



- Number of samples: 24 (individual filtered samples).
- Power: 24 user replaceable “D” cell alkaline batteries.
- 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 [PPS](#) pages at [mclanelabs.com](http://mclanelabs.com).

## 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 date includes timing, flow, and electrical parameters.

### Customized hardware and software:

Hardware and software options include a fixative valve to flood filter holders with fixative solution immediately after sampling, antifouling solution reservoir to perform post-sample antifouling flushes, and adaptive controls for event-based sampling. Optional external power connection is also available.

### Deployment:

Deploys from different mooring types such as a standalone mooring, bottom lander, or tethered from a ship.

# Phytoplankton Specifications

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**DIMENSIONS:**

Height: 43 cm (16.9 in)

Width: 43 cm (16.9 in)

Length: 165 cm (64.9 in)

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**WEIGHT (APPROX):**

In air: 60.5 kg (133 lbs)

In salt water: 35 kg (77 lbs)

In fresh water: 36 kg (79 lbs)

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**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: ±5% average

Type: Gear pump; not affected by dilute acid

Drive: Brushless 3 phase DC motor

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**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

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**CONTROLLER:**

Pressure housing: Aluminum, 6061-T6 hardcoat anodized

Power: 36 VDC

Power consumption: 9Ah (1 year deployment)

Communications: Serial (RS-232)

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**OPERATIONS:**

Maximum depth: 5,500m

Battery: 24 user replaceable “D” cell alkaline  
batteries

Maximum deployment time: 14 months

Operating temperature: 0° to 35° C

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**FRAME:**

Material: 316 stainless steel, electro-polished

Structure and bridle config.: Weldment, 4 and 4 in-line

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