Grain / Rice Moisture Tester ***Riceter fg series***

Operating Manual

Thank you for purchasing our Grain Moisture Tester, Riceter fg500 series. This tester can measure the moisture of grain by simple operation, but proper operation is necessary for accurate moisture measurement.
Please read this operating manual carefully before use.

Note: The pictures in this manual are examples and may differ from actual product.

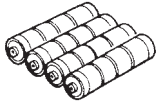
Table of contents

Contents of Package

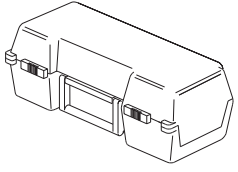
Sample tray (2 pcs)

Spoon with tweezers

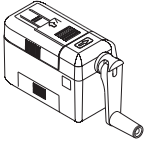
Cleaning brush



Battery
(AA size x 4 pcs)

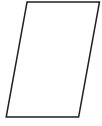


Carrying Case

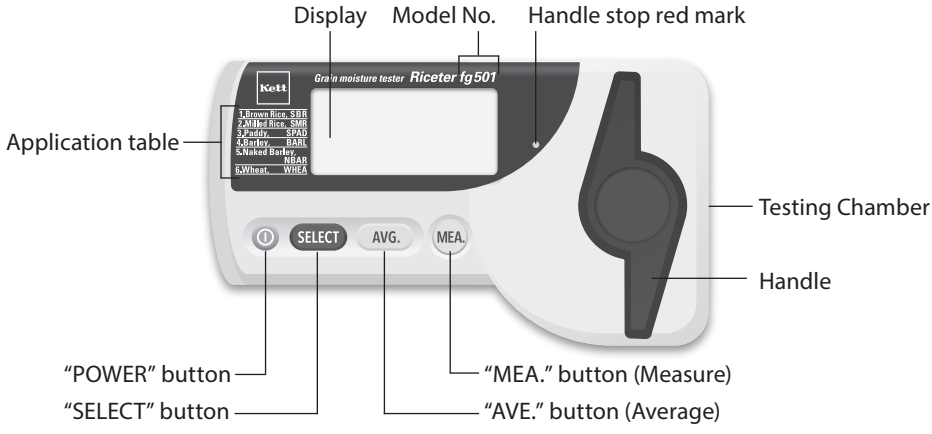


Rice husker TR-130

Operating manual



Inspection Certificate

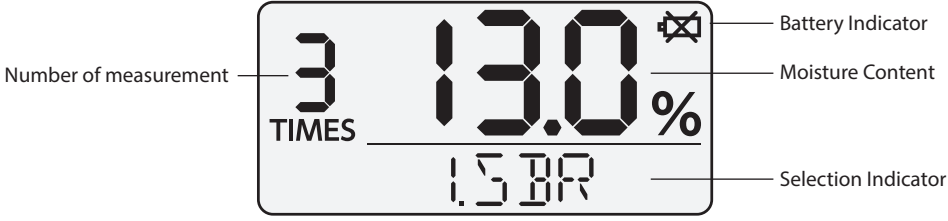


Note : **Application table differ depending on the model number. Above example is fg501.**

Description of Display

This tester adopts the auto power off function. The power of the tester is automatically turned off in approx.
5 minutes after turning on the power if no operation is performed.

Use of backlight in the display section allows users to see the display clearly even in the dark.



Meanings of special marks The display may show marks as follows:

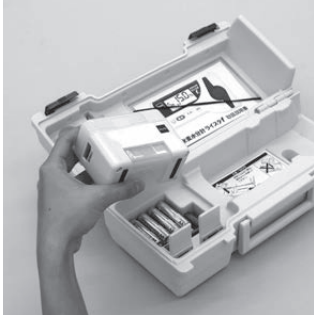
Battery mark	 Caution	Battery is dead. Replace the batteries with new ones. (displayed immediately after pressing the power switch and while using)
Over mark	 Caution	Displayed when the measured result exceeded the upper limit of the measurement range
Under mark	 Caution	Displayed when the measured result fell below the lower limit of the measurement range, or the contact between the test sample tray and the measuring unit of the main body was poor.
Error mark		Main unit temperature is too low -5°C or lower.
		Main unit temperature is too high 50°C or higher.

- ***When measurement is performed with the Sample tray empty or the measuring unit is poorly insulated due to condensation, high humidity, contamination, etc., the over mark, under mark, or other meaningless numbers may be displayed. In such a case, clean the measuring unit and dry it well in a natural way.***

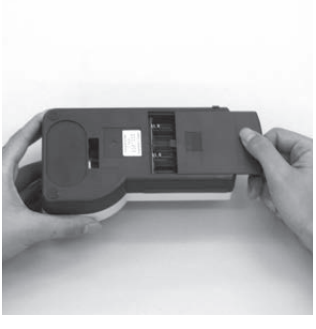
How to Place Batteries

1 Take out the main unit from the carrying case.

2 Take out the batteries from under the battery holder.



3 Open the battery box on the back side of the main unit, and place 4 batteries appropriately.

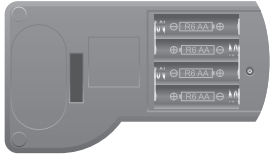


Battery replacement

When the battery is running out, the battery mark lights up the display. Replace all 4 batteries (AA) with new ones.

Those batteries are gradually discharging even when the tester is not used.
It is recommended to always use new batteries.

Place batteries in the correct polarity



Riceter fg500 series is equipped with a temperature compensation circuit. However the test unit and samples are required to be thermally stabilized before measurement.

Measurement

1 Press the “POWER” button. All of the backlight, all characters on the display section, mark light up for 2 seconds, and then model number and software version number is displayed automatically. The backlight goes out, and the tester becomes a standby state for measuring.

<All display immediately after pressing the "POWER" button>

<Model number and software version number>

The backlight turns off and “Application”, “Times” “%” are displayed. It is ready for measurement.

<Ready for measurement>

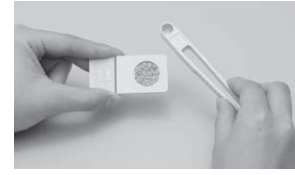
2 Press the "SELECT" button and repeat until the Selection Indicator and the abbreviation for name of application you wish to test appears.
The selected application is memorized even after turning off the power.

Measurement

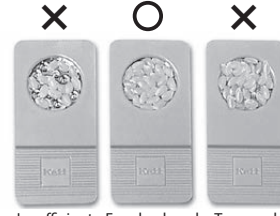
3 Put the test sample evenly on the sample tray by just the amount that will be one layer.

Note: Both the amount of sample is too much or insufficient may cause a measurement error. Over more, too much sample may cause wear on the screw and damage the instrument.

Note: Sort out unripe or degenerated grains from the sample tray in order to avoid error.

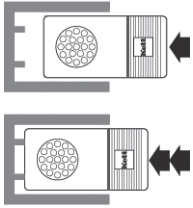


Evenly in one layer on the sample tray



Insufficient | Evenly placed in one layer | Too much

4 Rotate the handle counterclockwise to let the sample tray enter the testing chamber. Place the sample evenly in the sample tray, and insert it into the testing chamber until the guide line is hid.



▲ Designated position

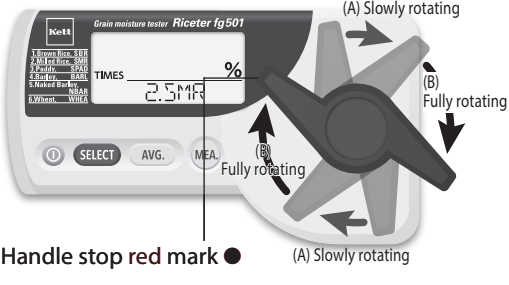
Note: Failure to observe this may cause the tip of the handle to damage the plastic portion of the sample tray. Be sure to fully insert the tray.

Proper placement

Incorrect placement

Measurement

5 Slowly rotate the handle clockwise. When the tip of the handle reaches the sample (A), and fully rotate the handle to the “handle stop red mark” holding the handle firmly (B).



6 Press the "MEA." button, the decimal point blinks, the backlight lights up, the moisture content and measuring number are displayed thereafter. The backlight goes out after 4 seconds, but the moisture content remains being displayed.

7 For continuous measurement, perform the next measurement while the last measured value is displayed. Replace the test sample, fully rotate the handle, and press the "MEA." button. The last measured value disappears and the new measured value is displayed. The measuring count also changes at the same time.

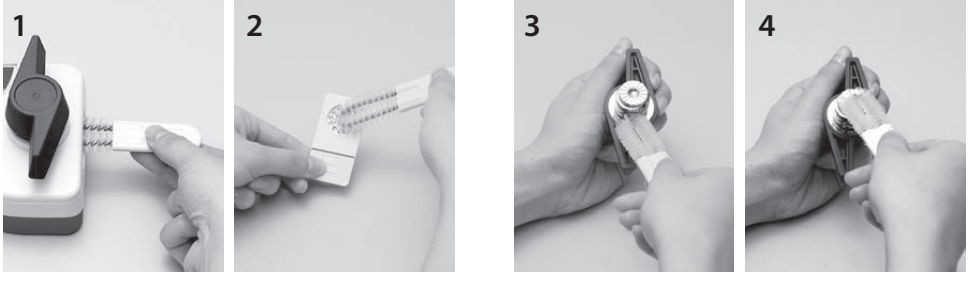
After a lapse of 5 minutes, the power is automatically turns off and all the displayed items are cleared.

Pressing the "POWER" button while the display is in the on state allows users to turn off the power manually.

Note: If the handle is over the red mark after fully rotating, handle or main unit may be damaged. Please inspect the unit at our official distributor.

Measurement

8 Clean testing chamber inside, the sample tray, and metal plate after every measurement. If the last test sample remains, proper measurement cannot be performed. For continuous measurement, disconnect the handle and remove the attached sample and contamination from the tip of the handle and contact section sometimes.



Pressing the "AVE." button after several measurements can obtain the average value of the measured moisture contents. The average value calculated from the measured values of the measuring count 2 to 9 is displayed with the average characters and number of measurement times.

Note1: To obtain the average value of moisture contents, press the "AVE." button within 5 minutes after measurement. After the last measured value disappears, the average calculation function does not work.

The initial state is restored in the following states:

- ***When the power is turned off***
- ***When the "SELECT" button is pressed***
- ***When the "AVE." button is pressed***
- ***When the continuous measurement count exceeds 9***

Note 2: AVE characters are displayed while an average value is displayed.

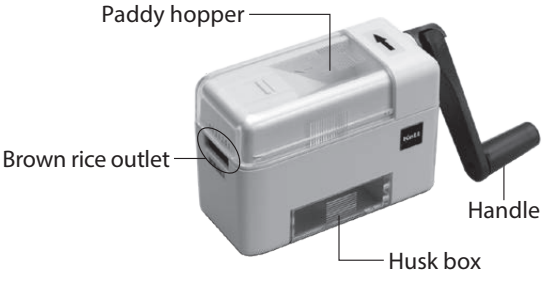
Storage

Observe the following instructions to keep moisture tester for a long period of time:

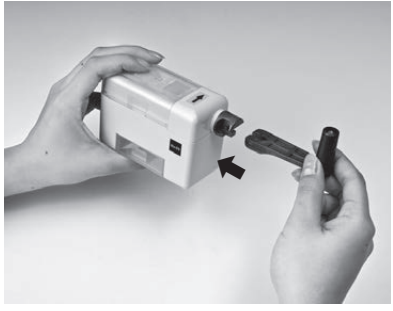
- ***Be sure to remove the batteries.***
- ***Clean every portion of the main body in a careful manner. Especially for the measuring unit, disconnect the handle and clean the inner contact section sufficiently.***
- ***Be sure to put the tester together with accessories in the carrying case and keep them in a cool place avoiding direct sunlight.***

Rice Husker TR-130

<Parts>



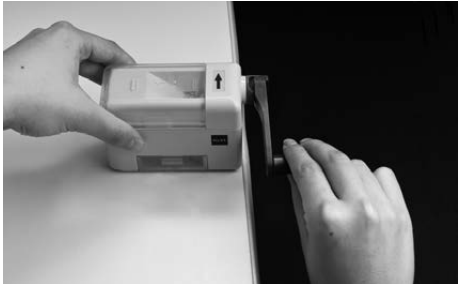
1 Attach the handle to the body.



Rice Husker Instructions

2 Pour the paddy into the hopper and close the cover.

3 While holding the TR-130 at the edge of a desk or table, turn the handle in the clockwise direction to husk the sample.



4 There are two methods to remove the brown rice.

(1) Open the top of the paddy hopper. Turn the instrument over and the brown rice will be removed.

(2) Shake the TR130 and the brown rice will be removed through the rice outlet.

Note : **There is a possibility that a small number or rice kernels may be broken by husking.**

Rice Husker Instructions

Discard the husk before the husk box is full.

The Rice husker uses two rollers. One is metal and the other is urethane covered. Replace the assembly when the rollers are worn to maintain husking efficiency. Also replace the assembly when foreign objects have been caught in the rollers.

1 Turn the main unit upside down. Remove the lower case by removing the four screws.

2 Remove the roller assembly by removing the four screws. If a foreign object is caught in the rollers, remove the object.

Roller Assembly Replacement

3 Mount the new roller assembly and confirm the gears mesh.

4 Assemble in the reverse order of disassembly. If the handle does not turn well, please try again.

Specifications

Measurement method	:	Electric resistance
Accuracy	:	0.5% (SEC, 9-20% range), Environment without abnormal electromagnetic noise[*1]
Operating temperature	:	0 to + 40 °C
Display	:	Digital LCD with backlight illuminator, Minimum display digit : 0.1%
Number of calibration curves	:	Refer the Riceter fg series Application Table
Temperature correction	:	Automatic temperature correction by thermistor
Automatic temperature correction	:	Unit and sample temperature correction is programmed Note) Sample temperature correction is applicable less than 20% moisture range of sample
Power source	:	1.5V (AA size) battery x 4
Auto power off	:	5 min. after nothing of operation
Power consumption	:	Max. 0.3W
Dimensions and weight	:	164 (W) x 94(D) x65 (H) mm, 0.45kg, approx./ Main unit only 310 (W) x 150 (D) x 120 (H) mm, 1.8kg, approx./ Shipment gross
Accessories	:	Sample tray (2), Spoon with tweezers (1), Cleaning brush (1), AA size Battery (4), Carrying case (1), Rice husker TR-130 (1), Operating manual (1), Inspection certificate (1)
Options	:	Checker kit for Riceter

[*1] It has been confirmed that the environmental error caused by electromagnetic noise is within 0.5% by radiated radio wave electromagnetic field immunity test (EN6100-4-3) at test levels 3V/m :80MHz ~ 1GHZ, 1V/m: 2.0 ~ 2.7GHz.

Notes

- Copying some or all of the contents of this user manual without prior written consent is strictly prohibited.
- The contents of this user manual may be changed at any time in the future without any prior notice.
- The appearance and/or representations of the products and parts depicted in this user manual may not appear exactly as their actual counterparts, but this does not affect their operation or functionality.
- This user manual was intended to be written as clearly and accurately as possible. However, if you are unclear about anything in this user manual or notice any missing information, please contact us directly.
- We cannot be held responsible for any actions or effects resulting from the execution of any operations outlined in this user manual.

Kett

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