bd INVENTIONS

Umwelt-Geräte-Technik GmbH UGT

DRIVE INNOVATION & CREATIVE PURSUIT OF SUPERIOR PERFORMANCE

BD Inventions is a newly founded company which targets on Research, Development, and Manufacture of the latest FOGII® **Digital Soil Calcimeter**. Our driving goal is to provide products that meet and exceed customer's requirements. By working in close collaboration with our customers, we can ensure that we provide not only a technologically advanced product, but also a value chain through the whole process. Premium products along with excellent technical support help our customers to achieve their goals.

New Technology. Rapidly to Market.

BD Inventions philosophy is to provide the very latest and innovative technologies that are required by our customers so as to improve their efficiency.

FOGII® DIGITAL SOIL CALCIMETER WITH SOIL MOISTURE COMPENSATION

The FOGII® **Digital Soil Calcimeter** with automatic temperature compensation offers dramatically improved levels of performance, productivity, reliability, ease of use and flexibility.

The FOGII® **Digital Soil Calcimeter** is the ideal tool for agriculture scientists and farmers. Testing soil every two years and applying frequent small amounts of lime can help farmers avoid top soil acidification.

FOG II is patented from Hellenic Industrial Property Organisation (OBI) patent No 1008089 and PCT application number PCT/GR2013/000048 & Publication number WO2014060782 A1

$$HCl(aq)+CaCO_3(s) \rightarrow CaCl_2(aq)+CO_2(g)+H_2O(l)$$

Why is Calcium (Ca) important?

- **Soil:** Calcium opens up (flocculates) the soil, improving structure and allowing roots, earthworms, oxygen, water and microbes to move freely through the soil.
- **Plants:** Calcium is often referred to as the 'trucker of all minerals" in relation to its role in mobilizing other nutrients.
- **Plant Deficiency Symptoms:** Stunted root systems and a lack of vegetable vigour. Blossom end rot in tomatoes, capsicums and zucchini. Internal browning or blackening of celery, potatoes and Brussels sprouts. Deformation and Necrosis of young leaves.

Soil total carbonate salts ($CaCO_3$, $MgCO_3$, etc.), is of great interest on account of its high usefulness for diagnosing soil status in terms of nutrient contents, structure, texture or biological activity. These salts are measured to determine soil buffering capacity with relation to soil fertility, chemical and pedogenic processes. The determination of total carbonates is expressed as percentage of $CaCO_3$ and is based on the volumetric analysis of the carbon dioxide released upon addition of HCl to soil carbonates.

Wide range of applications and market sectors

Soils scientists • Ecologists • Agronomists and farm consultants
Farmers • Gardeners • Golf greens and sports pitches • Potters

Calcium Benefits

- Good soil structure associated with correct calcium levels.
- Avoid soil crusting. Soils are harder to damage and recover sooner after poaching or compaction when exposed to traffic by machinery or animals in wet conditions.
- Calcium neutralizes soil acidity.
- Calcium plays a critical role in improving soil structure and quality.
- Reduces soil salinity and phosphorous loss.
- Improves water percolation.
- Increases root development.
- Only N and K are required in larger amounts by plants.
- High potassium levels reduce the uptake of Ca.

FOG*II*® Calcimeter Advantages:

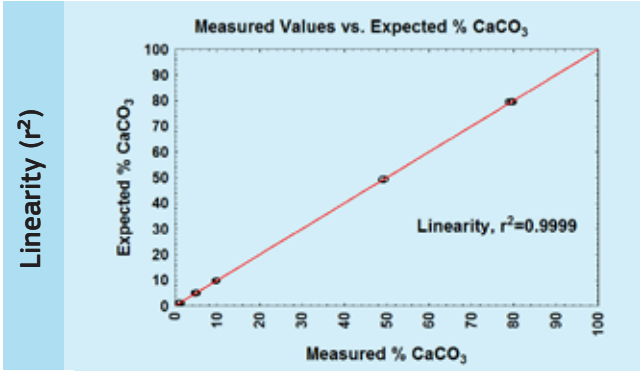
- digital
- portable
- low cost
- accurate, precise
- automatic
- rapid and reliable results
- productive
- ease of use

FOG*II* Digital Calcimeter Specifications

User Interface	Keyboard membrane, back-lighted LCD
Power Supply	3×AA alkaline or rechargeable batteries
Units	% $CaCO_3$
Working Range	0-100% $CaCO_3$
Accuracy	0.5% $CaCO_3$
Resolution	0.1%
Linearity (r^2)	0.999
Temperature	Automatic compensation with built-in temperature sensor 5-50°C
Reaction Vessel	Glass bottle
Sample Volume	0.5–5g.
Sample Analysis Time	Approx. 30 sec.
Memory	The last 50 measurements can be stored internally
Protection	IP65
Dimensions (L×W×H)	200×94×39mm
Weight	350g
Material	Case: ABS (UL 94 HB) • Membrane keyboard: Polyester (PET) • Display: Resin coated (scratch resistant)
CE Mark	Complies with the EU directive

UMP-1 Soil Moisture Probe Specifications

Water content measurement range	0-100 % Vol. water content
Water content accuracy	± 2%
Electrical conductivity measurement range	0,001-5 mS/cm
Electrical conductivity accuracy	± 1%v
Soil temperature measurement range	-20 - +60 °C
Soil temperature accuracy	±0.2°C (across the entire temperature range)



Ordering Details

INSTRUMENT		ACCESSORIES	
FOG*II* Basic	FOG*II* Calcimeter incl. cuvvettes, bottle, tubing, batteries & operating instructions	UMP-1 mod	UMP-1 soil moisture probe 1m cable-modified (factory installed)
		GPS module	GPS receiver for field measurements (factory installed)
FOG*II* FieldKit	FOG*II* Calcimeter and accessories as with Basic version, also with pocket balance 0.01g, hard plastic carry case complete for field analysis	CRV-DOL	Continuation Reaction Valve
		SPARE PARTS	
FOG*II* Plus	FOG*II* Calcimeter and accessories as with FieldKit version, also with UMP-1 modified soil moisture probe with 1m cable	BT-100	Replacement bottle
		HC-150	Head cup complete

If you need further information about our products and services, contact us at **sales@bdinventions.com** or contact your local distributor

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