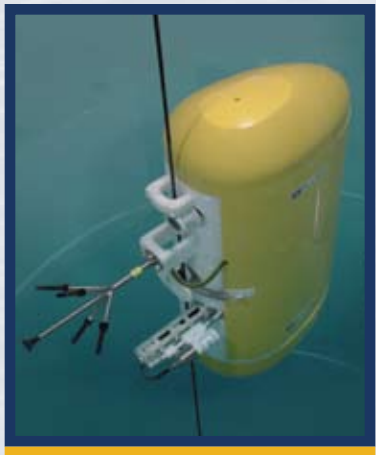
McLANE
RESEARCH LABORATORIES, INC.

McLane Research Laboratories

has provided advanced time-series instruments and engineering design services to the international oceanographic community since 1983. Our expertise includes designing and manufacturing custom hardware, software, and flotation.

Products support biological, geological, chemical, and physical oceanographic research and environmental monitoring.

PROFILERS



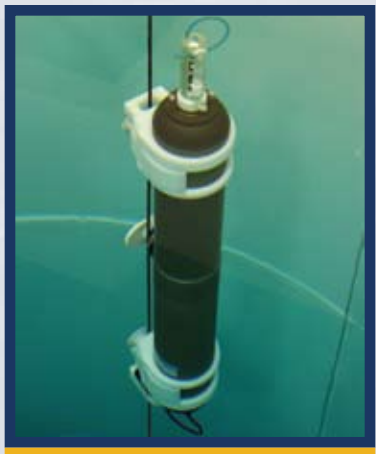
McLane Moored Profiler

McLane Moored Profiler (MMP)

The McLane Moored Profiler (MMP) autonomously profiles the water column in a time-series along a fixed tether. A varied selection of sensors record temperature, conductivity, ocean currents, turbidity, CDOM, chlorophyll-a and dissolved oxygen.

Conductivity Temperature Depth (CTD) and Acoustic Current Meter (ACM) sensors are standard. Options include bio-optical, chemical, and suspended particulate sensors.

Profiling depth, time intervals and pressure stops are user-defined, and profiling patterns can span specific seasons or timeframes. An optional underwater inductive modem provides real-time communication between the MMP and a surface buoy or seabed node.



Ice Tethered Profiler

Ice Tethered Profiler (ITP)

Like the MMP, the Ice Tethered Profiler (ITP) is an autonomous time-series instrument that vertically profiles the water column under the ice and collects *in situ* measurements of conductivity, temperature and depth. The electronics and drive system are nearly identical to the MMP.

ITP data is transmitted near real-time via inductive modem with non-volatile flashcard data storage as a backup. This profiler can also be used in shallow applications to compliment MMP deployments.

SAMPLERS

Sediment Traps

Sediment Traps (Mk78H, Mk78HW, Mk8)

Sediment Traps collect the flux of settling particulate matter into individual sample bottles. Samples are collected in an operator-defined time-series.

Mark 78H, Mark 78HW, and Mark 8 Traps perform exceptionally well in radionucleide investigations, paleoproxy and global carbon cycle analysis, pollution testing and environmental studies. Options include a compass/tilt sensor and pressure transducer.

The Mk8 is approximately half the size of the Mk78H and Mk78HW for easier handling and deployment.

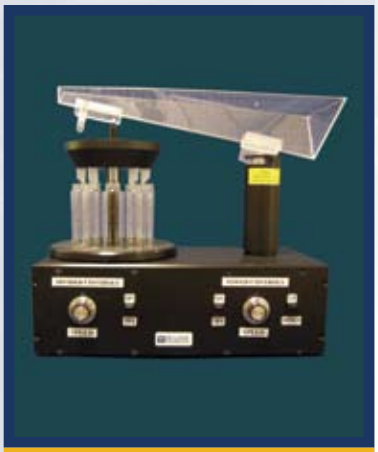
Phytoplankton Sampler

Phytoplankton Sampler (PPS)

Phytoplankton Sampler (PPS) is an autonomous particulate sampler that filters up to 24 individual water samples through 47mm filters.

Samples are collected in user-defined time series to analyze trace metals, phytoplankton and suspended particles in time series.

The patented multi-port valve isolates individual samples and distributes water directly to the filter before passing through the pump. Optional extraction columns and fixative reservoirs are also available.



Wet Sample Divider

Wet Sample Divider (WSD-10)

Wet Sample Dividers (WSD-10) preserve samples without drying for less contamination and more precise preparation of biogeochemical analyses. The WSD-10 divides a wet particle sample into five or ten equal parts.

Sample tray has a 500ml capacity.

Water Transfer Systems

Water Transfer Systems (WTS-LV, WTS-LVUP)

Water Transfer Systems (WTS-LV) deploy from a research vessel as single-event samplers and collect a pumped specimen onto a 142mm filter stack. Options include filter holders for a 293mm filter, adsorption cartridge or 3-tier filter.

The WTS-LV directs water flow right to the filter before passing through the pump for exceptionally pure samples. Variable flow rates range from 2 to 50 liters per minute and a single battery pack can pump up to 45,000 liters of seawater.

The WTS-LV upright model includes the same features as the standard WTS-LV plus a high capacity battery for three times the battery life.

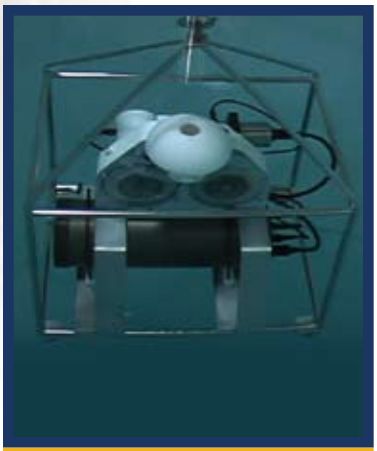
Remote Access Samplers

Remote Access Samplers (RAS-100, RAS-500)

Remote Access Samplers (RAS) collect and preserve up to 48 water samples into individual gas-tight bags in an autonomous, user-defined time series. Specimens can be analyzed for dissolved nutrients, trace metals, and organic carbon.

Samples are acquired using indirect pumping with the identical valve and pump technology as our other samplers. Sample bags are filled without passing sampled water through the pump. Optional 47mm filter holders can be installed in series with the sample bag.

The RAS-500 collects 500ml samples. For smaller sampling requirements, the compact RAS-100 is easier to deploy and collects 100ml samples.



Zooplankton Sampler

Zooplankton Sampler (ZPS)

Zooplankton Sampler (ZPS) collects individual samples onto mesh windows in a urethane sample belt. Velocity and light gradients are minimized to avoid triggering organism escape responses.

The ZPS collects and preserves up to 50 *in situ* zooplankton specimens. Sample collection is determined by a user-defined time-series.

McLANE RESEARCH LABORATORIES, INC.

FLOTATION

Glass Flotation

Glass Flotation

Glass flotation, depth-rated to 7,000m, is ideal for moorings and other applications such as ocean-bottom seismology instruments. Flotation modules with 12" borosilicate glass spheres have 10 to 40kg of buoyancy and are protected by polyethylene, high visibility hardhats. Multiple spheres in a modular configuration have a through-center connecting rod to reduce mooring drag.

Steel Flotation

Steel Flotation

Subsurface steel flotation buoys come in 30", 37", 41" and 48" diameters. Depth-ratings range from 380 to 564m. Buoys are constructed of heavy-duty pressure vessel quality (PVQ) steel and coated with a high visibility, durable epoxy finish. Rugged internal tension member allows in-line placement in a high-tension mooring.

Instrument Housings

Instrument Housings

Instrument housings based on the 12" glass sphere can hold electronics, batteries, antennae, navigation devices and custom sensors. Housings are pressure tested to customer specified depth and contain a vacuum port to facilitate opening and resealing. Units are built to customer specifications and tested at our in-house pressure test facility.

Mooring Recovery Float

Mooring Recovery Float

Subsurface mooring recovery float with optional xenon flash and radio beacon that aids in locating and retrieving moorings in all water depths. A weighted stabilizer bar keeps the unit upright. The beacon triggers when the mooring surfaces after being released. The float is easy to disassemble for shipping or storage.

McLANE
RESEARCH LABORATORIES, INC

McLane Research Laboratories, Inc.
121 Bernard Saint Jean Drive
East Falmouth, MA 02536 USA

Tel: +1 508 495 4000
Fax: +1 508 495 3333
Email: mclane@mclanelabs.com
www.mclanelabs.com