DRAMIŃSKI
TECHNOLOGY

GRAIN MOISTURE AND DENSITY METER (GMDM)

with the built-in scales

Operating manual

EN

ISO 9001 | CE

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INTRODUCTION

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CHAPTER 1

Thank you for buying the new **Grain Moisture and Density Meter (GMDM)** grain moisture meter. This excellent meter will be an indispensable device for your business. Thanks to the built-in scales, measurements will be even more accurate.

We wish you fruitful crops and enjoy your work with **Grain Moisture and Density Meter (GMDM)** moisture meter.

The manufacturer, DRAMIŃSKI company, offers its expertise to users and at the same time reserves the right to introduce construction and software changes and upgrades.

Please read this user manual before starting the device. This will guarantee safety of use as well as long-term and reliable operation.

BUTTON FEATURES

CHAPTER 2

ON OFF button
- switching the instrument on and off **(Note! The meter will turn off automatically after three minutes if no buttons pressed!)**

OK TARE button
- starting the measurement, confirming the chosen grain to be tested; taring when weighting the sample.

CANCEL button
- leaving the operation presently being performed

▼ ▲ buttons
- scrolling grain names and menu commands, choosing the parameters to be viewed after the measurement (e.g. weight, density)

SWITCH ON

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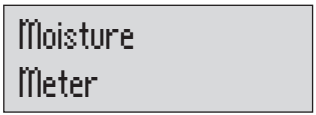
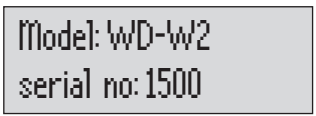
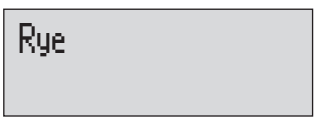
CHAPTER 3

Switch the instrument on using ON/OFF button. Then the following will appear:





Note! After switching the instrument on the last tested grain will be displayed.



Scroll the grain names by using ▼ ▲ buttons to find the required one.

MEASUREMENT MODE

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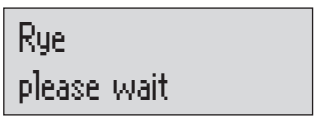
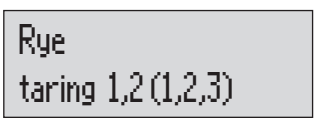
CHAPTER 4

Place the instrument on the horizontal and stable basis, e.g. a table.

Befor starting the measurement check if:
a) the measurement compartment is empty
b) and put the empty dosage tube on the instrument to tare it.

1. Press OK TARE button - then the following commands will appear:





After taring (which take some seconds) the following commands will appear:

Pour the sample into the measurement compartment by using the special dosage tube.

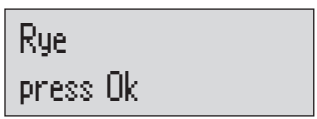
2. Filling the dosage tube.
   After taring take the dosage tube off the instrument and fill it with grain. Remove excess of grain by turning a metal propeller. Put the dosage tube carefully on the instrument.

   The test sample should be properly collected and cleaned. Careful measurement of the amount of grain in the dosage tube will contribute to obtaining the right results.

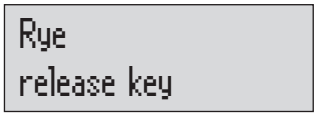
In the case of improper sizing of grains quantities (too little or too much) the message like `sample too light` or `sample too heavy` can appear.

3. After the dosage tube is placed on the instrument, press the metal button in the dosage tube and hold it until the grain from the tube pours into the measurement compartment. If a message `low battery` appears, further work with the device is not possible. It is necessary to recharge the battery.

   If all is right the following command will appear:

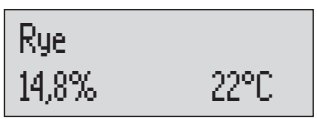


   After pressing OK TARE



The sample is being weighted now, do not touch the instrument! (Pay attention if the instrument and the surface are not subject to shock).

After this message the humidity measurement result will appear as the percentage and the temperature.



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4. Now pressing  buttons you can view:
   a) **weight** [gm],
   b) **density** [kg/m^3].

5. After finishing the measurement and taking the reading the dosage tube can be taken off the instrument and the sample poured out.
   The instrument is quite heavy, so when pouring out the grain it is recommended to hold the device with both hands.

To repeat measurements of the same sample, it's necessary to remove the previous sample and put the empty dosage tube on the measurement compartment and after that press 

SPECIES AND RANGES

CHAPTER 5

1.	canola	4% - 20%
2.	barley	9% - 24%
3.	rye	9% - 24%
4.	triticale	9% - 24%
5.	wheat quality	9% - 24%
6.	maize	9% - 24%
7.	common	9% - 24%
8.	oats	9% - 24%

BATTERY CHARGING

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CHAPTER 6

Lower battery power is indicated by the words low battery flashing on the LCD. When such message is displayed it is not possible to perform any operations/measurements with the device. A new battery is required when this indicator appears.

The instrument is powered by Cadmium – Nickel batteries. Charging is done by using re-charger 12V/100mA.

Charging is carried out as follows:
1. connect the power to the socked 220V

2. connect the plug to the socket (type "small jack") situated on the back of device

3. after charging disconnect the plug from the socket and the power from electric network

Charging time is 12-14 hours.

When fully charged, the battery can work continuously 15 hours.

TECHNICAL DATA

CHAPTER 7

Dimensions	L (19 cm)x W (15 cm)x H (12,5 cm)
Weight	1752g (with the dosage tube), 1590 g (without the dosage tube)
Display	LCD display 2x16 characters
Power	Nickel-Cadmium battery – 1000 mAh capacity
Working time	about 25 hours (discharged battery signaled automatically)
Working and storing temperature	min. +5°C, max.+45°C
Accuracy	± 0,8% in the range up to 10%, ± 0,4% in the range higher than 10% (for maize ± 0,9% in the range up to 10%, ± 0,5 % of measured value + 0,4%)
Temperature compensation	automatic in the rande from 10 to 35°C

EQUIPMENT

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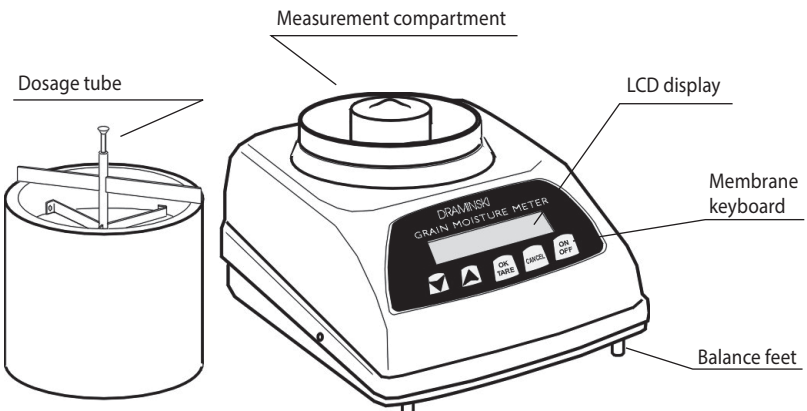
CHAPTER 8

ATTENTION!

FOR ALL MEASUREMENTS THE INSTRUMEN MUST STAND ON HARD, FLAT SURFACE (F.EX.TABLE, DESK). THE SURFACE CAN NOT BE SUBJECT TO ANY VIBRATIONS BECAUSE IT WILL INTERFERE WITH THE MEASUREMENT PROCESS AND COULD CAUSE ERRORS.



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