

Water quality profiler with optical fast DO sensor

AAQ-RINKO

- Depth
- Temperature
- Conductivity
- Fresh-Water EC
- Salinity
- Chlorophyll
- Turbidity
- DO
- pH
- Quantum
- ORP

■Description

The water quality profiler, *AAQ 1183* has been redesigned as *AAQ-Rinko* with an optical fast response (63% response in water, 0.4 sec) DO sensor, *Rinko*. Conventional water quality profilers with a slow response DO sensor require holding the instrument for a certain period at the measurement depths. *AAQ-Rinko* makes vertical measurements possible with a profiling speed of 0.5m/second, similar to CTD observation, thereby significantly reducing the observation time. In addition to conductivity, temperature, depth, chlorophyll, turbidity, DO and pH, *AAQ-Rinko* also enables simultaneous installation of PAR (Photosynthetic Available Radiation) and ORP (Oxidation Reduction Potential) sensors. The processing unit is available in three types in accordance with the observation applications.

■Specifications

Parameter	Type	Measurement Range	Resolution	Accuracy	Response
Depth	Semiconductor pressure sensor	0 to 100m	0.002m	±0.3%FS	0.2 seconds
Temperature	Thermistor	−3 to 45℃	0.001℃	±0.1℃ (0 to 35℃)	0.2 seconds
Conductivity	*1 Electrode	2 to 70mS/cm	0.001mS/cm	±0.01mS/cm (2 to 65mS/cm)	0.2 seconds
Fresh-water EC	*2 Electrode	0 to 500μS/cm	0.1μS/cm	±20μS/cm	0.2 seconds
Salinity	PSS-78	2 to 40	0.001	±0.01 (2 to 40)	0.2 seconds
Turbidity	Backscattering	0 to 1,000FTU (Formazin reference)	0.03FTU	±0.3FTU or ±2%	0.2 seconds
Chlorophyll	Fluorimeter	0 to 400 ppb (Uranin reference)	0.01ppb	±1%FS	0.2 seconds
DO	Phosphorescence	0 to 20 mg/l (0 to 200%)	0.01 to 0.04%	±0.4mg/l(±2%FS)	0.4 seconds
Quantum	Photodiode	0 to 5,000 μmol/(m²·s)	0.1 μmol/(m²·s)	±5%	0.2 seconds
pH	Glass electrode	2 to 14pH	0.01pH	±0.2	10 seconds
ORP	Electrode	0 to ± 1,000mV	0.1mV	—	10 seconds

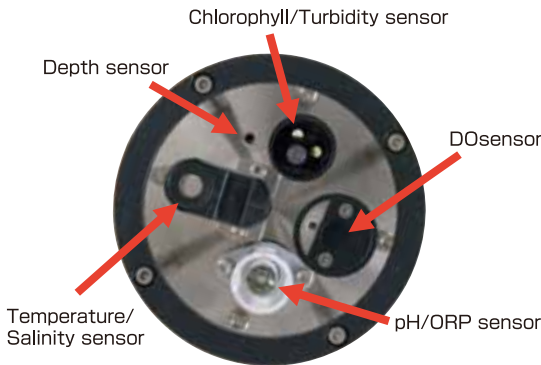
\*1. Sea water version \*2. Fresh water version

■Model and Observation Items

	Depth	Temperature	Conductivity	Fresh-Water EC	Salinity	Chlorophyll	Turbidity	DO	pH	Quantum	ORP
AAQ170	●	●	●	●	●	●	●	●	●	●	●
AAQ171	●	●	●	●	●	●	●	●	●	●	●
AAQ172	●	●	●	●	●	●	●	●	●	●	●
AAQ175	●	●	●	●	●	●	●	●	●	●	●
AAQ176	●	●	●	●	●	●	●	●	●	●	●
AAQ177	●	●	●	●	●	●	●	●	●	●	●

■Probe Specifications

Communication	RS-485
A/D converter	16-bit digital conversion
Dimensions	φ108mm×293mm
Weight	Approx. 2.4kg in air, 1.1kg in water
Housing material	Titanium (grade 2)
Cable length	50m or 100m



■Printer Unit

This model was designed with the objective of use in full-scale ocean surveys. All operations are performed using the touch panel and external pushbuttons. The colored liquid crystal makes the screen easy to view at nighttime as well. This model is a multi-functional model, featuring functions such as vertical graph drawing, data printing, and recording. A GPS is provided as standard, making it possible to simultaneously record position information as well.



■Hand-Held Unit

This hand-held unit superior in portability allows you to display data as well as record data in the memory of the main unit. The model has a built-in battery, and allows you to record your observations by performing simple button operations. The unit is also provided with interface module functions as well.



■Interface

This interface module connects to your PC, allowing you to perform monitoring and collect data in real-time. Two types of units are available: a splash-proof type and an easy type. The secondary processing program (option) allows you to simply edit data (delete erroneous values, calculate averages, and extract data), perform SS analysis, and convert data to chlorophyll analytical values.

■Specifications

	Printer Unit (PC-11)	Hand-Held Unit (H-11)	Splash-Proof Interface (AAQ-IF)
Screen	Color 7-inch TFT liquid crystal	4×20-line LCD	3 LEDs
Operation method	Screen touch panel External pushbuttons	Touch buttons	None
Displayed information	GPS information, measurement data, vertical graph	Measurement data	Voltage level
Memory medium	512MB compact flash memory	512MB compact flash memory	None
Measurement method	1. Automatic vertical measurement by selected depth pitch (selectable values: 0.1, 0.2, 0.5, 1m). 2. Records measurement data at any depth on-the-spot	Continuous measurement at each selected interval (0.1, 0.2, 0.5, 1, 2, 5, 10 seconds)	Measurement at selected interval based on PC side application software
Print function	1. Automatic onsite printing of measured data after automatic vertical measurement 2. Onsite printing of measured data at the time of spot measurement	None	None
Calendar information	Built-in (automatic correction by GPS)	Built-in	None
Power	100V AC and 12V DC	8 AA alkaline batteries, 100V AC, 12V DC	8 AA alkaline batteries, 12V DC
Dimensions	470mm×357mm×183mm	85mm×115mm×255mm	199mm×83mm×46mm
Weight	Approx. 7.9kg	Approx. 1.0kg without batteries	Approx. 0.5kg without batteries
Other functions	Built-in GPS as standard, data extractable using USB memory	Interface	—

■Drawing

