

Makes precision irrigation possible

Grodan GroSens HandHeld



The Grodan® GroSens HandHeld

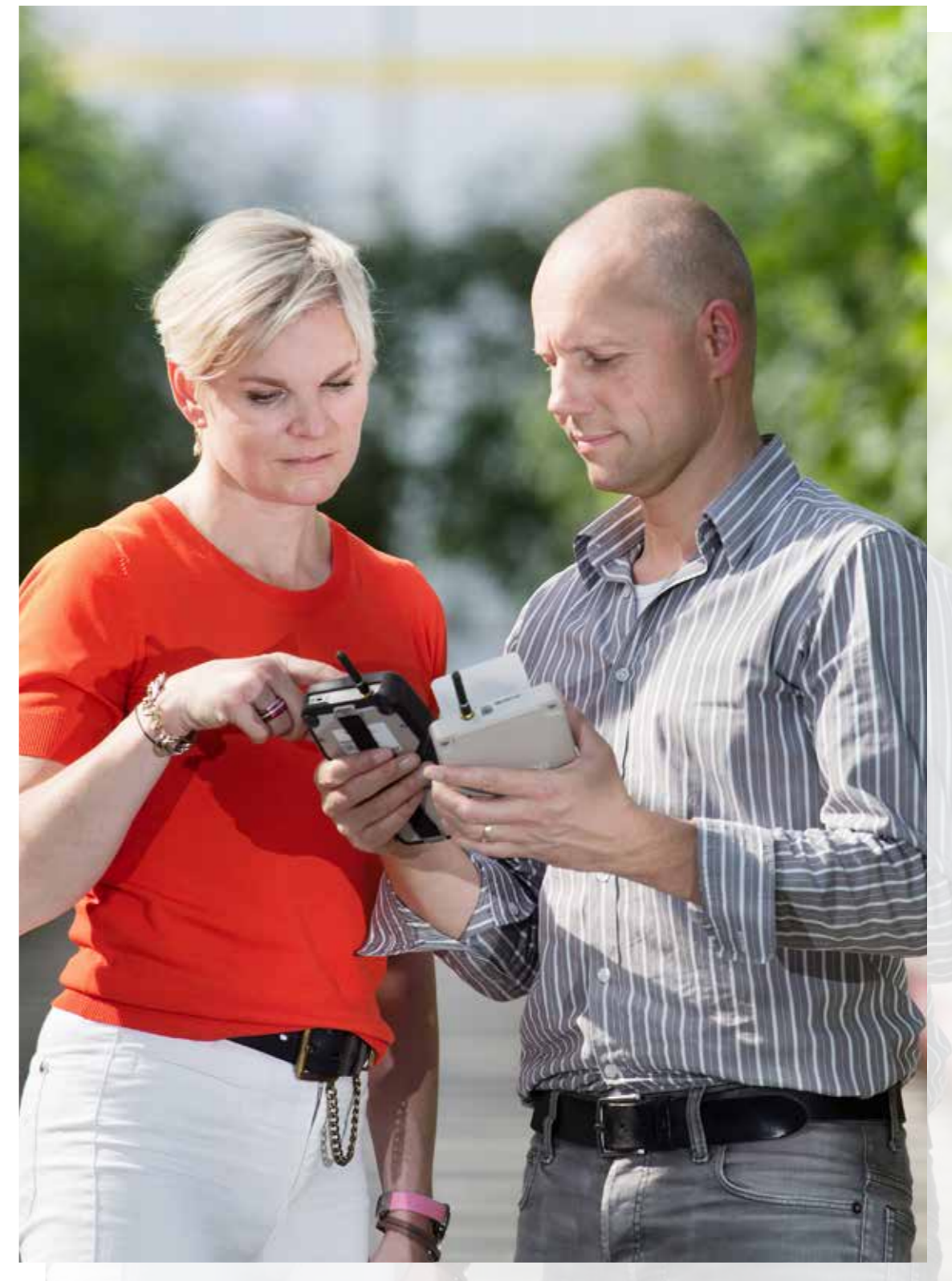
The GroSens HandHeld meter is the ideal measuring instrument for growers, enabling precision irrigation through even more accurate measurement and more detailed display of the water content (WC), the EC, and the temperature of the stone wool substrate.

The GroSens HandHeld gives direct insight into the water content (WC), the EC and the temperature of the stone wool substrate. With the multi-measurement facility, different places in the greenhouse can be measured. It is then simple to read out the WC and EC averages. The meter also has a logging function that allows the recording of the WC and EC values over a certain time period. This information can then be read out on a PC in graphic form in a simple Excel spreadsheet. The GroSens HandHeld quickly provides valuable information that gives guidance in optimising irrigation strategy, which allows growers to improve the yield and quality of their crops. Combined with stone wool substrates and advice from Grodan, GroSens enables growers to optimise their production and save on costs.

The GroSens HandHeld can also be adapted to a GroSens MultiSensor measuring system at a later stage.

Precision Growing

Precision Growing is the most efficient and effective cultivation method, achieving maximum results with a minimum commitment of resources. Not only does it reduce cultivation costs, but crop yield and quality are increased. What's more, this cultivation method makes an active contribution to sustainable horticulture.



Benefits

1

Highly accurate WC measurement

2

Highly accurate EC measurement

3

Multi-measurement facility

4

Logging function for day dynamics

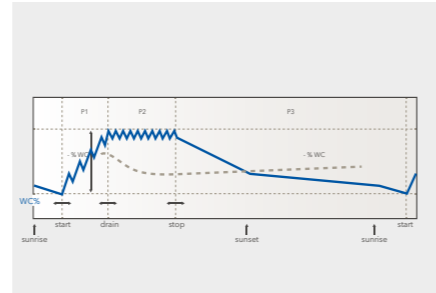
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Multi-Sensor measuring system expansion possible

1 Highly accurate WC measurement

Based on statistically reliable studies, the GroSens HandHeld measures WC more accurately than existing water content meters (WCM).

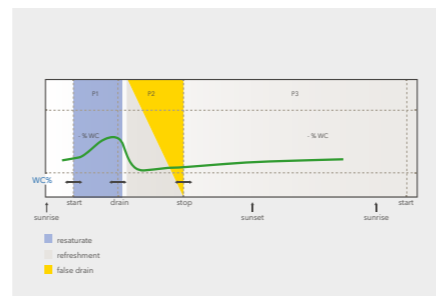
With its greatly improved WC measurement, GroSens is an indispensable tool for growers who want to use precision irrigation professionally in order to achieve optimum yield and quality. Accurate WC measurements in the stone wool substrate give growers the ability to exercise optimum control over their crops. With the GroSens HandHeld, a good impression of the water content can be obtained quickly and easily by taking measurements at representative locations in the greenhouse.



2 Highly accurate EC measurement

Based on statistically reliable studies, the GroSens HandHeld measures EC more accurately than existing water content meters (WCM).

Greatly improved EC measurement takes accurate EC control to the next level. The GroSens HandHeld enables precision management of EC for growers who want it, and opens the way to further yield optimisation and better quality. Accurate EC measurements in the stone wool substrate give growers the ability to exercise optimum control over their crops at crucial moments during cultivation.



3 Multi-measurement facility

The GroSens HandHeld meter is suitable for multi-measurements as well as individual measurements.

This function measures WC, EC and temperature at various locations in the greenhouse. The meter automatically displays the averages and the distribution of the values per series (e.g. per watering section). This gives the necessary certainty for the reliable adjustment of settings for optimisation of the watering strategy. The reference slab in the greenhouse can easily be determined using multi-measurement.



4 Logging function for day dynamics

The logging function is the third option, in which measurements are made at intervals. It is easy to adjust the intervals at which the GroSens HandHeld Meter measurements are carried out in a slab.

The GroSens HandHeld Meter can take and store up to 2,300 measurements in succession. This gives reliable insight into the course of the WC-, EC- and T-curves over a period determined by the grower. But long-term use of the meter without interruptions or failure also contributes to stable measured data. Based on these data, irrigation strategy can be adjusted when necessary to optimize your cultivation.



5 Multi-Sensor measuring system expansion possible

The GroSens HandHeld Meter can easily be expanded to a GroSens MultiSensor measuring system.

Based on a minimum of three sensors, the system gives 24/7 real-time insight into the water content, the EC and the temperature of the stone wool substrate. The system can be connected to most climate computers to report this data in graphic form, immediately and continuously. The GroSens basic set is designed to ensure reliable, representative WC and EC figures for an irrigation section. All components in the GroSens basic set are available separately, depending on the size of the greenhouse and whether the grower wants to take the next step in precision irrigation. This allows the GroSens system to be perfectly tailored to the individual needs of the grower.





GroSens Hand Meter in handy case

The GroSens HandHeld meter comes complete with a handy case, so that you always have all the tools to hand in the greenhouse. With the meter, consisting of a sensor and Reader, the following is supplied as standard: extra batteries, a cleaning kit, extra-long antenna, and a USB cable for connecting the Reader to your PC. The rugged case provides protection for the meter, extending the life of the device. In short, the GroSens HandHeld meter provides you with a reliable basic kit. In addition, the GroSens HandHeld can be adapted to a GroSens MultiSensor measuring system at a later stage. The GroSens system, in combination with stone wool substrate products and advice from Grodan, is the best way to achieve optimum results for production and cost savings.



The case

GroSens Batteries

Extra set of batteries for Reader and Sensor.

GroSens Sensor (wireless)

The Sensor takes extremely precise measurements of the WC, the EC and the temperature.

GroSens Cleaning Set

Cleaning set for disinfecting the sensor pins.

GroSens Reader

The Reader allows you to see data from the GroSens sensor at a glance as you walk through the greenhouse.

GroSens components

Extra-long antenna for optimal reception and USB cable for transferring measurement data to PC.



The GroSens system is a patented technology.



Product specifications

- Reliable and accurate measurements
 - WC measurement from 0-100%
 - EC measurement to above 10 mS/cm
 - T from 0 to 50° C
- Individual measurements
- Multiple measurements
- Logging function
 - Storage for 2,300 measurements
- Save data on PC

System requirements / technical attention points

- USB connection on PC - 2.5 MB of free hard disk space
 - 16 MB of internal memory
 - Windows XP or higher
 - Access to Excel programme
- WC, EC and T graphs on PC (in Excel)!
- Optimally applicable to Grodan substrates (10cm high slabs too)

The Grodan Group supplies innovative, sustainable stone wool substrate solutions for the professional horticultural sector. Based on Precision Growing principles, these solutions are particularly applied to the cultivation of vegetables and flowers. In addition to its stone wool substrates, the Grodan Group also provides tailor-made advice and tools to support Precision Growing and thus facilitate the sustainable production of healthy, safe and tasty fresh produce for consumers.

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