

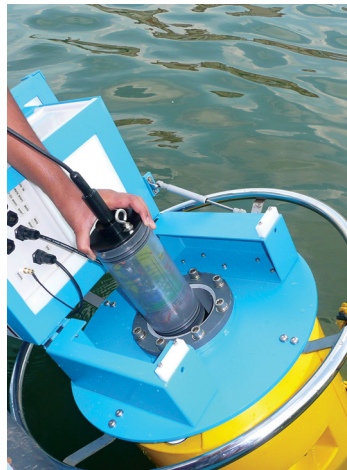
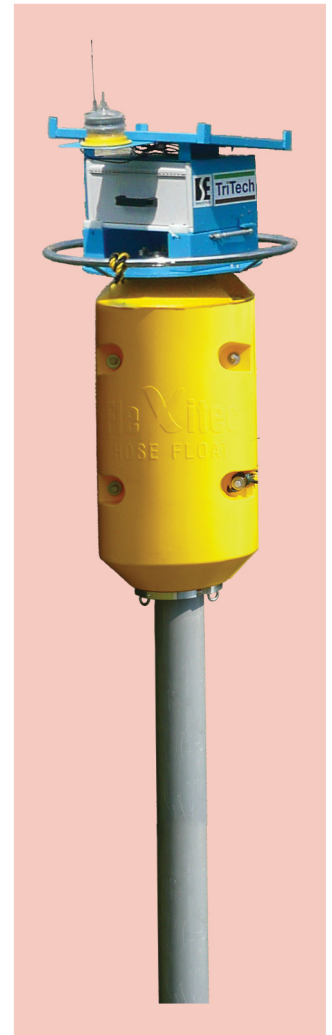
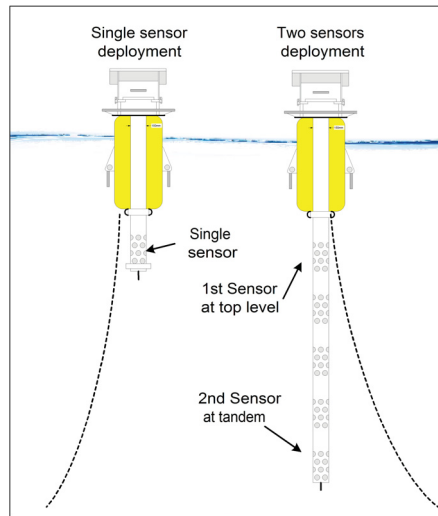
MEASUREMENT BUOY MB90-A / MB90-B



Measurement Buoy is a quick-deployment system for the measurement of surface water quality.

Also available is an inter-changeable long sensor-protection housing for deployment of 2 multi-parameters probes in tandem (i.e. one near surface and the second at configurable depth).

The buoy is equipped with self sustainable solar-powered system and wireless-enabled controller, for upload of real-time measurement data. The light-weight and modular design allow quick field assembly, easy transportation and deployment.



System Features

- Fully automated for in-situ surface water quality
- Quick deployment and high mobility, easy for multiple sites monitoring
- Designed for ease-of-use
- Standard parameters (Temperature, pH, DO, Conductivity, Turbidity, NH₄-N and COD) with option parameters (Chlorophyll a, BG Algae, NO₃ and TOC)
- Independently powered by solar with low power design
- Suitable at rivers, lakes or reservoirs



Project Profile

Project Name	Supply, install and commission online reservoir monitoring platform for Bedok Reservoir (COQ No: 4090105)
Project Description	1 Floating Buoy Water Quality Monitoring System
Customer	Singapore Public Utilities Board
Contract Period	2009-02-20 - 2010-05-15

Technical specification for standard parameters (MB90-A)

Parameter	Measuring Principle	Range	Accuracy	Resolution	Reference Standard
Temperature	Thermistor	-5° - 50°C	±0.1°C	0.01°C	HJ/T91-2002
Optical DO	Fluorescence	0 - 25 mg/L	±1% or ±0.02 mg/L	0.01mg/L	N/A
Conductivity	Graphite Electrode	0 - 100 mS/cm	±1%	4 digits	HJ/T91-2002
pH	Glass Electrode	0 - 14 units	±0.2 units	0.01units	GB6920-86
Turbidity	Optical 90° Nephelometric	0 - 3000 NTU	[0-100NTU]< 1%	0.1NTU	USEPA180.1 EN ISO 7071
			[100-400NTU]< 3%		
			[>400NTU]< 5%		
Depth	Pressure	0 - 10m	±0.01m	0.01m	GB/T15966-1995
		0 - 25m	±0.025m	0.01m	
		0 - 50m	±0.05m	0.01m	
		0 - 100m	±0.1m	0.01m	
		0 - 200m	±0.2m	0.01m	

Technical specification for option parameters (MB90-A)

Parameter	Measuring Principle	Range	Accuracy	Resolution	Reference Standard
Chlorophyll a	Fluorescence	0.03 – 500 µg/L	±3%	0.01 µg/L	N/A
Blue Green Algae	Fluorescence	100 – 2M cells/mL	±3%	20 cells/mL	N/A

Technical specification for standard parameters (MB90-B)

Parameter	Measuring Principle	Range	Accuracy	Resolution	Reference Standard
NH ₄ -N	ISE with potassium compensation	0 - 20 mg/L-N	±3% or ±0.5 mg/L	0.02mg/L-N	HJ/T91-2002
COD	UV Vis spectrometry 220nm -720nm	0 - 500 mg/L	±3%	0.6 mg/L	HJ/T91-2002

Technical specification for option parameters (MB90-B)

Parameter	Measuring Principle	Range	Accuracy	Resolution	Reference Standard
NO ₃	ISE	0 – 100 mg/L-N	±3% or ±0.5 mg/L	0.01mg/L-N	HJ/T91-2002
TOC	UV Vis spectrometry 220nm -720nm	0 – 150 mg/L	±3%	0.1 mg/L	N/A

Structure Parameters

Dimension	700mm (Diameter) x 1950mm (Height)
Material	Stainless Steel, HMW-HDPE
Weight	60 kg
Structure Safety	Surface Wind Force < 4

System Parameters

Power Source	Solar Power 50W
System Operation	14 days of continuous operation without sunlight
Operating Temperature	-20°C ~ 70°C
Safety Indication	IALA standard marine light
System Safety	Real-time anti-theft alert
Communication	Wireless GSM/GPRS/3G network
Data format	HJ/212-2005, GB/T16706-1996