

Phytoplankton Sampler (PPS)

Application: Particulate sampler that collects *in situ* water samples onto membrane filters in an autonomous, user-defined time series. The PPS samples particulate trace metals, suspended particles and phytoplankton.

PPS Features and Benefits



- 24 individual filter holders collect in situ samples.
- Optional fixative reservoirs.
- Optional extraction columns.
- Pump draws ambient water onto userreplaceable 47 mm membrane filters.
- Patented multi-port valve isolates individual samples.
- * Water flows **directly to the filter** without passing through the pump.
- In-line filtered water flush port **protects** the **pump** from large particle interference.
- Programmed sampling can start at a scheduled time or on a countdown delay.

Programmed sampling parameters: Flow is precisely regulated by operator-selected values for total volume, flow rate, and sample collection time. System firmware records timing, flow, and electrical parameters and offloads this information at recovery for use in sample analysis.

Customized hardware and software: Hardware and software can be customized such as adding external sensors for action-triggered sampling.

Deployment: Mooring, bottom lander, or deployed from a ship.

PPS Specifications

Dimensions 43 cm (16.9 in) Height

Width 43 cm (16.9 in) Length (body) 165 cm (64.9 in)

Weight In air 60.5 kg (133 lbs)

In salt water 35 kg (77 lbs) In fresh water 36 kg (79 lbs)

Multi-port Valve Number of ports 25

PVC Material

Drive High torque stepper motor

Gear head 100:1 planetary

Positioning Optical sensor with slotted disk

Filters Number of filters 24

> Filter size 47 mm diameter

Filter type Membrane filters (GFF)

Pump Flow rate 50 to 125 ml/min

> 10 liters per filter ((<10 µg/liter) Maximum volume

> > 250 liters total volume

Flow rate error ±3% average

Type Gear pump; not effected by dilute acid

Drive Brushless 3 phase DC motor

Controller Housing material Aluminum, 6061-T6 hardcoat anodized

> 31.5 VDC Alkaline battery pack Power supply Current consumption 9000 mAh (1 year deployment)

Communications Serial (RS-232)

Frame Material 316 stainless steel, electro-polished

> Structure In-line mooring, weldment

Bridle configuration 4 in-line

Frame & bridle eyes 19 mm diameter, insulated

Max. in-line tension 2,300 kg (5,000 lbs)

Operation Conditions 5.500 meters Maximum depth

> Max. deployment time 14 months

0 to 50° C (electronics tested to -10° C) Operating temperature

Specifications Subject to Change without Notice



Falmouth Technology Park 121 Bernard Saint Jean Drive East Falmouth, MA 02536

Fax: 508.495.3333

Tel: 508.495.4000

Web: www.mclanelabs.com

05/05