

Instruments and Technologies for a Growing World

### It's a truly Portable Particle Analysis System

"Shake it" in the Wilderness or the Lab

### PARTABLE, 12VDC - AR 11A - 22A AC, SIEVES INCL.







### 0317 San Andreas Sieve Shaker - "Shake it into action"

The San Andreas Sieve Shaker was originally made to be a part of the San Andreas Soil Texture Analysis System, but due to its portability, it is a stand alone product. The San Andreas Shaker is a portable 12VDC shaker that can operate using either a 12 VDC battery (not included) or power from your car's lighter socket (a universal power adapter is included). Therefore the San Andreas Sieve Shaker can be used in remote areas where a power source is not available.

### FEATURES:

- Portable in a small case
- Timer operated (up to 30 minutes)
- Universal power adaptor

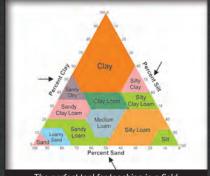
### SYSTEM OPTIONS:

- 0317 San Andreas Shaker and Sieve Set
- 0317K1 San Andreas Shaker, Sieve Set and Scale

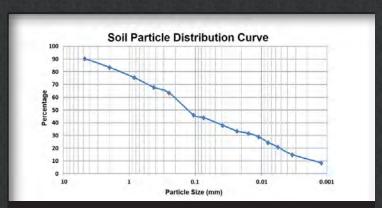
### SYSTEM SPECIFICATIONS:

Shaker: Power Supply: Input: 100-240V, AC, 50-60Hz, 0.6A; Output: 12V, DC, 1.5A; Weight: 6.6 lbs (3 kg); Length: 11" (30 cm); Height: 2.5" (6.36 cm); Width: 7" (18 cm)

Sieve Set: Stainless Steel; Brass also available; Diameter: 4" (10 cm); Standard Screen Size Numbers: 10, 20, 40, 60, 120, 200



The perfect tool for teaching in a field environment - what could be better?



Add our USB Scale, and record and automate the process





Instruments and Technologies for a Growing World

### Complete Soil Texture Analysis Anywhere

Field, Classroom, Client's site - Soil Texture's right

### SOFTWARE - 3 RUGGED CLASSES - 12 VDC - EVERYTHING'S THERE





### 0318K1 San Andreas Soil Texture System - "Seeing soil texture in the right light"

Knowing soil texture and particle characteristics is essential in many agricultural activities like irrigation, tillage, and planting. Many soil properties are influenced by soil texture including drainage rate, water holding capacity, aeration, susceptibility to water and wind erosion, potential organic matter content, cation exchange capacity (CEC), pH buffering capacity and more. Soil texture also has several applications in construction engineering, landscape projects and environmental studies. The San Andreas Soil Texture System is a complete, portable system for determining soil texture. It also can be used for creating soil particle distribution curves. The San Andreas Soil Texture System can be used in all soil laboratories as a complete and convenient system needing minimum preparation.

### FEATURES:

- Complete Kit (includes all essential components)
- Portable (battery powered)
- Automated Calculations (using SimplyData Software Suite application)
- Quick Soil-Texture Determination (in 2 hours)
- Detailed Step-by-Step Instructions (minimum training required)

### SYSTEM OPTIONS:

0317: San Andreas Sieve Shaker and 4" Sieve Set

0317K1: San Andreas Sieve Shaker, Sieve Set and SimplyData Digital Scale

0318: Hydrometer Method Kit, (Fine Particles), Complete in Case

0318K1: San Andreas Soil Particle Analysis System (0317K1+0318)

#### SYSTEM SPECIFICATIONS:

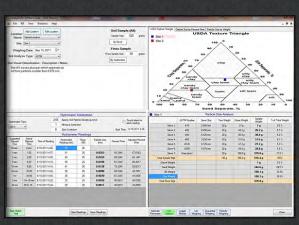
Shaker: 12 VDC

Sieve Set: 4" dia., lid, #10, #20, #40, #60, #120 Pan; Portable Blender: 1300 ml, built-in battery, 12VDC;

Hydrometer: 152H



Works in the lab as well 110 - 220 VAC



Software that not only records but also finds your texture

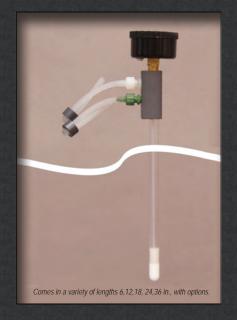


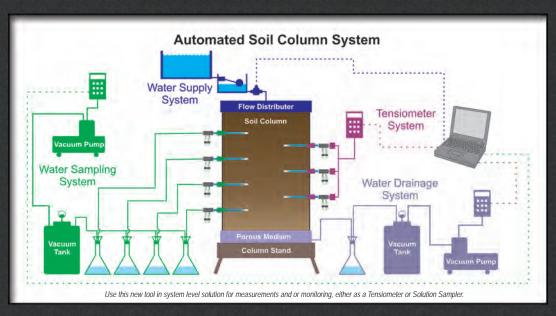
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### Sample and Measure all in one

Columns, Planters, or pots, do it all small

### LUER LOCK READY - ACCURATE - PLUG & PLAY





### 2705 PENCIL TENSIOMETER/SAMPLER - "Seeing soil texture in the right light"

Tensiometers are the most direct and accurate method for measuring soil-water tension (available water). Soil-water tension represents the amount of "suction" that soil applies to its water. Water tension (matric tension) directly determines available water in soil while soil-water content is not directly related to available water.

The Pencil Tensiometer is a response to an increasing need for a small, economical and accurate tensiometers.

#### FEATURES:

- Small size for small applications
- Low cost: suitable for applications that need several tensiometer units
- Secure and convenient connections
- Quick and easy to refill
- Sensitive and fast response rate
- · Can also be used as a soil-water sampler

#### SYSTEM OPTIONS:

- Standard lengths: 6", 12", 18", 24" and 36" (15, 30, 46, 91 cm)
- Optional pressure transducer port

### SYSTEM SPECIFICATIONS:

Connections: Luer; Ceramic tip: 1 bar high-flow; Outside diameter: 3/8" (0.95 cm); Gauge resolution: 0.5 cbar, accuracy 2-3%





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### Multiple Tempe Testing Made Easy

1 Source - Multiple Results

LUER LOCK READY - LINKABLE - ON-OFF CAPABLE





Doing a lot of the same - use 1 beaker



Doing something different - 1 beaker / tempe

### 1425F1 Soilmoisture New Tempe Cell Stand

A Tempe Cell is actually a miniature combination of a small Soil Column and a Pressure Extractor. The flexible design of the Tempe Cell made it suitable for a variety of soil columns measurements such as chemical transportation parameters (i.e. leaching and transportation rates of nutrients, pesticides, herbicides, heavy metals, organic compounds, etc). The Tempe Cell is also use for measuring soil hydraulic properties including Saturated Hydraulic Conductivity, Unsaturated Hydraulic Conductivity and Moisture Release (Retention) Characteristics.

The new updated Soilmoisture Tempe Cell Stand allows several Tempe Cells to connect to a single Pressure Regulating System (or Pressure Manifold). Each Tempe Cell Stand has a built-in pressure manifold that can connect to 5 Tempe Cells at once. Moreover, Tempe Cell Stands can be now be "daisy chained" together.

#### **FEATURES:**

- · Built-in pressure manifold
- Easy-disconnect connections
- Several Tempe Stands can be easily daisy chained
- Complete system available (Soil Core Sampler, Tempe Cell, Tempe Cell Stand, Pressure Regulating System, Automated Pressure/Vacuum Pump, Pressure Reservoir and other necessary and optional parts)

#### SYSTEM OPTIONS:

1425F1: Tempe Cell Stand (built-in pressure manifold)

### SYSTEM SPECIFICATIONS:

Pressure Range: ±1 bar

Holding Capacity: Five 1400D2.25 Tempes or four 1400D3.50 Tempes

Length: 18.5" L x 5" W x 6" H (47 L x 13 W x 15 H cm)

Weight: 2.0 lb (0.91 Kgs) Luer Quick Disconnects



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### Automated Ksat - Perc Test Measurements

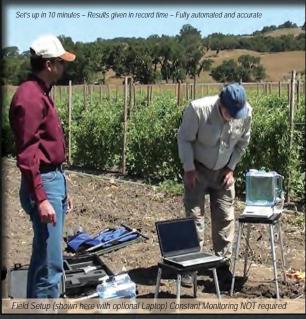
Get results in minutes not hours or days

FIELD READY - SMALL VOLUME - FAST - SELF LOGGING

Temp Ad FR: 81 79 milms

Ksat: 30







### Model 2840 Aardvark Permeameter - "Getting soil - water relationships right"

Knowing soil hydraulic characteristics is essential for many agronomic applications such as irrigation scheduling and application rates, watershed and runoff predictions, and drainage system capacities. In civil engineering, for example, canal and reservoir construction and monitoring, impoundments and landfill characterizations rely on knowing sub surface hydraulic conductivity. Environmental hazards from mine tailings, hazardous waste storage sites, septic field and tank retaining systems, also rely on permeability measurements. The Aardvark Permeameter is battery-operated and the only fully automated Constant-Head Borehole Permeameter. It automatically measures Soil Hydraulic Conductivity (Ksat) and other related parameters like Sorptivity and Percolation (Perc) Rate.

### FEATURES:

- Vast range of operations 10<sup>-4</sup> 10<sup>-9</sup> m/s
- Automatic determination of Steady State
- Alarm alerts you when completed
- · High precision 0.2 ml flow detected
- Logging intervals as short as 1 minute apart
- Graphical display of logs GPS coordinate locations
- Fully automated performance and calculations
- Standard analysis choices
- Stand alone operation set it and forget it!
- One person can operate many units simultaneously

### SYSTEM OPTIONS:

2840K1: Manual System in case, max. 10 ft deep measurements 2840K2: Manual System in case + Regulator, max. 50 ft deep measurements 2840K1PC: Automated System using a PC (not included), max. 10 ft deep measurements (2840K1 + SimplyData USB Scale)

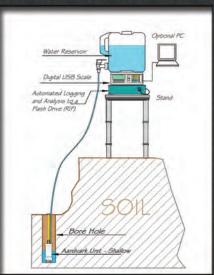
2840K2PC: Automated System using a PC (not included), max. 50 ft deep measurements (2840K2 + SimplyData USB Scale)

2840K1RIF: Standalone Automated System, max. 10 ft deep (2840K1PC + RIF Unit) 2840K1RIF: Standalone Automated System, max. 50 ft deep (2840K2PC + RIF Unit)

### SYSTEM SPECIFICATIONS:

Std. Borehole Diam: 4"; Min. Water Supply: 0.25 gal/min; Max. operating depth: 50 ft; Reservoir Vol. 2 gal; Carrying Case: 28x17x7" (71x14x10 cm), 14.6 lbs (6.6 Kgs); Scale: 10 kg x 0.2 g, PC Requirements: Windows 2000 or newer, .NET Framework (included in Windows Vista and newer).

Enter startup data, then sit back and let the Aardvark do the rest!



Works on both flat surfaces and hillsides



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### TDR on your Android Tablet

From soil to steel, let our mini TDR be your solution

### TRUE TOR - GRAPHING - LOGGING & MORE







### 6050X3K5B MiniTrase with Android Tablet - "Where water & technology merge"

Time Domain Reflectometry (TDR) is the fastest and the most accurate method for measuring volumetric water content in soil and other materials. Soilmoisture has been providing TDR technology for about 20 years. TDR technology has numerous applications in agriculture, environmental sciences and engineering, irrigation systems, soil & water studies, environmental monitoring, mining and construction monitoring systems or any other application involved with determining water content of materials.

Using our TDR devices (Trase and MiniTrase) is now even more convenient. MiniTrase is operated using an Android Tablet (included in the Kit) or your own Android smartphone via Bluetooth connection. This makes it even easier to perform readings, logging, monitoring and downloading.

#### FEATURES:

- Real-time and the most accurate method for measuring soil volumetric water content (1,200 readings in a 10-ns window)
- Robust (stainless steel or other metals) and versatile (in length and width) probes suitable for any type of material and environment
- Easy to operate (user-friendly Android application)
- Powerful data logging and multiplexing features
- Not sensitive to EC

### SYSTEM SPECIFICATIONS:

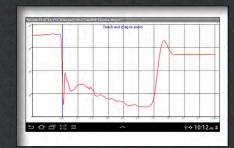
Measuring Range: 0-100% volumetric moisture content Particulars Sampling resolution:10 picoseconds Measuring Accuracy: ±2% full scale or better Operating Temperatures: 0 to +45°C Power Supply: one each NiCad battery Auxiliary power input: 18 volt DC, 2.2 Amp AC

External battery input: 12 volts DC

Storage capacity: 180 graphs/5,610 readings (optional 4 Mb memory board for

3,900 graphs/122,880 readings)

Automatic data tagging with time and date, plus user definable Tag field MiniTrase electronic measuring pulse amplitude: 1.6 volt peak.



Captures 1,200 full TDR 10 ps point waveforms





Easy to Operate with the tap of a finger

Trigger readings remotely and see the results on your Android Tablet



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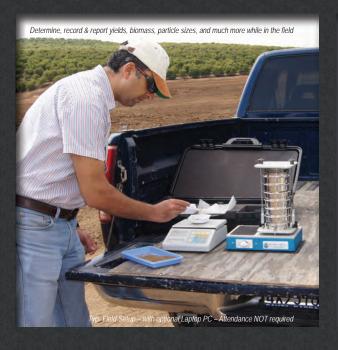
### A Digital Scale like no other.

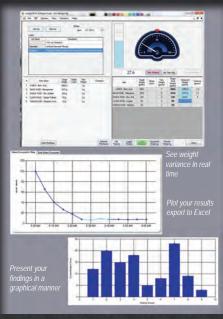
Weigh your way to success in the field or lab

FIELD READY - USB LINKED - 12VDC - SOFTWARE INC.









### Model 7201 SimplyData USB Scale - "The SimplyData Digital Scale is no ordinary scale"

The SimplyDATA Scale has a USB interface and connects to a PC or other devices such as the Soilmoisture RIF (Record-It-in-a-Flash) device. The SimplyData Software Suite has been developed specifically for this Scale. The software offers several applications that enable users to store (log) data, perform related calculations, and generate real-time graphs and reports automatically. The applications range from everyday lab use to applications like the Aardvark Permeameter and the San Andreas Soil Texture System. Periodic weighing, sequential weighing and data logging features make the SimplyData Digital Scale suitable for many innovative applications like precipitation measurements, soil and seed drying curves, and more.

#### **FEATURES:**

- USB interface
- Periodic weighing, sequential weighing, list weighing and more
- Data logger
- Multiple units
- Battery operated

#### SYSTEM OPTIONS:

- 7201W05: USB Digital Scale, 5 kg
- 7201W10: USB Digital Scale, 10 kg

### SYSTEM SPECIFICATIONS:

Capacity:  $5\text{kg}^*$ ,  $10\text{kg}^{**}$ ; Resolution:  $0.1\text{g}^*$ ,  $0.2\text{g}^{**}$ ; Accuracy:  $\pm$  0.1% of the reading; Power consumption: Approx. 0.35 watts; Weight of Unit Scale: 2.3 pounds (1050g); Dimensions:  $10.4^{\text{w}} \times 7.9^{\text{w}} \times 3.1^{\text{w}}$  (26.5cm x 20cm x 8.3cm); Platform Size:  $5.7^{\text{w}} \times 7.5^{\text{w}}$  (20cm x 15cm); Auto-off: after 5 min of idle time; Power: adapter 9VAC), 100mA, USB Self Powered,  $6 \times AA$  Alkaline battery.



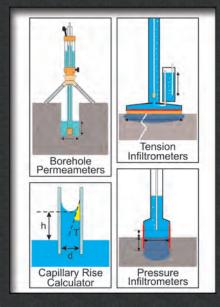


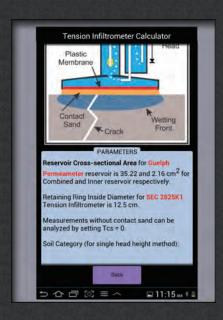
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### A Ksat Calculator in Your Pocket

### Boreholes & Rings - Pressure & Tension - and much more







8015 Soil Permeability Calculators - Android Smartphone Application

Performing mathematical calculations related to soil hydraulic conductivity is a time consuming and complicated task. The Soilmoisture Permeability Calculators application has made it easy to calculate soil hydraulic characteristics, hydraulic conductivity, infiltration rate and sorptivity. The Soilmoisture Permeability Calculators application is a collection of several important calculators that make it easy to perform the calculations immediately after taking readings - A handy tool for consultants, students, and scientists.

### **FEATURES:**

- Covers all types of Borehole Permeameters (e.g. Guelph Permeameter, Aardvark Permeameter, Amoozemeter ...)
- Covers all types of Pressure Infiltrometers
- Covers all types of Double-ring Infiltrometers
- Covers all types of Tension Infiltrometers
- Several Ksat calculating methods (Reynolds and Elrick; Radcliff and West; Glover Solution and Earth Manual Method)

Sing	le Head		Double Head	1
		PARAMETI	ERS	
Soil Category Hole Radius		Agricultural	7	
		3	iom	*
Reservoir	Cross-s	ectional Are	ea 2	16 cm <sup>2</sup>
1st Head Height		5	cm	
1st Steady	Rate of	Water Levi	el Change	
Table	0.15	ter -	/ min	Y
2nd Head	Height	10	žm.	C#
2nd Stead	y Rate o	f Water Lev	el Change	
Table	0.20	čm .	/ min	
\$	corptivity	0.01092	6E-4 cm <sup>2</sup> /n	nin
Ksat 1	14E-4	pm ·	/ min	100



### SYSTEM SPECIFICATIONS:

Android Application; Size: 2.37 MB

Downloads directly from Google Play

	PARAMET	ERS	
Diameter (d)		micron	
Liquid Density	Water, pure		- 1
	1000.0	Kg/m <sup>3</sup>	
Gravitational Pull	9.8	602	115
Liquid-air Surface	Tension		
	0.0728	Nm.	1.4
Liquid-air Contact	Angle (T)		
	0.35	Radian	119
Capillary Rise (h)	RESULT	S	
Equiv. Pressure		Ken	