

# SOIL MOISTURE METERS

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## 14.27 Soil moisture measuring system Watermark

Soil moisture sensors that measure the moisture tension in the soil are read out with the soil moisture meter Watermark. The measuring principle is similar to that of the gypsum block system. The special sensors however do not dissolve in the soil and have a more consistent distribution of pores so that more accurate measurements are possible. The soil moisture sensors, which have a measuring range of 0-200 kPa (0 - 200 cbar), can be used individually or in combination with a PVC tube (in various lengths) for measuring the moisture tension. The condition for reliable measurements is the optimal contact between sensor and soil. Using the special auger the holes are pre-drilled so that the soil moisture sensors can be placed at various depths. The sensors are buried permanently and have an average life of 3-5 years.

By using a soil temperature meter the temperature measured can be set in the soil moisture meter allowing for temperature correction. The electrical resi-

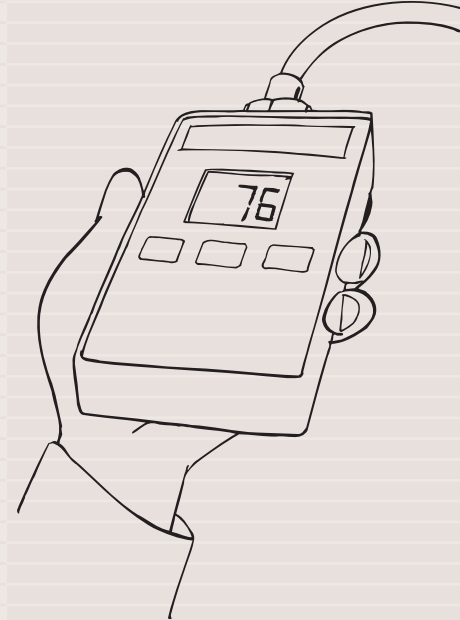
stance is converted by the soil moisture meter into moisture tension in kPa. The soil moisture sensors can be used as a replacement for tensiometers in most agricultural and landscape irrigation environments. If a series of soil moisture measurements is required the soil moisture sensors can be connected easily to a datalogger.

### 14.27.SA Watermark monitor. Set for automatic soil moisture data logging

The Watermark Monitor is a battery operated data logger capable of automatically taking and storing readings from the Watermark sensors at a configurable interval. Readings can be viewed in the field, or collected data can be downloaded by a PC or hand held device and displayed graphically for analysis. Up to 7 sensors can be recorded, including optional temperature sensors and pressure ON / OFF switches for recording irrigation events. Reading intervals are configurable from once a minute to once every 24 hours. Complete set with 7 sensors, one temperature sensor and software.

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The soil moisture meter Watermark shows the measuring result in kPa.



Soil moisture meter Watermark



Soil moisture sensor Watermark



Watermark monitor

## BENEFITS

### 14.27 Watermark system

- Cheap but serious measuring instrument
- Results directly expressed in soil suction
- Range allows measuring trees and dry crops
- Therefore ideal for irrigation advice
- No field maintenance of probes
- Stable long lasting salinity insensitive probes
- Easy read-out with simple cheap instrument
- Temperature can be corrected



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