Guarantee

This Users Manual is a guarantee certificate of a Fuel Peat Moisture Indicator WWT-4 with a serial number:

…..……

production date: .....…….

CE

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FUEL PEAT MOISTURE INDICATOR WWT-4

USERS MANUAL

8. Guarantee and service

Tanel Electronics & IT warrants the WWT-4 to be free from malfunction and defects in both materials and workmanship for one year (12 months) from the date of purchase.
If the WWT-4 does not function properly during the warranty period due to defects in either materials or workmanship, our company will, at its option, either repair or replace the instrument without charge, subject to the conditions and limitations stated herein. Such repair service will include any necessary adjustments and replacement part.
The producer conducts:

- guarantee repairs – within 7 days after receiving the device,
- other repairs – within 10 days after receiving the device.

The Moisture Indicator is shockproof and can be send by post.

Limitations

This warranty becomes null and void if you fail to pack your WWT-4 in a manner consistent with the original product packaging and damage occurs during product shipment.
This warranty does not cover: circumstance beyond our company's control; service required as the result of unauthorized modifications or service; misuse, abuse; failure to follow our company operating or maintenance instructions.
Repair or replacement without charge is our company's only obligation under this warranty. Our company will not be responsible for any special, consequential or incidental damages resulting from the purchase, use, or improper functioning of this equipment regardless of the cause. Such damages for which our company's will not be responsible include, but are not limited to, loss of revenue or profit, downtime costs, loss of use of the equipment, cost of any substitute equipment, facilities of services, or claims of your customers for such damages.

1. Application

Peat Moisture Indicator WWT-4 is a state-of-the-art electronic, microprocessor based device for approximate measuring of moisture contents in peat that is to be used as fuel.

2. Operation

The Peat Moisture Indicator measures the resistance of a compressed sample of peat.
The measurement is done in two stages:

- first – the sample is compressed always to the same pressure of approx. 0.2 MPa,
- second – the resistance of the sample is measured and converted into moisture contents.

3. Technical data

Range	30-80% relative moisture cont. (*)
Temperature range	0-50°C
Resolution	1%
Accuracy	10% of measured value (e.g. ±3% for 30%,.. ±8% for 80%)
Display type	LCD, 2 digits
Power	9V, battery 6F22
Sample volume	120 cm^3
Measuring pressure	approx. 0.2 MPa
Power consumption	approx. 8 mA
Size	300 x 215 x 65 mm
Weight	approx. 1 kG

Fig. 6

- Unscrew the head of the measuring chamber.
- Push the sample and empty the measuring chamber (fig. 7).
  Press and release the handle of the crush.

Fig. 7

- Fill the measuring chamber with peat (fig. 2).

Fig. 2

The exact amount of peat (within a reasonable range) does not have an influence on the result. It's very important that the measured sample be at least 2 cm thick (see fig. 7).

- Screw the head of the measuring chamber on (see fig. 1).
  The head does not have to be screwed all the way on. Sometimes extra peat prevent the head from being screwed all the way on. This does not influence the result.

- Compress the sample to the pressure of approx. 0.2 MPa.
  Press and release the handle of the crush (fig. 3).

(*) The relative moisture contents M_r is defined as follows:

$$M_r = \frac{w_w - w_d}{w_w} * 100 \qquad [\%]$$

where:

w_w – weight of a sample before drying
w_d – weight of a completely dry sample

4. Measurements

The producer recommends the following sequence of actions:

- Unscrew the head of the measuring chamber (fig. 1).

Fig. 1

- Push back (retract) the crush all the way, so that the measuring chamber has the maximal volume (see fig. 6).

Warning: Do not press the handle while retracting the crush.

- Retract the crush approx. 2-3 cm back (fig. 6) so that you can screw the head back on.
- Screw the head back on.

5. Results

The measuring range of Peat Moisture Indicator WWT-4 is 30% to 80% of relative moisture contents. If the peat is very dry – relative moisture contents is lower than 30%, a sign “LO” will appear on the LCD. If the relative moisture contents is higher than 80% a sign “HI” will be displayed on the LCD. Regardful measurements should provide the results with the accuracy of approximately ±10% of measured value.

Important

To prevent faulty results in measurements we recommend that in due time you check your indicator readings with a dry oven test. Your local variety of peat may have a slightly different characteristic than the model one.

6. Battery test

The device is equipped with active power level control circuit. If the power level drops below acceptable level the result displayed on the LCD will flicker. This indicates that the battery has expired and should be replaced.

7. Storage and battery replacement

Store the device in a well ventilated, dry place in a chemically neutral atmosphere.

Replace the battery when needed but no less than every 6 months. To replace the battery unscrew four screws and carefully separate the top cover of the casing. After replacing the battery close the casing. Pay special attention not to cut the wires with the edge of the casing.

Fig. 3

After several repetitions a two coloured pressure indicator will start appearing from the head.
The compression is sufficient when the red part of the pressure indicator is visible - the red ring should extend only 0.1 – 0.5 mm (fig. 4). **Stop the compression**.

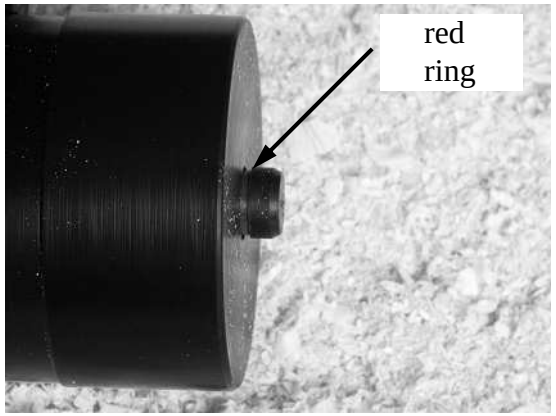

Fig. 4

Few drops of water may leak from the measuring chamber if the compressed sample is very wet (moisture contents close to 80%).

WARNING:
Using excess force to compress the peat may cause bending or breaking of the crush mechanism.
Wet peat may block moving parts of the device. Frequent cleaning is required.

- Set the temperature knob to the measured or estimated temperature of the peat (fig. 5).
  A peat temperature estimation error of up to ± 3°C does not have any significant influence on the result.
  Press the “ON” button on the side of the device.
  Wait some time until the result stabilizes. During that time do not move the device.
  Read the result.

Fig. 5

- Decompress the measuring chamber by unblocking and slightly retracting the crush (fig. 6).