



## Parflux Mark78H Sediment Trap

### Application:

The Parflux Mark78H Sediment Trap is a time-series sampler that autonomously collects the flux of settling particles through a wide honeycomb funnel into individual sample bottles. Sediment Traps are part of ongoing studies of the global carbon cycle and are used for paleoproxy and radionuclide investigations and environmental or pollution monitoring.

### Features:

Cone interior is natural polyethylene to maintain sample integrity. A 13 cup and a 21 cup version are available. The 21 cup model holds 250ml or 500ml sample bottles. The 13 cup model holds 500ml sample bottles. Optional Wet Sample Particle Divider (WSD-10) can split wet specimens into five or ten equal parts.

### Sample schedule options:

Sample collection is controlled by user-defined values. Each sample can have a different start date and time, samples can be collected at fixed time intervals from a specific start date, or samples can be automatically spaced at equal intervals by entering a start and end date. Sample data includes collection date/time, battery voltage and temperature before and after each sample event.

### Customized hardware and software:

Adaptive sampling is possible with optional ethernet communication. Other options include compass/tilt sensor which records a time history of tilt magnitude and direction, pressure sensor and external temperature sensor.

### Deployment:

Deploys from a stand-alone mooring or a large high-tension vertical array.

- Number of samples: 21 with 250ml or 500ml bottles or 13 (wider bottle) with 500ml bottles.
- 5Ah alkaline battery pack.
- Depth-rated to 6,500 meters.
- Lighter weight aluminum pressure case option available.
- Titanium frame reduces weight and resists corrosion.
- For more information about this sampler, see the Sediment Traps pages at [mclanelabs.com](http://mclanelabs.com).

# Mark 78H Sediment Trap Specifications

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## DIMENSIONS:

Diameter: 91cm (35.8 in)

Height: 164 cm (64.5 in)

Vertical surface area: 0.66 m<sup>2</sup>

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## WEIGHT APPROX (NO BRIDLE):

In air, 500ml bottles empty: 61 kg (134 lbs)

In air, 500ml bottles full: 72 kg (159 lbs)

In water, 500ml bottles full: 25 kg (55 lb)

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## COLLECTOR:

Number of samples: 21 or 13 (wider bottle)

Bottle volume: 250 or 500 ml (21 samples)

500ml (13 samples, wider bottles)

Aperture area and diameter: 0.5 m<sup>2</sup>, 80 cm

Baffle material: Polycarbonate, 1.0 mm wall thickness  
Natural polyethylene internal coating

Baffle cells: Approx. 368, 2.5 cm diameter

Aspect ratio of cell (h/d): 2:5

Included cone angle: 41°

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## ROTARY ASSEMBLY:

Drive motor type: Electronic stepper motor

Drive train: Direct gear train

Drive torque at second spur: 30 kg / cm

Time to shift a bottle: 25 s (21 cup) / 38 s (13 cup)

Gear plate diameter: 47 cm (21 cup) 45 cm (13 cup)

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## CONTROLLER:

Pressure housing: Titanium

Power supply: 36 VDC

Power consumption:

Communications: Serial (RS-232), Ethernet PERLE

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## OPERATIONS:

Maximum depth: 6,500 m

Battery endurance: 5Ah alkaline battery pack

Maximum deployment time: 18 months

Operating temperature: -2° to 50° C

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## FRAME:

Material: Titanium, Ti-45 G-2 (standard housing)

Structure and bridle config.: Weldment, 3 and 3 in-line

Bridle eyes: 1.29 cm (5/8"), insulated

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