



TEROS-31 LABORATORY TENSIO METER

METER



Lab tensiometer with heroic strength and speed

TEROS-31 is the only tensiometer in the world small enough and precise enough to perform excellent water potential spot measurements in even the tightest spaces. And now it's even more robust than ever. We've incorporated a more ruggedized, highly precise pressure transducer, giving you higher data resolution in an almost unbreakable form. And TEROS-31 tensiometer has a superheroic response time of only 5 seconds for a pressure change of 0 to -85 kPa. It reacts much faster to changing soil conditions because of its small water volume, enabling you to measure even the most minute changes in water potential-something lower-quality tensiometers cannot do. It measures matric potential within the gravitational range where most water movement occurs and into the capillary range.

Tensiometer measurement range-extended

Most tensiometers have a measuring range of at least 100 to -85 kPa. But the TEROS-31 increases the matric potential measuring range to nearly -150 kPa. Normally, when a tensiometer reaches -85 kPa, the water boils, forming an air bubble. The air bubble expands and contracts with changes in pressure, making the tensiometer unable to measure suction. But the TEROS-31 retards the boiling point, extending the measurement range well beyond normal limits.

Double your data power

TEROS-31 compatibility with the ZL6 data logger means precision is now plug-and-play, making setup a breeze. TEROS-31 minor footprint allows major advantages over larger tensiometers, such as very little soil disturbance and incredibly fast response time.

Setup in seconds

Just insert TEROS-31 stereo plug into the ZL6 data logger, and start seeing numbers. ZENTRA Cloud makes it possible to see near-real-time data wherever you are. TEROS-31 can be installed in any position and orientation with a miniature auger (not included) to ensure as little soil disturbance as possible. For spot measurements, just auger a 5-mm hole and insert the tensiometer. To save you even more time and effort, bubbles are detectable through the transparent shaft, making it easy to see when it's time to refill.



BILMAR BİLİMSEL ARAŞTIRMA VE MÜHENDİSLİK ANONİM ŞİRKETİ

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Features

- Laboratory tensiometer
- Easy data visualization in real time: plug and play with ZL6 logger and ZENTRA Cloud
- Small and fast
- Little soil disturbance
- Extended range
- Install tensiometer in any position or orientation
- Bubbles easily detectable through the transparent shaft
- Output signals are balanced
- Accurate zero-tension reading

Specifications

MEASUREMENT SPECIFICATIONS

Water Potential	Resolution: 0.0012 kPa Accuracy: ± 0.15 kPa Range: -85 to +50 kPa (up to -150 kPa during boiling retardation)
Temperature	Range: -30 to 60°C Resolution: 0.1°C Accuracy: ± 0.5 °C

COMMUNICATION SPECIFICATIONS

Output	DDI serial, SDI-12 communication protocol TensioLINK™ or Modbus™ RTU communication protocol
Data logger compatibility	METER data loggers (ZL6, EM60) or any data acquisition system capable of 3.6-28 VDC excitation and SDI-12, Modbus RTU, or TensioLINK communication.

PHYSICAL SPECIFICATIONS

Dimensions	Height: 49 mm Width: 23.5 mm Depth: 17.5 mm
Cable length	1.5 m
Connector types	3.5-mm 4-pin stereo plug connector
Operating Temperature Range	0°C to 50°C
Tensiometer shaft diameter	5 mm
Tensiometer shaft length	2, 5, 7, 10, or 20 cm
Materials	Shaft : PMMA Ceramic : Al ₂ O ₃ , bubble point 500 kPa Sensor unit : PMMA and TPE

ELECTRICAL AND TIMING CHARACTERISTICS

Supply voltage (VCC to Ground)	3.6 to 28 VDC (Typical: 12 VDC)
Measurement duration	60 to 70 ms (Typical: 65 ms)
COMPLIANCE (CE Mark)	Manufactured under ISO 9001:2015 EM ISO/IEC 17050:2010



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