McLANE RESEARCH LABORATORIES, INC

Remote Access Sampler (RAS – 100)

Application: Time-series water sampler suitable for deep ocean or coastal water with features that autonomously obtain pure, unbiased specimens under an operator-programmed sample schedule. The RAS-100 collects water for biological, dissolved major and minor nutrient, dissolved trace metal, or dissolved organic carbon analysis. Ideal for applications where a large RAS-500 sample may not be required. The more compact frame is a lighter system to deploy and samples are collected in a 100 ml bag.

RAS-100 Features and Benefits

- **48 samples**, 100 ml each.
- Patented multi-port valve **isolates samples**.
- Water **flows directly** to sample containers without passing through a pump.
- **Bio-fouling acid flush** cleans intake.
- Sample collection **with** or **without pre-filters**.
- Sample bags are available with **Luer** locking valves or **Jaco** fittings.
- Critical deployment **data preserved** in non-volatile memory.

Programmed schedule: Schedule controls volume and frequency of acid flush and rinsing cycles, sampling event time limits, data collection periods, and flow and volume of collected samples. EEPROM stores critical deployment data with a report of sample event conditions.

Customized hardware and software: Other customization is possible such as adding external sensors for action-triggered sampling. An optional external temperature sensor is available.

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

U.S. Patent Nos. 5,341,834 & 5,441,071 Japan Patent No. 248282

RAS-100 Specifications

Dimensions	Height	165 cm (64.9 in)
	Width	43 cm (16.9 in)
	Length (body)	43 cm (16.9 in)
Weight (Approx.)	In air, sample containers empty	~75 kg (165 lbs)
	In air, sample containers full	~86 kg (190 lbs)
	In water	~42 kg (93 lbs)
Multi-port Valve	Number of Ports	50 ports (48 samples)
	Material	HYDEX plastic valve stators, Kynar plastic rotor
	Drive	High torque stepper motor, 100:1 planetary gear head
	Positioning	Optical sensor with slotted disk
Sample Bags (48)	Size	Approximately 100 ml
	Material	Metalized polyethylene lined or Tedlar
Pump	Flow rate	50 ml/min fixed rate (±3% error)
	Type	Gear pump
	Drive	Brushless 3 phase DC motor
Controller	Housing Material	Aluminum, 6061-T6 hardcoat anodized
	Power Supply	31.5 VDC Alkaline battery pack
	Power consumption	3,100 mAh (1 year deployment)
	Communications	Serial (RS-232)
Frame	Material	316 electro-polished stainless steel (Titanium available)
	Structure/bridle configuration	In-line mooring, weldment, 4 in-line
	Frame & bridle eyes	19 mm diameter, insulated
	Max. in-line tension	2,300 kg (5,000 lbs)
Operations	Maximum depth	5,500 meters
	Min /Max deployment time	5 minutes per sample / 18 months
	Operating temperature	0° to 50°C (Electronics tested to –10°C)

Specifications Subject to Change without Notice

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03/07

Pioneers of Time-Series Oceanographic and Environmental Instrumentation since 1983