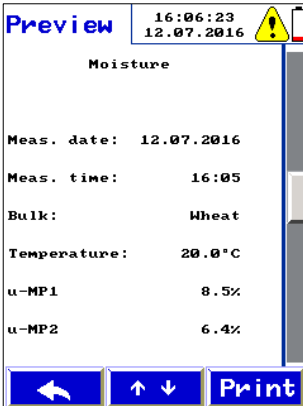


Fig. 36: Print preview



Fig. 37: Position of the meter during the printing process.



NOTE!

It is only possible to print the measurement data, if it has been saved before, see chapter 8.4.

Go to the Sub menu "Print" to print all saved measurement data on the Wöhler TD 100 Thermal Fast Printer. First, a print preview will appear in the display of the Wöhler HF 550.



NOTE!

Also the company information will appear on the printout. Enter your company information in the setup menu > company logo, see chapter 8.7.

The menu options in the preview screen are:

- Escape (left key): Cancel the process.
- „↓↑“ (central key): Scroll up or down in the preview. Long pressing the central key scrolls faster.
- "Print" (right key): Start the print out.

When printing is in progress, a status bar will display the current process state. Press "ESC" to stop the printout.



NOTE!

During the printing process the IR ports of the meter and the printer must lie opposite to each other.

8.6	Select probe	Select, if the measurement mode of logs or of bulk shall appear on screen. The main menu will change correspondingly.
8.7	SETUP	<p>Make your personal settings in the setup menu. To do so, proceed as follows:</p> <ul style="list-style-type: none"> • With the arrow keys go to the parameter that you want to change. • Select the parameter with the right arrow. • Change the parameter with the up and down-arrow-keys. • Confirm the modification with the right key. <p>The parameter that can be changed appears in red.</p> <p>The following parameters can be changed:</p>
Time		Change the current time of the internal clock (format 00:00)
Date		Change the current date (format 01.01.2016)
Brightness		Adjust the brightness of the display (20 % and 100 %)
Temperature-Unit		Toggle between the temperature units °C and °F
Mass-Unit		Toggle between the mass units kg, lb or oz
Moisture		Toggle between the moisture content u (which refers to the dry matter) and the water content w (which refers to the wet mass)

Printer logo

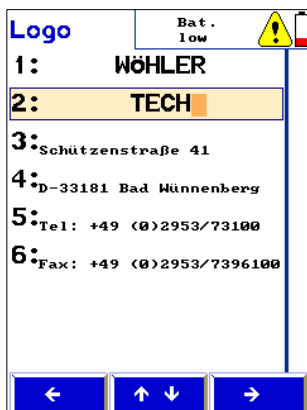


Fig. 38: Changing the company data for the printout

There are 6 lines to enter the company data that shall appear on the print out.

- With the up and down arrow-keys select the line to be changed. With the right arrow key select the letter or number to be changed. Change the letter or number with the up and down arrow-keys.

Press the Escape-key to leave the Printerlogo screen. The new Printerlogo will automatically be saved.

Factory settings

Reset all the settings to its factory default setting (except the calibration).

8.8 Check HF 550 and calibration HF 550

The meter has to be checked by a service point which is officially authorized. For this reason, these two submenus are password protected.

9 Data administration

9.1 Save records

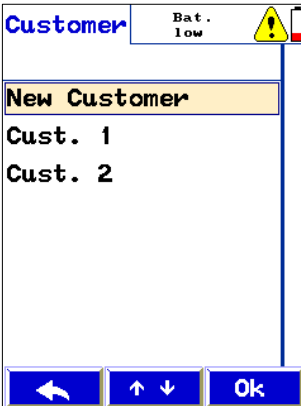


Fig. 39: Customer-Display

The Wöhler HF 550 can save and administrate customer data. The user can create a folder for every client and assign measured data to a client.

For saving one ore more measurement records under in a customer folder, proceed as follows:

- In the main menu select "Save". Confirm with "OK".

The analyzer will enter the customer menu.

- Use the arrow keys to select the customer. If the customer folder does not exist yet, create the customer folder in the "new customer" menu (see chapter 9.2).



NOTE!

Keep the up or down key depressed to scroll faster.

- Press OK to confirm.

A list of the saved measurement data will appear. Select "New measurement" to save new readings in this customer folder.

- Press OK to confirm.



NOTE!

The records marked with a tick mark in the main menu are saved now.

After the records have been successfully saved, a lock will appear instead of the tick mark.



NOTE!

During the saving process, the data that has already been saved in this measurement folder will be deleted.

9.2 Creating a new customer folder

You can create new customer or measurement folders in the customer menu (open the customer menu directly after having switched on the meter,) or after saving the readings. With the arrow keys, enter the name and the customer number of the customer.

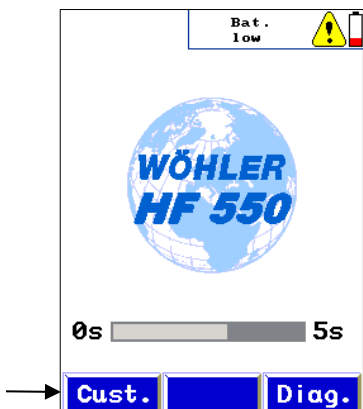


Fig. 40: Opening the customer-menu directly after switching on the meter

The screenshot shows a handheld device screen with the following content:

- Top status bar: "Cust." on the left, "15:06:38" and "12.07.2016" in the center, and a battery icon and a yellow warning triangle on the right.
- Main display area:
 - "Name : Cust. 3" (highlighted in yellow)
 - "Number : 3"
 - "Measure: Measure 1"
 - "Meas.Nr: 1"
 - "Create customer" (highlighted in yellow)
- Bottom navigation bar: Three blue buttons with white symbols: a left arrow, up and down arrows, and a right arrow.

Fig. 41: Entering a customer name

9.3 Customer Menu

The screenshot shows a handheld device screen with the following content:

- Top status bar: "Cust." on the left, "Bat. low" in the center, and a battery icon and a yellow warning triangle on the right.
- Main display area:
 - "Measure: 3/255" (highlighted in yellow)
 - "Print protocoll" (highlighted in yellow)
 - "Delete Measurement" (highlighted in yellow)
 - "Delete customer" (highlighted in yellow)
 - "Del. all customer" (highlighted in yellow)
- Bottom navigation bar: Three blue buttons with white symbols: a left arrow, up and down arrows, and the text "Ok".

Fig. 42: Customer menu

- In the customer menu select „New customer“.
- If necessary you can overwrite the name. To do so select the Customer Name with the up and down arrow keys. Select the letter with the right key. Change the letter with the up and down arrow-key.

If you select "Customer" in the main menu, the adjacent display will be shown, In the first line, the number of customer folders and the number of measurement folders will toggle.

- Select "Print protocoll" to print a report of any saved measurement.
- Select „Delete Measurement“ to delete a single measurement.



NOTE!

If there exists only one measurement in the customer folder, the measurement and the customer will be deleted.

- Select „Delete customer“ to delete a complete customer folder with all measurements.
- Select „Delete all customers“ to delete all customer folders.

10 Maintenance and care

Proper operation of the meter requires regular control and maintenance:

Interval	Control or Maintenance work
Before each measurement with the Hammer Probe or Lance Probe.	Check the distance between the electrodes, if necessary change the needles
Before each measurement with the Moisture Scale	Check the internal coating for damage
After each measurement with the Moisture Scale	Clean the scale with compressed air or a wet cloth. If necessary aspirate dust or rests of bulk. Never use soap or solvent based products for cleaning the scale.
Twice a year	Control and calibration of the meter at the factory or at an authorized service point.

11 Warranty and Service

11.1 Warranty

Each Wöhler HF 550 Wood Moisture Meter will be tested in all functions and will leave our factory only after extensive quality control testing.

If used properly, the warranty period for the Wöhler HF 550 Wood Moisture Meter will be twelve month from the date of sale.

This warranty does not cover the battery, the freight and packing costs when the device is sent to the factory for repair.

Service by non authorized personnel or making modifications to the analyzer voids any warranty.

11.2 Service

Excellent SERVICE is very important to us. It goes without saying that we are at your side when the warranty period expires.

- When you send your meter to us, we will repair it within a few days and return it via our trusted parcel carrier.
- Immediate help is provided by our technical staff over the telephone.

12 Accessories

Measuring the wood moisture of logs

Temperature probe Wöhler HF 550	Order no. 1567
Lance Probe	Order no. 5513
Wöhler Hammer Probe	Order no. 2522

Measuring the wood moisture of bulk

Protection cap and chute	Order no. 1127
Wöhler FW 550 Moisture Scale for Bulk Material	Order no. 1139

Extras

Wöhler Thermal Fast Printer TD 100	Order no. 4160
Thermal Paper, 10 rolls	Order no. 4145

Case

Plastic case Wöhler HF 550	Order no. 1534
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