

## Soil Water Potential (matric potential)

- Loggable water-filled pressure transducer tensiometers
- Maintenance-free wide range Equitensiometers



### Tensiometers type SWT4, SWT4R and SWT5

These precision, water-filled ceramic cup tensiometers have good accuracy ( $\pm 0.5$  kPa) over the range +100 to -160 kPa.

SWT tensiometers require refilling and degassing after dry periods, and must be protected from frost. SWT4 and SWT4R have improved performance and better frost resistance. The SWT4R refillable version can be filled and emptied in situ. The SWT5 is a miniature version that can be used for plant pots, etc.

The tensiometers require a stabilised 10.6V DC 1.3mA power source. A DL2e Data Logger fitted with a TVB1 Voltage Regulator can power and log up to 15 tensiometers. Alternatively, a GP1 fitted with 1 or 2 GP-PBA-X50 boards can log 1 or 2 tensiometers.

For use in drier soils ( $< -160$  kPa) or at remote sites, the Equitensiometer should be considered.



### EQ2 Equitensiometer

The Equitensiometer makes clever use of the ThetaProbe to obtain readings without the familiar problems of water-filled tensiometers. The ThetaProbe rods are embedded into a specially formulated porous matric material.

The EQ2 is compatible with most data loggers, including all Delta-T loggers and the HH2 Moisture Meter. Extension tubes can be used to position EQ2s at depth.

The EQ2 is maintenance-free (no refilling, degassing or topping up), low power, and is not harmed by frost or by long-term burial, so it is very convenient for remote sites. The EQ2 achieves best accuracy over the range -100 to -1000 kPa, which makes it well suited to plant water stress studies – even in very dry soils. However, the EQ2 is not a rapid response, high accuracy device covering the full range of water potentials. Under some circumstances, the EQ2 equilibration time may extend to several days.

#### Applications

- Soil science
- Agronomy
- Horticulture and agriculture research

#### Ordering information (full specs on page 12)

<b>EQ2/w-05</b>	EQ2 terminating in bare wires for data logger terminal blocks, 5m cable <sup>[1]</sup>
<b>SWT4-s30</b>	Higher specification water-filled tensiometer with 30cm shaft <sup>[2]</sup>
<b>SWT4R-s30</b>	Refillable version of SWT4 <sup>[2]</sup>
<b>SWT5-s07</b>	Miniature water-filled tensiometer with 7cm shaft <sup>[3]</sup>

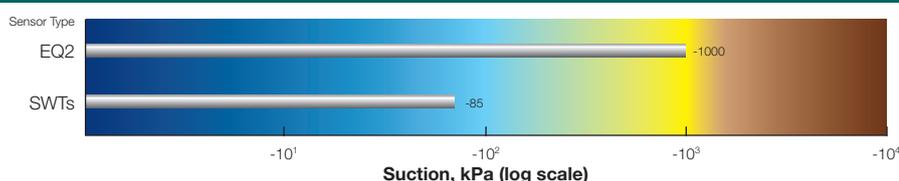
All SWTs are fitted with a 1.5m cable and connector. An SWTCC connecting cable must be ordered with each SWT. Lengths of 5, 10 and 20m are available.

[1] See ThetaProbe (page 4) for note on EQ2 cable lengths and details of extension tubes and augers.

[2] SWT4 tensiometers can be fitted with other shaft lengths, minimum 20cm up to 211cm max.

[3] SWT5 can be fitted with shaft lengths 2 to 20cm.

#### Comparison of matric potential ranges



# Soil Moisture Measurement

# SM300 & Tensiometers