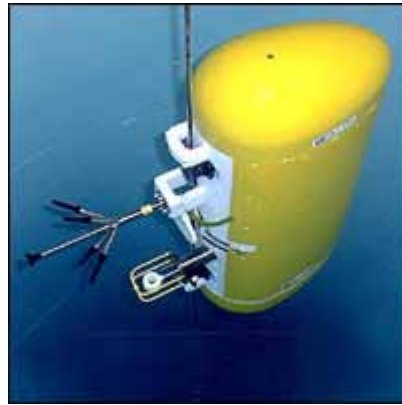


McLane Moored Profiler

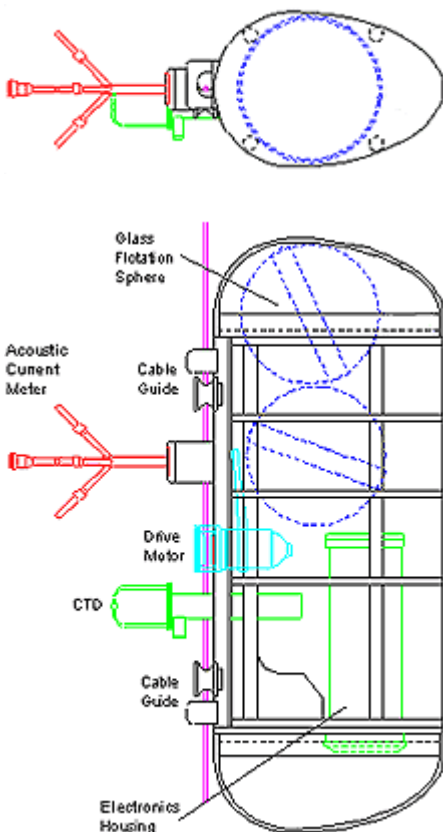
The **McLane Moored Profiler (MMP)** is an autonomous, instrumented platform designed to provide long time-series, in situ profiles of temperature, salinity, velocity, and other quantities of interest. The commercial version is now in production at McLane Research Laboratories, Inc. (MRL). The new design incorporates the proven features of the original prototypes, developed by the Advanced Engineering Laboratory of the Woods Hole Oceanographic Institution, in a package that is easily serviced in the field and robustly tolerant of typical shipboard conditions.



The MMP follows a programmed trajectory along a mooring cable, automatically sampling the water column with a suite of sensors and logging the results. Using the MRL software interface, the user can easily and flexibly define the trajectory and sampling schedules. Deployments up to a year or more are possible. Profile patterns can include the full depth of the water column down to 6,000 meters. Mission duration, as calculated from field data and demonstrated in a summer 2001 deployment, is 1 to 1.2 million meters.

All components of the system are mounted on a rigid interior frame made of ultra high molecular weight polyethylene (see drawing below). This material provides strength, durability, and galvanic isolation of metallic parts. The design of the drive motor and bearings is energy efficient and extremely resistant to fouling of the mooring cable.

A polyethylene skin that can be removed when necessary covers the inner frame. However, normal operations, such as communication, battery replacement, and data offload, require only that the lower polyethylene end cap be removed to gain access to the pressure housing. The glass spheres mounted in the top of the frame are for flotation only and require no servicing by the user.



Control electronics, data logger, and batteries are housed in a cylindrical, titanium pressure housing. Connections on the end cap are accessible without disassembling the instrument and allow full communication with the electronics without opening the pressure case. This feature permits users operating MRL's software to perform diagnostics through the end cap and verify sensor operation immediately before a deployment. Data from the instrument suite are stored on non-volatile PCMCIA flash cards. The cards are MS-DOS compatible and can be read and copied at bus speeds on PCMCIA equipped computers for data analysis and archiving. Binary to ASCII conversion software is provided with each MMP. Each card can hold up to 512 Mbytes of data. The data from the CTD and ACM described below occupy approximately 200 Mbyte for each million meters of travel during a deployment.

The MMP MK 7 sensor suite includes a CTD and a 4-axis acoustic current meter. Sensors that measure the biogeochemical and optical properties of the water column can be integrated into the system.

	Dimensions	Weight	
Height	130.5 cm	w/ Sensors (air)	70.5 Kg
Width	33.3 cm	w/o Sensors (air)	64.3 Kg
Length (body)	50.5 cm		

Max Depth	6,000 m
Endurance	1Mm