



## HortiMaX ProDrain<sup>®</sup>

- Provides precision irrigation control and information on crop transpiration
- Ensures your crop receives the exact amount of water it needs
- HortiMaX ProDrain is the solution you're looking for!

# Provides precision irrigation control and information on crop transpiration



**ProDrain continuously measures the irrigation and drain water volume, and the weight of the substrate and your crop. Based on the changes in weight, the specially designed software is able to calculate your crop's growth, transpiration rate and water uptake. ProDrain also monitors the saturation level of the substrate. A patented method is used to accurately determine the saturation weight each time drain water leaves the substrate. This ensures a precise measurement is taken of the substrate's saturation or undersaturation level. All measured values are shown in a convenient format in the HortiMaX Synopta software. If interfaced with the MultiMa process computer, ProDrain allows you to gear irrigation to the exact water uptake of your crop.**

## **ProDrain for all substrate-grown crops**

The ProDrain weighing setup can be used for virtually any crop grown in substrate. Whether you grow roses, strawberries, sweet peppers, cucumbers or tomatoes, the system is able to calculate the saturation level of the substrate and measure the transpiration rate of your crop. The irrigation and drain water sensors supplied with the system accurately measure the quantity of water entering and leaving the substrate.

## **Unique transpiration measurement**

By continuously measuring all of the water flows, ProDrain provides online information on the transpiration rate (in  $\text{g/m}^2/\text{hour}$ ). Measuring the transpiration rate is of key importance in determining the right climate strategy. It shows you precisely when your crop has reached its maximum transpiration capacity and action is needed to reduce excess moisture loss. This could prompt you to close the shade screens or activate the roof sprinklers, for instance. ProDrain's transpiration measurement is so unique that researchers use it to test their transpiration models. This has already led to a more accurate model for calculating the transpiration rate in rose cultivation. If this calculation model is combined with the ProDrain measurement, it can even serve as an early warning system.

## **Growth measurement for hanging crops**

If used for hanging crops (e.g. high-wire tomatoes or cucumbers), ProDrain includes the ability to measure crop growth. By suspending a number of plants from the weighing setup, the system gives you a wealth of additional information. The gross weight of your crop plants is an indicator of their fruit load. By monitoring this measurement over a prolonged period of time, you can determine whether the fruit load is satisfactory or adjustments need to be made. ProDrain measures your crop's exact growth, to within a few grams, based on its increase in weight. You can use this data to forecast crop yields or

check whether your crop is healthy and productive. Where the transpiration rate is a reliable indicator of a crop's maximum evaporation capacity, the cumulative growth is a sound measure of how your crop is growing. This is because plant growth depends less on the amount of incoming radiation (i.e. sunlight).

## **Control based on undersaturation level**

Every grower knows that a wet root environment during the night is detrimental to plant health. That's why precise watering is especially important early at night. Although applying irrigation based on the radiation sum has always been considered a sound method of making sure your crop receives adequate moisture during the day, the radiation sum provides only a rough indication of a crop's actual water needs. If the substrate still contains water, it's difficult to determine how much water should be applied. Thanks to the patented method of determining the saturation weight, ProDrain lets you control irrigation based on the undersaturation level. In this way, the ProDrain software on the MultiMa ensures your crop receives the exact amount of water it needs, at the right times.