



- ▼ Number of samples: 24 (individual filtered samples).
- ▼ Power: 24 commercially available, 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).

## Particle & Phytoplankton Sampler

### Application:

The Particle and 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:

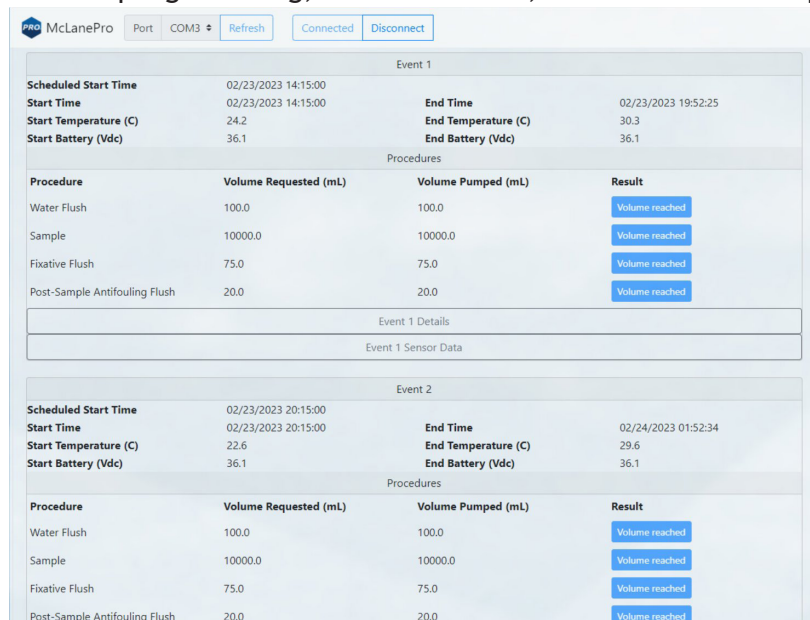
The patented multi-port valve isolates individual samples and distributes water directly to the filter before passing through a pump. In-line filtered water flush port also protects the pump from large particle interference. Hardware and software options include a fixative valve to preserve samples, antifouling for post-sample flushes, and external power connection (with optional bulkhead connector installed).

### Sampling:

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. Adaptive (command-driven, externally-controlled) sampling is also available.

### McLanePro:

The PPS uses McLanePro, a graphical user interface built for McLane’s Gen3 electronics. McLanePro eases the steps of event programming, data offload, and firmware updates.



Event 1				
Scheduled Start Time	02/23/2023 14:15:00		End Time	02/23/2023 19:52:25
Start Time	02/23/2023 14:15:00		End Temperature (C)	30.3
Start Temperature (C)	24.2		End Battery (Vdc)	36.1
Start Battery (Vdc)	36.1			
Procedures				
Procedure	Volume Requested (mL)	Volume Pumped (mL)	Result	
Water Flush	100.0	100.0	Volume reached	
Sample	10000.0	10000.0	Volume reached	
Fixative Flush	75.0	75.0	Volume reached	
Post-Sample Antifouling Flush	20.0	20.0	Volume reached	
Event 1 Details				
Event 1 Sensor Data				
Event 2				
Scheduled Start Time	02/23/2023 20:15:00		End Time	02/24/2023 01:52:34
Start Time	02/23/2023 20:15:00		End Temperature (C)	29.6
Start Temperature (C)	22.6		End Battery (Vdc)	36.1
Start Battery (Vdc)	36.1			
Procedures				
Procedure	Volume Requested (mL)	Volume Pumped (mL)	Result	
Water Flush	100.0	100.0	Volume reached	
Sample	10000.0	10000.0	Volume reached	
Fixative Flush	75.0	75.0	Volume reached	
Post-Sample Antifouling Flush	20.0	20.0	Volume reached	

# 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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**SAMPLE COLLECTION:**

Number of filters: 24  
Filter: 47 mm Polypropylene filter holder, single stage  
Filter Type: Membrane or Glass Fiber, .65  $\mu\text{m}$  or higher porosity

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**PUMP:**

Flowrate: 50 - 125 ml/min Standard (+/-10% error)  
100 - 250 ml/min Optional (+/-10% error)  
Type: Gear pump  
Materials: 316 SS pumphead  
Drive Housing: Pressure balanced oil filled  
Maximum volume: 10 L/filter - 250 L total Standard  
20 L/filter - 500 L total Optional

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**MULTI-PORT VALVE:**

Number of ports: 25

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**CONTROLLER:**

Pressure housing: Aluminum, 6061-T6 hardcoat anodized, 316 SS fasteners, 316 SS bulkhead connectors, Zinc anodes  
Communications: USB, RS-232, RS-485 with optional added bulkhead connector.

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**OPERATIONS:**

Maximum depth: 5,500 m  
Battery: 24 user replaceable "D" cell alkaline batteries  
Maximum deployment time: 14 months (based on volume/flow rate)  
Operating temperature: -4°C to 35°C (in water-nonfreezing)  
Storage temperature: -20°C to 45°C (in air)

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**FRAME:**

Material: 316 SS, electropolished, 316 SS isolated hardware  
Structure: In-line weldment, 5 ton tension rating

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