



**McLANE**<sup>®</sup>  
RESEARCH LABORATORIES, INC.

Profilers **Samplers** Flotation



## Phytoplankton Sampler

### Application:

The Phytoplankton Sampler (PPS) is an autonomous particulate sampler that collects up to 24 individual *in situ* water samples onto membrane filters. Samples are collected in user-defined time series and can be analyzed for trace metals, phytoplankton and suspended particles.

### Features:

The patented multi-port valve isolates individual samples and distributes water directly to the filter before passing through a pump. In-line filtered water flush port also protects the pump from large particle interference.

### Sample schedule options:

User defined sampling can start at a scheduled time or be programmed with a countdown delay. Total volume, flow rate, and sample collection time are also user defined. Sample data includes timing, flow, and electrical parameters.

### Customized hardware and software:

Hardware and software can be customized such as adding optional extraction columns and fixative reservoirs. Optional external power connection is also available.

### Deployment:

Deploys from a mooring, bottom lander, or ship.

- Number of samples: 24 (individual filtered samples).
- 10Ah alkaline battery pack.
- Pump draws ambient water onto user-replaceable 47 mm membrane filters.
- Can deploy for 14 months (based on volume and flow rate).
- For more information about this sampler, see the Phytoplankton pages at [mclanelabs.com](http://mclanelabs.com).



Avda. Filipinas, 46

28003 Madrid

Tfo. 91 5537207

Fax 91 5336282

E-mail [grafinta@grafinta.com](mailto:grafinta@grafinta.com)

# Phytoplankton Specifications

---

**DIMENSIONS:** Length: 165 cm (64.9 in)  
Width: 43 cm (16.9 in)  
Height: 43 cm (16.9 in)

---

**WEIGHT (APPROX):** In air: 60.5 kg (133 lbs)  
In salt water: 35 kg (77 lbs)  
In fresh water: 36 kg (79 lbs)

---

**COLLECTOR:** Number of filters: 24  
Filter size: 47mm  
Filter type: Membrane (GFF)  
Flow rate: 50 to 125ml/min  
Maximum volume: 10 liters per filter (<10 µg/liter)  
250 liters total volume  
Flow rate error: ±3% average  
Type: Gear pump; not affected by dilute acid  
Drive: Brushless 3 phase DC motor

---

**MULTI-PORT VALVE:** Number of ports: 25  
Material: PBT  
Drive: High torque stepper motor  
Gear head: 100:1 planetary  
Positioning: Optical sensor with slotted disk

---

**CONTROLLER:** Pressure housing: Aluminum, 6061-T6 hardcoat anodized  
Power supply: 31.5 VDC  
Power consumption: 9Ah (1 year deployment)  
Communications: Serial (RS-232)

---

**OPERATIONS:** Maximum depth: 5,500m  
Battery endurance: 10Ah alkaline battery pack  
Maximum deployment time: 14 months  
Operating temperature: 0° to 35°C

---

**FRAME:** Material: 316 stainless steel, electro-polished  
Structure and bridle config.: Weldment, 4 and 4 in-line  
Bridle eyes: 19 mm, insulated

---