

# 503 Neutron Probe - Direct reading depth soil moisture probe

**The 503 Neutron Probe** is a subsurface, soil moisture measurement probe for determining the moisture content of soils at various depths. It is the ultimate aid in irrigation scheduling, agronomic research and environmental monitoring.

The 503 has been redesigned to offer a menu driven operation supported by a large, easy-to-read, 40 character LCD display and 12 button layout. This layout allows intuitive navigation to additional software features. It also allows the operator to easily set-up and label new projects using the alpha-numeric display and save additional notes for each. Project data can be downloaded to a USB drive or PC using a standard USB cable.

The 503's new, lithium-ion battery pack allows hundreds of hours of field operation between charges, and recharges in less than 4 hours. By replacing the heavier alkaline batteries, the new 503 is lighter and easier to carry.

## 503 Neutron Probe Applications

**Irrigation Scheduling:** (For commercial management and consulting services) Scheduling Program: Moisture readings from the 503 can be downloaded to irrigation scheduling programs to build a field history file and generate reports of soil moisture status and irrigation forecasts. This allows an irrigator to improve crop yields and quality, determine when and how much to irrigate, monitor root development, improve irrigation efficiency and optimize system design. Ideal for consultants and farm managers. Environmental and vadose zone monitoring: The 503 is an effective tool for monitoring moisture and contaminant movement in the vadose zone to protect ground-water quality.



## Specifications

Standards	Meets & exceeds ASTM D5220 requirements
Measurement range	0.0 to 6.0 in/ft (0.0 to 0.50 gcc)
Precision at 1 min.	±0.024 in/ft (±0.002 gcc) at 2.88 in /ft. (0.24 gcc)
Counting time	15, 30 or 60 second intervals OR user selectable
Operating temperature	32° to 140°F (0°to 60°C)
Power	Lithium-ion 8.4V, 4A-H battery pack (Rechargeable)
Display	Large 4 Line by 20 character LCD display with backlight
Units	Operator selectable: counts, count ratio, gcc, pcf, ipf, cpc, % moisture
Memory storage	Minimum 2Gbyte internal storage for calibrations and data storage
Data interface	Upload data to PC via USB port or cable
Calibration	32 operator selectable calibrations
Neutron source	Max 50 mCi (1.85 GBq) Americium-241/Be
Encapsulation	Double-sealed capsule
Weight	Gauge Weight: 14 lbs. (6.35 kg) Shipping Weight: 33 lbs. (15 kg)

## Features:

- Backlit 4 x 20 LCD display with 9mm characters for maximum visibility
- Multi-language options – English, Spanish, French & German
- New, long-lasting lithium-ion batteries
- Upgraded, redesigned electronics make 503 ELITE more user-friendly
- Data transfer to PC via USB drive OR data cable
- Internal SD card provides storage for over 10,000 test readings
- Storage and recall of 32 linear calibrations w/ multiple tubing types and varying soil conditions
- Software updates will be available via USB port
- Options allow operator to select: Time of test, units of measurement and logging format
- Lightweight and water resistant

