

Fertmaster



**Computerized fertigation control system
accurately delivering nutrients to your crop**



Accurate EC and pH control has become a major factor of modern nutrition systems. Soil-less cultures and even open field farming nowadays require a good control of the electro conductivity and the acidity of the irrigated water, that's what the FERTMASTER was designed for. It is a highly efficient tool capable of handling up to 6 injectors, 1 booster pump, 1 main valve/ water pump which alternatively can be replaced by an agitator. The system can read 1 water meter, 6 fertilizer meters as digital inputs and 1 EC, 1 pH analogue sensors.

- ② The system is available in two forms: in the stand-alone form, the user defines formulas containing the desired combinations and the desired concentrations of the fertilizers. One set the user can activate manually or via a command signal from an irrigation controller.
In the second form, the unit functions as a slave of the DREAM 2 irrigation controller. In this case, a single DREAM 2 may control several FERTMASTER units loading them with the requirements through serial communication returning data of the process on a real time basis.
Software tools simplify the process of setting up and adjusting the nutrition system. Tools for automatic calibration and measuring of important system parameters such as the actual flow of the injectors and the control system latency is included. The system latency expresses the delay between injection and sensing of the results by the sensors as it happens in the specific system.
- ② Safety and protection: The injection process is safely guarded by the protection mechanisms, never allowing the concentration of the fertilizers to exceed the predefined limits, and if the desired EC or pH cannot be maintained within the permitted limits the appropriate preventive steps are taken.
- ② Fast and smooth convergence: In order to reach a fast and accurate convergence to the desired set-points each new process takes into consideration the results of the last time of activation of the specific formula.
- ② Flexible injectors function setting: Each of the injectors in use can be set either for EC controlled injection, for pH controlled injection or for proportional injection of nutrients independent of the EC and pH control. In the last option the amount injected can be limited according to user definition.
- ② PC software tools: Optionally the unit may be connected to a PC running a special software that enables full programming and process monitoring through the PC. The whole process can be viewed on a graphical display showing the actual values and the average values of the EC and pH moment by moment. These values are also recorder and can later be redisplayed in order to analyse the process behaviour.

② Optional outputs:

- Up to 6 fertilizer injectors
- 1 booster pump
- 1 main-valve/ water pump
- 1 agitator in place of the main-valve
- 3 alarm outputs (in standalone mode)
- All outputs are 24v AC up to 10 watt

② Dry contact inputs:

- Up to 6 fertilizer meters
- Optional 1 water meter
- 8 selection contacts (in standalone mode)

② Analogue inputs:

- 1 EC sensor
- 1 pH sensor
- 1 PT100 temperature sensor



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