SMART FERTIGATION PUMP

DC powered advanced fertilizer injection pump

GOLDTEC CONTROL SYSTEMS

The *SMART FERTILIZER PUMP* described here supplies a perfect solution when a wide range adjustability, accuracy, and stability of injection are required. Being powered by a 12v rechargeable battery that may be charged from the mains, or from solar energy makes it suitable for use everywhere, even where no electricity is available.

The *SMART FERTILIZER PUMP* is commanded by a microcontroller that enables adjusting it to various modes of operation giving the ability of detecting, reporting and in some cases even solving alarm conditions.

The pump can be used under control of any irrigation controller receiving dry contact, AC, DC or pulse latching commands and reporting the injected volumes by self-generated pulses.

When used in the stand-alone mode predefined injection jobs may be executed including pre-watering and proportional or continuous injection of fertilizers.

General Features

- Two operation modes:
  - Slave mode- under command of an external irrigation controller.
  - Stand-alone mode- executes predefined injection programs.

Software adjustable injection flow rate that can be set to any value between the minimal and maximal capacity.

Capability of maintaining the selected flow rate within a range of ±5% of the set-point including compensation for pressure variations of ± 2bar.

Reporting supplied volumes by dry contact pulses, with adjustable ratio, and with symmetric duty cycle.

- Equipped with tools for easy calibration.

In stand-alone mode - injecting desired volumes continuously or proportionally to the water flow. Keeping track of the supplied amounts.

- Capable of detecting air in the pipe-line and equipped with tools of automatically releasing the air from the system.
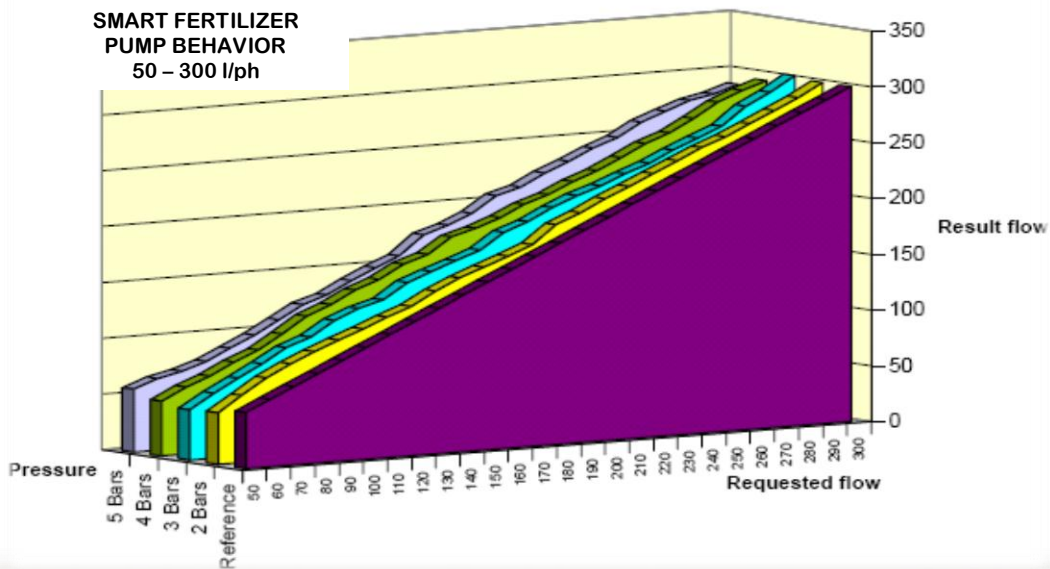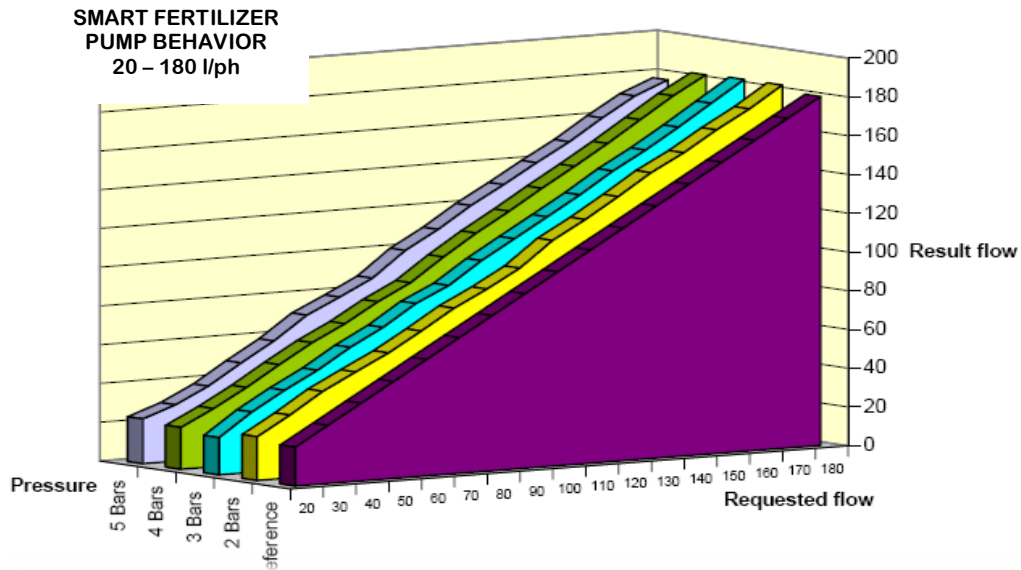
- Selectable alarm firing events including:
  - No fertilizer
  - Air in pipe-line
  - Blocked line
  - Short circuit
  - Low battery
  - Water high/low flow
  - Out of control

- Real time detailed status display.

- **Unique mode of operation** that continuously adjusts the injection rate making sure that the desired amount of fertilizer will be evenly distributed even when the water flow varies.
- **Special monitoring software** that enables following the behavior of the various parameters in a graphical and numeric modes. The software can be used also as a simulation software for demonstration and training purposes.
- **Protection** against over load or short circuit.

SMART FERTILIZER PUMP BEHAVIOR
20 – 180 l/ph

SMART FERTILIZER PUMP BEHAVIOR
50 – 300 l/ph