



“LEPTA” COMPANY LTD.

“FAUNA-M” GRAIN MOISTURE METER USER’S MANUAL



1. FUNCTION

The “Fauna-M” grain moisture meter represents a microprocessor-based instrument designed to measure moisture in grains, beans and in oilseeds in the field while harvesting, in the post-harvest grain treatment and drying at threshing floors, while depositing grains in granaries as well as while processing them at plants where a proximate analysis of moisture is to be carried out directly on the site of sampling.

The moisture meters can be used to measure moisture of other grains and granular materials, after performing their individual graduation. In this case the number of grain

species can be increased up to 20 or changed for other kinds of products, and the measuring ranges can be shifted in the direction of the lower and (or) the upper limit.

2. SPECIFICATIONS

Resolution	0,1 %
Range of moisture measuring:	
for grains	from 8 t 30 %;
for oilseeds	from 5 to 20 %..
	(See Appendix).
Range of admissible basic absolute error:	
in the range up to 17 %	from 0,6* to 1,0 %
in the range exceeding 17 %	from 1,0* to 1,5 %
Manual correction of moisture readings	±4,0 %.
Automatic temperature compensation in the working temperature range	from 5 t 40° .
Holding capacity of the measuring chamber	270 m ³ .
Power supply	9 V battery.
Overall dimensions	191 104 56 mm.
Weight	330g.
* - when individual calibrated	

3. DELIVERY SET

“Fauna-M” grain moisture tester
Packing box
User’s manual.

4. OPERATION PROCEDURE

Before starting operation, get acquainted carefully with the present manual and install the power battery.

Before measuring, extract the scoop from the measuring chamber; make sure the chamber is empty, dry and clean it. If necessary, clean the chamber with soft dry cloth. Never blow through the measuring chamber since the condensate formed in such an operation could cause a measurement error.

Operation capacity checking of the moisture meter

Extract the scoop from the measuring chamber.

Press the ON button and keep it pressed. The display will show the indications as follows: the upper line will show “Moisture Meter”, and the lower line will show name “Fauna-M” and the symbol “B” (“battery”) and the linear indicator of the battery charge. The symbol “***” on the indicator correspond to 9V voltage, and the symbol “000” represent 7.5 V and prevent of the need to change the power battery at the first opportunity.

Release the ON button. After that the moisture meter passes to the “Selecting grain” mode, and the display upper line will show the name of the grain that was measured for the last time, the lower line showing successively disappearing symbols: «... ».

4 seconds later, the moisture meter will pass to the “Measurement” mode. At this moment, the upper line will show the word “Moisture” and the symbols «<<<<<<» representing the exit outside the lower measurement limit, and the lower one will keep the word “Temperature” and the temperature value of grain.

Introduce your palm between the rear wall and the central electrode of the measuring chamber. Press and release the ON button. In this case the display should show any moisture value, instead of the symbols, and the symbol “%” which means the moisture meter is ready for measurements.

7 seconds later, the moisture meter will automatically be OFF.

Moisture measuring

Fill up the measuring chamber evenly and brimful with grain using the scoop without shaking up or compressing. Put the scoop aside.

Enter the mode “Selecting grain” by pressing and immediately releasing the ON button. If it is necessary to modify the grain name, you should select, while the symbols «... » are disappearing on the display one after another, but before the last symbol disappears, the name of the grain to be tested by brief pressings of the button, after that release it, which allows the moisture

meter to be automatically set to the “Measurement” mode, and the display will show the moisture and temperature values of the grain under testing.

7 seconds later, the moisture tester will automatically be OFF.

Pour the grain out of the measuring chamber.

Attention:

1. The operation of setting the grain name should not be carried out in the case of repeated measurements of the same grain.
2. After every button pressing (ON), the measurement continues for 12 seconds, then the moisture meter is automatically put OFF.
3. If the moisture of the grain under measuring is lower or higher than the bounds of the measuring range, the display will show the symbols «<<<<<<» or «>>>>>>», respectively.

Moisture measurement using the standard unit scale

To measure some grain and other granular materials that are not comprised in the list of manufacturer’s calibration of the moisture meter, enter the mode “Selecting grain” and set the word “Scale” instead of the grain name tested for the last time.

Measure the moisture of the material under testing in the units of the “Scale” on the Moisture meter and, in parallel, with the use of a moisture meter having higher accuracy. For every material, carry out 3 to 5 measurements covering the measuring range of interest.

Using the measurement results, plot a curve on the coordinates of the “Scale” units and of the moisture (%) determined by the control method.

Using the graph, draw up a table of moisture values for the material under testing and that of the corresponding values in the units of the moisture meter “Scale”.

The table or the graph obtained can be used to measure the moisture of some grain or granular material that are not included in the list of the manufacturer’s calibration of the moisture meter.

Remark.

The measurement error on the “Scale” is not fixed in the moisture meter specifications.

Measurement results correcting.

To compensate the effect of exterior factors on the measurement accuracy, due to the grain nature, its grade, high impurity, infestation, etc., it is advisable to correct the manufacturer’s calibration of the Moisture Tester in order to provide correspondence of the indication with the results obtained by direct measurement methods.

For selecting the “Correction” mode, it is necessary to start from the moisture meter mode “Selecting grain” (while the symbols «... » are disappearing on the display one after another, but before the last symbol disappears) by pressing the ON button and keeping it pressed until appearance of the grain name to be tested

and “+” sign in the upper line, the lower line showing the word “**Correction**”, the number «**0,0**» and the sign «%». Pressing and releasing the ON button, insert modifications of 0.2% increments in the moisture meter indications with every pressing until setting the value of the necessary correction in the manufacturer’s calibration.

If it is necessary to lower the manufacturer’s calibration, after entering the “Correction” mode, release and press the ON button and keep it pressed until the sign “-“ appears in the upper line of the display and then, similarly to the above procedure, the indications will be decreased by **0.2%** with every following ON button pressing.

Attention:

1. In the case of a manufacturer’s calibration value correction entered in the moisture meter indications, a symbol «**C**» will appear in the upper line.
2. Correction is entered individually for every culture, it is recorded in the moisture meter “memory” and stored until returning back to the manufacturer’s calibration.
3. It is not admissible to introduce correction when the symbols «<<<<<<» or «>>>>>>» are shown on the moisture meter display.

Manufacturer’s calibration recovery

Enter the “Correction” mode. Set the sign “+” or “-“ on the display depending on the need to increase or to decrease the value of the correction inserted. Pressing and releasing the ON button, insert changes in the correction value until the indication «**0.0%**». In this case, the moisture meter will recover the manufacturer’s calibration and the «**C**» symbol will disappear from the display indications.

5. RECOMMENDATIONS FOR DECREASING MEASUREMENT ERRORS

You should protect the moisture tester against water penetration. Remove impurities and damaged grains from the sample to be tested.

Do not compress the grain in the measuring chamber.

Every measurement should be carried out three times to calculate the average value.

After every measurement, the measuring chamber should be cleaned with a soft dry cloth or brush.

The moisture tester and the grain should be kept under the measurement conditions for at least 60 minutes. The measurement accuracy will be as higher as lower is the difference between the moisture tester temperature and that of the grain to be checked (20 ±2) °.

The measurements should be carried out with the use of the filling device (dispenser).

Individual graduation of the moisture tester for the Customer’s grain can be carried out on special order.

You should not keep the moisture meter in humid or dusty rooms, or leave it for a long time at temperatures lower than 5 ° and higher than 45 °.

In the case of long time storage, you should remove the battery.

6. WARRANTY

The manufacturer warrants a free repair or replacement of the moisture tester if within 18 months after its purchase defects are detected that arose as a result of manufacturing errors. Defects arising as a result of undue use are eliminated at the user’s expenses.

MANUFACTURE

Date

Serial No

Quality Inspection Department and Metrology Service representatives

MANUFACTURER: Lepta, Ltd.

142290, Pushchino, Moscow region, P.o? Box 1656, Russia

Phone/Fax: +7 (4967) 73-52-72, Phone: +7 (4967) 73-24-93, +7 (916) 734 46 65

E-mail: info@agrolepta.ru

Internet: http://www.agrolepta.ru

State Registers of measuring equipment:

In Russia: No 21612-11

In Belorussia: No 03 09 1495 17

IN Kazakhstan: No KZ.02.03.07495-2016/21612-11

Appendix (For information)

Table of grain moisture measuring ranges

Grain	Moisture measuring range, %	
	from	t
Wheat – soft	4.5	31.5
Wheat – durum	5.5	28.0
Barley	7.5	35.0
Rye	7.0	33.5
Oats	10.0	33.0
Millet	6.0	25.5
Buckwheat	10.0	35.0
Pea	7.0	35.0
Maize	5.5	35.0
Sunflower seeds	7.0	19.5
Rape	6.5	25.5
Rice	8.5	31.0
Soya	9.5	25.5
Oil flax	10.0	18.5
Fiber flax	7.0	20.0
Clover	6.5	21.0