

Soil Compaction

Soil is the basis of any crop and the greatest asset of the producer. Soil life demands specific and continuous care to remain healthy and thus allow maximum productive capacity.

One of the problems that affect the development of the crop and that is hidden from the eyes of those who evaluate visually, is the soil compaction. Several factors contribute to the densification of the soil, such as the traffic of heavy machinery and implements, especially in activities with very humid soil. In areas with the presence of animals, continuous trampling also represents considerable pressure and can cause soil compaction.

In addition to soil fertility, physical condition must be monitored to allow good root development and water storage. Forming a good soil profile to sustain high productivity can be a long work, but very important for those who want to produce more and with stability.

Preserve the value of the soil.

The 3 Dimensions of Compaction

Location

Which areas of the field suffer from compaction and which do not.

What is the degree of compaction? Can I tackle the problem with cover crops and rotation or need a mechanical intervention?

Compacted Uncompacted

Low productivity

Poor crop quality

Reduces water infiltration

Causes leaching on the surface, soil erosion and reduced water storage in the soil

Lower aeration capacity

Facilitating the occurrence of diseases

Creates resistance to root penetration

Preventing plant development due to reduced nutrition capacity, resulting in productivity losses of up to 60%

Susceptibility to root diseases

A weakened plant suffers a greater impact from diseases that attack the root system

Less survivability

In situations of water stress, the plant suffers and even interrupts the development process

High performance growth

With direct effects on productivity

Water infiltration without hurdles

Unimpeded water permeability of the soil provides greater water holding capacity

Full root development

The penetration of the plant's roots occurs without physical impediments, providing optimal root development for each plant species

Healthy crop,

A plant with well-developed roots is healthier and

In situations of water stress, greater availability of water in the soil and a well-developed root system allow the plant to withstand

superior productivity

persists more easily in the event of phytopathologies

Resistance even in the event of water stress

longer periods of drought

The Accurate Diagnosis

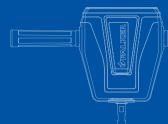
penetroLOG, Falker's digital penetrometer, is the ideal tool to diagnose the presence of soil compaction in your crops.

Portable, lightweight and an easy to operate equipment, it is capable of generating the compaction profile up to 60 cm deep, allowing to assess the compaction in deeper layers. The result is accurate with Cone Index values for each centimeter of the measurement, identifying where the roots suffer the greatest development impediment.

With the precise diagnosis of where and at what depth the soil compaction is presented, actions to correct the soil profile can be carried out with precision and economy of resources, as it allows intervention according to the need, generating cost savings. In addition to the accuracy of where to make the correction, the result may indicate less drastic and more sustainable interventions, such as crop rotation and use of cover crops that have strong root development.

Whatever the cause of compaction, penetroLOG is the tool that accurately informs you where the problem is, allowing you to make a decision for a tailored solution for the situation, avoiding excessive costs and field operations that are aggressive to the soil.

Know the soil.



VFALKER

Depth

or 35 cm is very different.

For plants and soil structure, a compacted layer at 20 cm



DIGITAL SOIL **COMPACTION METER**

Accurate data for assertive decision making

With the precise results of where, how much and to what depth the soil compaction occurs, the corrective actions to the problem will be as necessary. Rational management based on accurate data is an essential step for professional management in the field.



Precise digital equipment

Georeferenced measurements

Integrated GPS records the exact location of the measurement

Diagnosis of the compacted layer

Identification of the depth of the compacted layer with results for every centimeter of the analyzed profile up to 60 cm

Compaction Intensity

Allows measurement at any stage of crop development **GPS**

Georeferenced measurements

USB

Saves to flash drive

Bluetooth

Communication with App

Design

Modern and robust, with protected connectors

Dust **Protected**

Sealed ultrasonic sensor

Graphic Display

Ease of reading



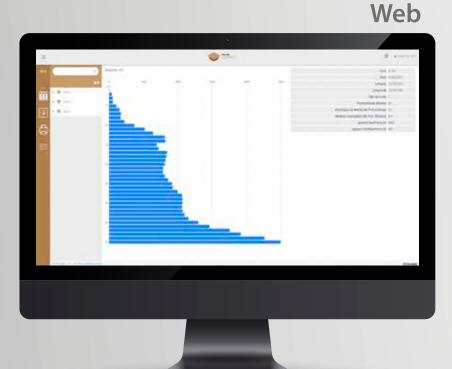
penetroLOG has a specific Web Application and an App for viewing and analyzing the collected data.

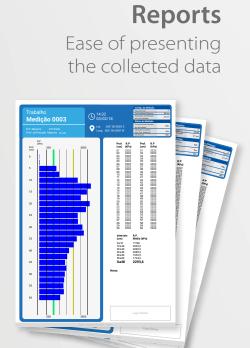
With an online system, data is saved in the cloud and automatically synchronizes between Web and App. You can access information from anywhere for analysis or sharing. It also allows the generation of reports of measurements for presentation.





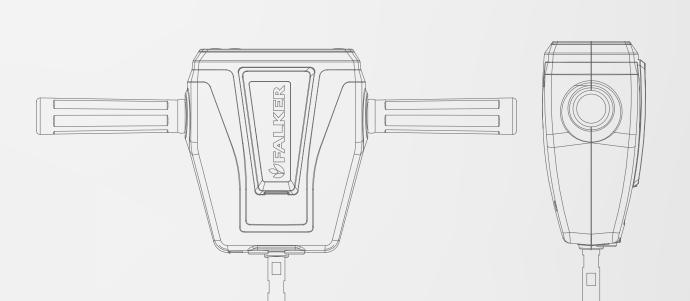








Simple to use interface. Available in English, Spanish and Portuguese.

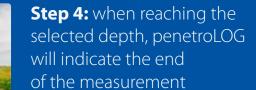


Simple operation. Instant results.

Step 1: after starting the measurement, position penetroLOG on the reflective base



Step 3: audible and visual signals warn about speed and depth in real time



Step 5: data available on the App and on the web



Technical Specifications

	PLG2040			
Maximum Penetration Depth	Type 1*and 2 Cone		60 cm	
	Type 3*Cone		40 cm	
Maximum Cone Index	Type 1*Cone		3,100 kPa	
	Type 2 Cone	7,700 kPa		
	Type 3 [*] Cone		15,100 kPa	
Depth Measurement Resolution		1 or	2.5 cm, configurable	
	Type 1*Cone		3.1 kPa	
Cone Index Measurement Resolution	Type 2 Cone		7.7 kPa	
	Type 3*Cone		20.1 kPa	
Maximum Insertion Speed	5 cm/s			
Memory Capacity	3000 measures			
Power Supply	Internal rechargeable battery Autonomy> 12 hours of use			
Battery Charging Port	USB-C Connector**			
User Interface	Graphic LCD display with backlight 1 multifunction LED, audible indication			
Keys	4 operation keys and 1 on / off key			
Equipment Weight	3 kg			
Briefcase weight with equipment and accessories 6 kg			6 kg	
Cones Diameter (according to ASAE standard S.313.3)	Type 1*Cone		20.27 mm	
	Type 2 Cone		12.83 mm	
	Type 3*Cone		7.94 mm	
Maximum Supported Forceon the Rod	Type 1*and 2 Cone		100 kgf	
	Type 3 [*] Cone		75 kgf	

^{*} Rods with Type 1 and Type 3 cones are optional and must be purchased separately.

Included Items



- 1 penetroLOG
- 2 Rod with cone type 2
- 3 Reflective Base
- 4 Gauging template
- (5) USB-A USB-C cable
- 6 Briefcase w / foam cradle
- 7 Carrying handle (8) "First Steps" Card

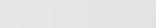
USB-A output socket charger

Accessories

- Rod with Type 1 Cone
- Rod with Type 3 Cone







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The most complete product line for Precision and Digital Agriculture.

^{**} Compatible with cell phone chargers. Charger is sold separately.