



The Soil Moisture Sensor that Speaks VOLUMES

## *Introduction*

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***With multiple repeat purchases of AQUAFLEX from Vineyards to Sports Stadiums around the world, the unique AQUAFLEX system is now a proven leader in the field of Soil Moisture Measurement technology!***

**Spatial Averaging, Precision and Robustness  
- three key attributes that put AQUAFLEX in a league of its own! -**

AQUAFLEX is a unique sensor that measures both soil moisture and soil temperature.

The AQUAFLEX sensor is a 3m (10') long flexible tape that can be laid in to soil in a variety of configurations to suit the application.

Some examples are:

- S Horizontally to directly measure moisture in the rootzone at that depth
- S On an angle to give a depth profile
- S In a coil to go around the root ball of trees
- S In a loop to fit in a confined space etc.

The 3m long sensor means that AQUAFLEX soil measurement provides spatial averaging over this length of cable and measures a 6 litre volume of soil around the sensor. This is extremely important given the variability of soil (even in well prepared plots) and non uniformity of water application etc.

The AQUAFLEX sensor also measures soil temperature at one end of the sensor.

AQUAFLEX is the only soil moisture sensor that measures over a large volume of soil thus providing representative and repeatable results.

Benefits of AQUAFLEX include:

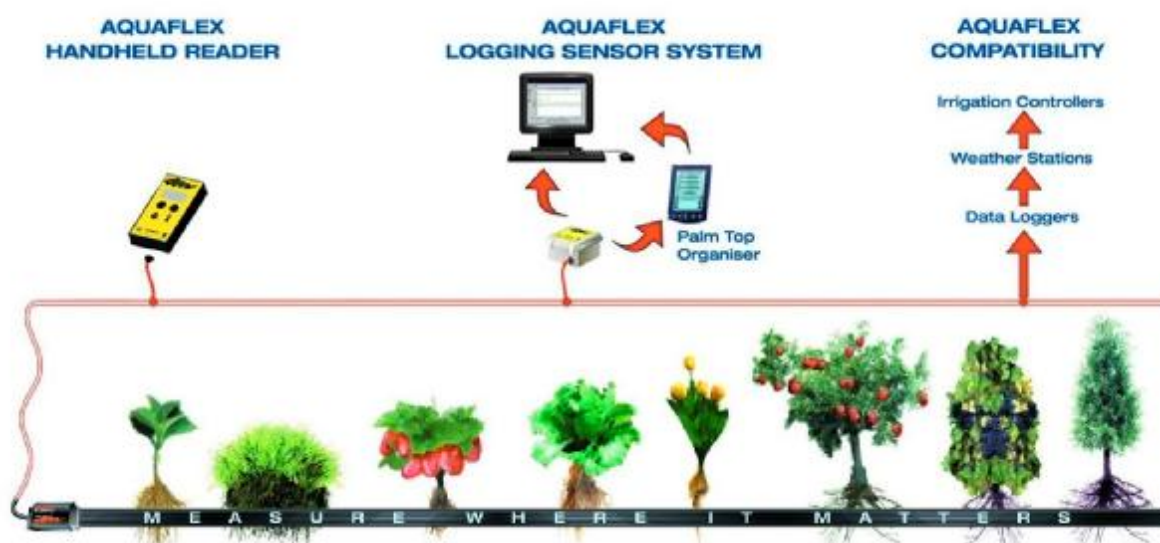
- S Enhanced crop and turf quality
- S Increased crop production
- S Reduced water and energy consumption
- S Improved effectiveness of pesticides
- S Reduced loss of fertilisers
- S Time and labour savings
- S Better control of diseases
- S Reduced water management risk
- S Enables fine tuning of irrigation management
- S Ensures efficient use of water resources
- S Demonstrates quality environmental management

AQUAFLEX can be supplied in various configurations to suit the application, from spot readings using a Handheld Reader to full logging capabilities complete with PC software, or alternatively as a component sensor for connection to other manufacturer's loggers and controllers.

Telemetry options are also available to allow remote operation by either cellular or radio communications. With the cellular option you can access your AQUAFLEX data from anywhere in the world!

## 1. AQUAFLEX Customer Solutions

There are a number of system configurations to suit a variety of applications. We have kept the products and protocols as open as possible to facilitate easy integration into existing system and infrastructures.



### 1.1 AQUAFLEX Handheld Reader

The AQUAFLEX Handheld Reader allows you to take spot readings from a number of AQUAFLEX Sensors. Simply install the sensors and take readings when desired.

### 1.2 AQUAFLEX Logging Sensor

The AQUAFLEX Logging Sensor has a built in datalogger making it a completely self-contained unit. Simply install the sensor, either bury the battery box in a valve box or mount it on a post, download data onto your Palm handheld computer and you have all the soil moisture and soil temperature information you need to manage your irrigation. Telemetry options for remote communication also available – either cellular or radio.

### 1.3 AQUAFLEX Compatibility

AQUAFLEX Compatibility allows you to connect AQUAFLEX Sensors to a wide range of Irrigation Controllers, Telemetry systems etc. If there is already an infrastructure in place, AQUAFLEX can neatly interface into this.

### 1.4 AQUAFLEX PC Software

AQUAFLEX PC Software enables you to manage and fully utilise your AQUAFLEX data.

## 2. AQUAFLEX Sensors

There are two types of AQUAFLEX Sensor. Both sensors use the unique AQUAFLEX measurement technique using a 3m (10') long flexible tape to provide measurement of a volume of 6 litres (370 cu inches) of soil.

### 2.1 AQUAFLEX Logging Sensor (Part # SI.95)

The AQUAFLEX Logging Sensor has a built in datalogger which makes it a completely self-contained system.

Data can be transferred either directly to a PC or via a Palm handheld computer.

The AQUAFLEX Logging Sensor is supplied with a Battery Box which needs to be accessible (eg mounted on a post or buried in a valve box)

#### Options

- S Base sensor data cable length is 3m (10'), options available for additional data cable lengths. Standard lengths are 10m (30'), 20m (60') and 40m (120').
- S A second AQUAFLEX Logging Sensor can be wired into the one Battery Box
- S Starter Kit comprising AQUAFLEX Link software, PC software and Connecting Cable (AQUAFLEX Logging Sensor to PC)
- S Cellular Telemetry (allows communications over the GSM cellular network)

#### Ordering details

Part number is SI.95-xx-a-b where:

- S xx is the data cable length
- S a = 1 or 2, number of sensors connected to the Battery Box.
- S b = s if a Starter Kit is ordered
- S b = W if a Cellular Telemetry system is ordered

### 2.2 AQUAFLEX Sensor (Part # SI.99)

The AQUAFLEX Sensor (SI.99) has multiple outputs:

- S Frequency, for connection to pulse inputs (eg a flow meter input in an irrigation controller). Only soil moisture can be accessed from this sensor output.
- S 4 to 20mA, two separate outputs for soil moisture and soil temperature. For connection to irrigation controllers, telemetry systems etc

The AQUAFLEX Sensor SI.99 can also be connected to the AQUAFLEX Handheld Reader if the optional connector is fitted.

#### Options

- S Connector for connection to AQUAFLEX Handheld Readers
- S Base sensor data cable length is 3m (10'), options available for additional data cable lengths. Standard lengths are 10m (30'), 20m (60') and 40m (120'), custom lengths available up to 250m.

#### Ordering details

Part number is SI.99-xx-y where:

- S xx is the data cable length and
- S y = c if the AQUAFLEX Handheld Reader connector is to be fitted.

### 3. AQUAFLEX Handheld Reader (Part # SI.90)

The AQUAFLEX Handheld Reader allows the user to connect to any number of AQUAFLEX Sensor (SI.99) – one at a time – and take spot reading of Soil Moisture and Temperature at the push of a button!

Contains calibrations for different soil types.

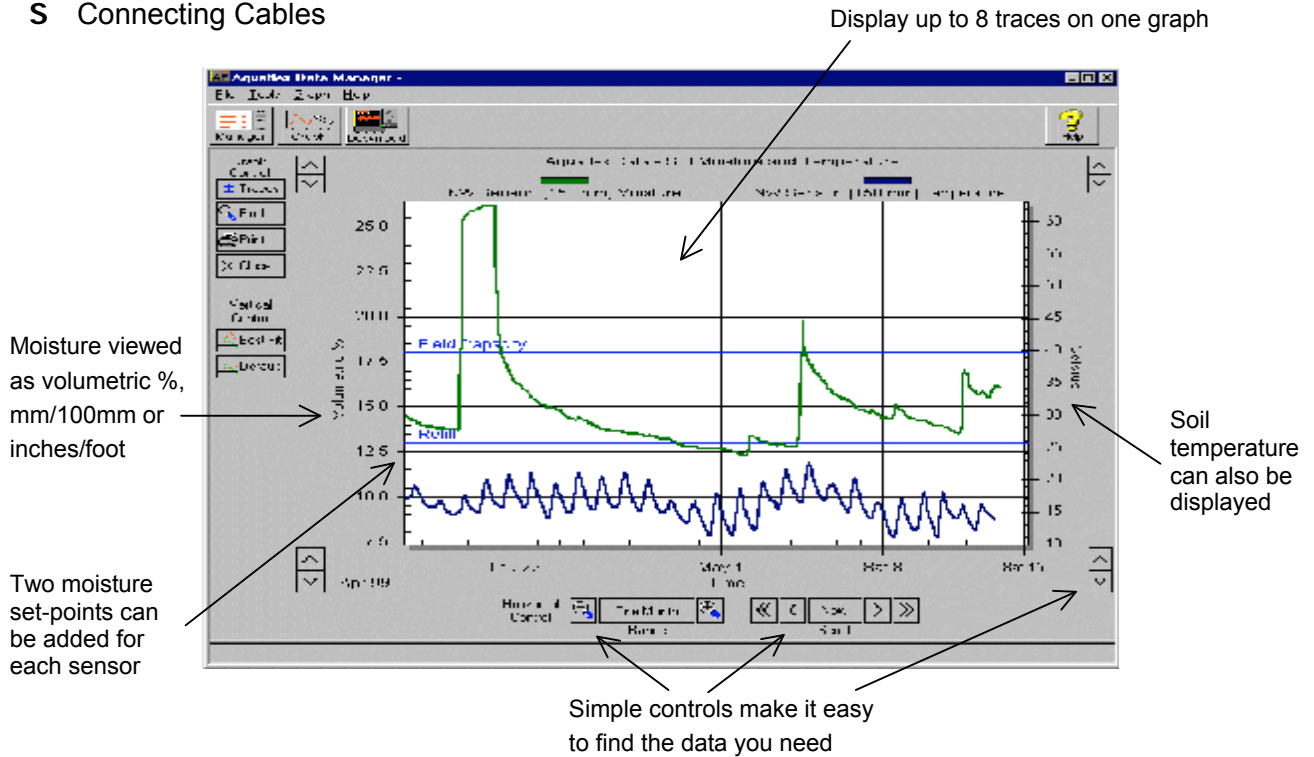
Requires one 9 volt battery – not supplied

### 4. AQUAFLEX Software and Additional Parts

AQUAFLEX Software and various additional parts are available to complete the AQUAFLEX system.

These include:

- S PC Software
- S Palm Software
- S Connecting Cables



Streat Instruments Limited  
 4A Expo Place  
 PO Box 24071  
 Christchurch  
 New Zealand

Ph: +64 3 384 8900  
 Fax: +64 3 384 8901

mail@streatsahead.com  
 www.streatsahead.com



envirofactors

Envirofactors Limited  
 3 Water Lane  
 Bradford BD1 2JL  
 United Kingdom

Ph: +44 1274 733 145  
 Fax: +44 1274 732 410

mail@envirofactors.com  
 www.envirofactors.com