



Penetrologger DS Logger 500

AFS AGRO FLOW SYSTEM GmbH

Datasheet



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DESCRIPTION AND INTENDED USE

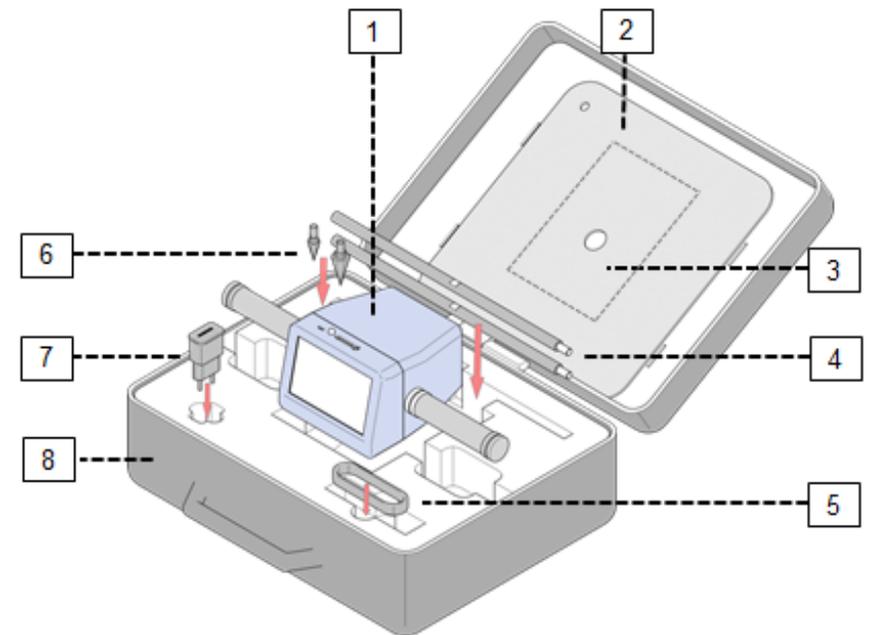
DS Logger 500 is a cross-functional device for measuring soil compaction, which helps identify and resolve not only the soil compaction problem but also holds general soil research to improve crop yields. DS Logger 500 can penetrate to a depth of 45 cm and measure electrical conductivity and soil moisture up to 60 cm. Widely used in agriculture to determine conditions for plant growth, to identify compacted layers of soil, such as layers below the plowing depth. Measuring before basic soil handling will help locate where and to what depth the layers of the soil are compacted. Use a penetrometer to evaluate the depth of the treated layer after the plowing.

Clear and intuitive device menu will facilitate the working process. The convenient settings menu allows you to select the tip type, the appropriate measurement units, menu language. Maps and graphs of measurements provide not only basic information, but also help you better analyze the data obtained during the measurement before you transfer it to your Personal AFS Account; compare data taken at different periods, but in the same area; monitor the problem points on the map.

With DS Logger 500 you can assign different types of tasks to workers at the relevant points and track the correctness of their performance. The internal memory of the measuring device can record data, eliminating the need for manual notes. With the integrated GPS module, coordinates, time and date of measurements are automatically recorded. The device menu is available in four languages: English, German, Italian and French. DS Logger 500 can synchronize files, upload them to the server, where they can be managed in Personal AFS Account; transfer tasks and field data, update the software via wireless and through a USB connection.

COMPONENT PARTS

1. Penetrologger DS Logger 500
2. The depth reference plate
3. Datasheet and operations manual
4. Working rod (in parts)
5. USB cable
6. 2 conical tips $\frac{1}{2}$ " and $\frac{3}{4}$ "
7. Charger
8. Case for storage and transportation



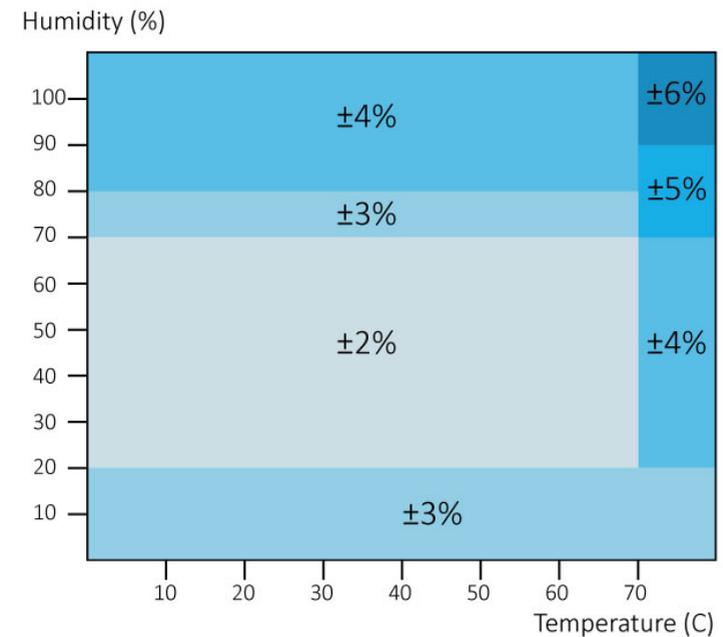
TECHNICAL SPECIFICATIONS

Model	DS Logger 500
Device dimensions (WxHxD)	406x170x105 mm
Case dimensions (WxHxD)	420x475x193 mm
Device weight	1,5 kg
Weight (in case)	6,5 kg
Load cell	accuracy grade % C2-C5
Maximum loading weight	200 kg
Display	5" resistive touchscreen LCD display
Operating Temperature	from +5°C to +45°C
GSM	Quad-Band 850, 900, 1800, 1900 MHz
GPS	SBAS (WAAS, EGNOS, GAGAN, MSAS), 66 acquisition-channel GPS receiver L1, C/A Code
Built-in memory	up to 5000 measurements
Built-in temperature and humidity sensor accuracy	humidity $\pm 3\%$ (see note on page 7) temperature: $\pm 0.2^\circ\text{C}$
Battery Life	8000 mAh/ 10500 mAh (on request)
Charger	5V/2A
Device housing	ABS plastic

TECHNICAL SPECIFICATIONS. PENETRATION

Maximum loading weight	200 kg
Units of measure	index psi, kPa or kgf/cm ²
Measuring range	from 0 to 6000 kPa; from 0 to 870 psi; from 0 to 61 kgf/cm ²
Maximum penetration depth	45 cm
Measurement step	2,5 cm
Rod, tips	Stainless Steel

Note: the accuracy of the humidity indicators of the built-in sensor can vary depending on the air temperature.



CARE AND MAINTENANCE

Transportation terms:

Transport the device and its additional parts in the case provided in the delivery kit, by any transport if the device is protected from atmospheric precipitation and high temperatures. Be careful when transporting, in order to avoid mechanical damages.

Storage conditions:

Keep the device and its additional parts in the case provided in the delivery kit in ventilated areas. Avoid sudden temperature changes, it can lead to condensation inside the device and disrupt its performance in use.

USAGE CONDITION

- Operating temperature from +5°C to +45°C;
- Relative humidity up to 85%;
- Atmospheric pressure from 84,0 to 106,7 kPa (630 – 800 mm Hg).

SAFETY MEASURES

Prohibited

- Open the device housing and change the position of its elements;
- Work with the device in case of a malfunction.

Not recommended

- Keep the device under direct sunlight and at high temperatures, in order to avoid overheating of individual device parts;
- Use the device in case of sharp temperature changes and high humidity; it can cause condensation inside the device.

Important

- Avoid direct contact with water;
- Keep the device clean;
- Transport the device and its additional parts in the case provided in the delivery kit.

NOTE

The manufacturer reserves the right to change the design and completion of the device. The pictures in the instructions and datasheet may differ from real construction and inscriptions on the penetrometer.

WARRANTY INFORMATION

Device	DS Logger 500
S/N	
Year of production	
Warranty period	3 years (from the date of sale)
Date of sale	

1. AFS AGRO FLOW SYSTEM provides a guarantee in respect of new goods supplied by AFS AGRO FLOW SYSTEM for a period of 3 years following delivery unless expressly agreed to the contrary in writing. All items or components of such items in which defects might arise during this period as a result of faulty construction defects or faulty material defects will be repaired or alternatively replaced by AFS AGRO FLOW SYSTEM (at the discretion of AFS AGRO FLOW SYSTEM) free of charge, subject to the condition that such defects are brought to the attention of AFS AGRO FLOW SYSTEM in writing immediately following discovery of the same, and in all cases within the periods referred to in article 7. Damage caused as a result of inappropriate use of the products and failure to (correctly) comply with the instructions for use is not covered.
2. Products shall only be sent back to AFS AGRO FLOW SYSTEM for repair or replacement- at the purchaser's own expense- after AFS AGRO FLOW SYSTEM has given its written approval. Only in the case of repair or replacement under guarantee shall the products be returned to the purchaser at the expense of AFS AGRO FLOW SYSTEM.
3. If the guarantee relates to a product manufactured by a third party, the guarantee is limited to the guarantee provided by the manufacturer concerned.
4. If the purchaser carries out repairs or alterations during the guarantee period or has such work being carried out on his behalf without the permission of AFS AGRO FLOW SYSTEM, or fails to comply with his payment obligations, all guarantee obligations shall immediately lapse. The purchaser is not entitled to refuse payment on the ground that AFS AGRO FLOW SYSTEM has not, not fully or not timely complied with its guarantee obligations.

5. Without prejudice to the foregoing, unless there is an instance of deliberate act or omission or deliberate recklessness, AFS AGRO FLOW SYSTEM shall under no circumstances be liable for any indirect damages, such as damages resulting from any stoppage of business operations, delay, disruption or any other form of operational damages under whatever heading or of whatever description, for any direct or indirect damages caused to or by products delivered by AFS AGRO FLOW SYSTEM, or for damage or injury caused to property and persons. All liability on the part of AFS AGRO FLOW SYSTEM under any heading whatever shall in all cases be limited to the maximum of the amount of the purchase price of the delivered goods already paid by the purchaser at the time of his claim. The purchaser indemnifies AFS AGRO FLOW SYSTEM against all liability towards third parties as a result of any defect in the delivered goods.
6. The Seller shall not be liable for any defect arising out of equitable wear, intentional damage, negligence, abnormal working conditions, failure to comply with the Seller's instructions (oral or written), incorrect use, alteration or inappropriate maintenance or repair of the Equipment without the Seller's approval.