McLANE RESEARCH LABORATORIES, INC.

Time-Series Zooplankton Sampler, ZPS 7-50

Time-Series Zooplankton Samplers (ZPS 7-50) collect samples in either standard time-series or in action-trigger mode. A sample is collected using a specially designed positive displacement pump that generates negative pressure through a dome-shaped intake. The zooplankton are transported onto a 3.5 x 6 cm frame of a special roll of Nitex mesh. Up to 250 liters of water can be filtered through each frame of mesh. The Zooplankton retained on the sample frame are sandwiched by another layer of Nitex mesh for protection and immediately moved to the fixative bath for storage until recovery of the sampler.

A new frame of mesh is positioned automatically for the next sampling cycle. This procedure can be repeated up to 50 times for each roll of Nitex mesh as. Upon recovery, the Nitex mesh roll is removed from the fixative tank and the zooplankton on each frame can be examined. This sampling process is analogous to a roll of photographic film in a camera which is wound up into a cartridge until developed.

The standard frame is 316SS weldment which allows the sampler to be attached to a mooring.

Physical Configuration

Height	92 cm
Diameter	82 cm
Weight in air	102 Kg
Weight in water	68 Kg
Maximum depth	5,000 m

Collector Configuration

Max. number of samples	50
Frame mesh	Nitex 50 to 500 µm
Frame area	3.5 x 6 cm

Protective second mesh	Nitex 50 to 500 µm
Recommended fixative	Glutaraldehyde/sea water buffer in the take up reel tank
Cleaning of frames	Sea water back-flush
Collector materials	Acrylic and Acetal block

Pump

Flow rate	15 to 25 l/min.
Maximum total volume	25,000 liters
Recommended vol./sample	250 liters
Type of pump	McLane 30 L/min pump
Volume error	Average ± 5%

Controller/Battery

Communications	Serial (RS-232)
Main battery	36 VDC 42 Ah alkaline battery pack
Pressure Case	Aluminium, 6061-T6 hardcoat anodized

Frame

Material	316SS
Structure	Weldment

Duration of Deployment

3 months or longer, depending upon bio-fouling situation

Options

External sensors including current meter, transmissometer, or other analog sensor may be integrated

Specifications Subject to Change Without Notice