

Water Quality Monitoring System W-20XD Series



1 month continuous monitoring

13 simultaneous parameters

Depth up to 100 meters



CE marking compliant

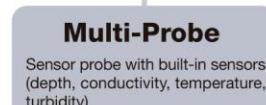
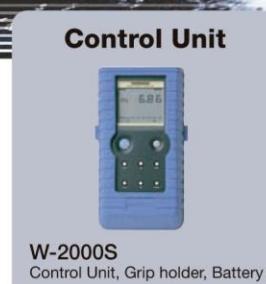
Measurement data is stored in the sensor probe offering the convenience to deploy the sensor probe without cable and control unit for continuous monitoring.

Selection of a cable and ion sensors are necessary to complete a multi-probe system.

Up to one month
Data logging
Simultaneous measurement of
13 parameters
Measurement at depths as low as
100 meters

This system is optimal for assessment and testing of the water quality of sea water, river water, dams, well water, ground water, city water, storm water run-off, lakes, ponds, and fish farms. Horiba's sensor design, which has been developed over the course of many years, is housed in a 47mm diameter sensor probe. Horiba's sensor advances broaden application options in pressurized conditions and continuous monitoring while offering high precision and simultaneous measurement of as many as 13 parameters.

The system is compatible with GPS and data retrieval options to process and manage data on a personal computer. Continuous monitoring is possible for one month deploying the sensor probe at the site to collect data at 15 minute intervals.



W-20XD series measurement parameters	W-22XD	W-23XD
Maximum probe size	47mm	97mm
pH	(●)	(●)
Dissolved oxygen	(●)	(●)
Conductivity	●	●
Salinity	●	●
Total dissolved solids (TDS)	●	●
Seawater specific gravity	●	●
Temperature	●	●
Turbidity	●	●
Depth	●	●
Oxidation reduction potential (ORP)	(●)	(●)
Data logging	●	●
100m depth mess.		●
Nitrate ion*		(●)
Calcium ion*		(●)
Chloride ion*		(●)
Fluoride ion*		(●)
Potassium ion*		(●)
Ammonia*		(●)

*Optional sensor (replacement with other ion sensors is possible).
6 ion options for the 3 available ports (●)option

■ W-20XD series

Item	Model	Code
Sensor Probe	Standard Accessories:DO・Temperature・Conductivity・Water depth sensors, pH4 Standard solution Option sensor:pH or pH/ORP・DO sensor	W-22XD 3014020376
	Standard Accessories:DO・Temperature・Conductivity・Water depth sensors, pH4 Standard solution, Ion one-point standard solution Option sensor:pH or pH/ORP・DO,each ion sensor	W-23XD 3014020378
Cable	2m	W-002CS 3014007910
	10m	W-010CS 3014007912
	30m	W-030CS 3014007914
	60m	W-060CS* 3014022058
	100m	W-100CS* 3014007916
Control Unit	W-2000S	3014007930
Sensor	pH sensor *	6230 3014050849 (9037005600)
	pH/ORP sensor *	6280 3014050850 (9037005700)
	DO sensor *	5460 3014001152 (9037005800)
	Nitrate ion sensor *	6531 3014050863 (9037005900)*
	Chloride ion sensor *	6522 3014050860 (9037006000)*
	Calcium ion sensor *	6533 3014050861 (9037006100)*
	Fluoride ion sensor *	6530 3014050859 (9037006300)*
	Potassium ion sensor *	6532 3014050862 (9037006400)*
	Ammonia sensor *	5012 3014050864 (9037006200)

*A cartridge for ion sensor replacement and reference internal solution are also included in the ion sensor.

*Please inquire separately about the delivery date about the production on orders.

* includes replacement chips for the ion sensors

■ Option

Item	Model	Code
Replacement chips for the ion sensors ※not include the ion sensors.	Nitrate ion cartridge	7681 3014068364 (9003015200)
	Chloride ion cartridge	8660 3014093436 (9003015000)
	Calcium ion cartridge	7683 3014068795 (9003015400)
	Potassium ion cartridge	7682 3014069795 (9003015300)
	Fluoride ion cartridge	7661 3014093438 (9003015100)
	Ammonia membrane	NH ₃ membrane 3014001155 (9037007000)
	DO membrane replacement kit	DO membrane 3014050853 (9037007400)
Extension adaptor	U-2001	3014001085
Carring case	W-2030	3014007945
Flow cell	W-2100	3014007978
Probe guard	W-2200*	3014007980
Communication cable	RS-232C	3200043675 (9037007500)
AC adaptor	AC-10	3200044196
Inner fluid	Ion one-point standard solution, 250mL	130 3014001154 (9037006500)
	Nitrate ion sensor reference internal solution, 50mL	302 3014001273 (9037006600)
	Chloride ion sensor reference internal solution, 50mL	301 3014001271 (9037006700)
	Calcium and fluoride ion sensor reference internal solution, 250mL	300 3200043640 (9003003200)
	Potassium ion sensor reference internal solution, 50mL	303 3014001272 (9037006900)
	Ammonia sensor reference internal solution, 50mL	370 3014067184 (9012000900)

*Please inquire separately about the delivery date about the production on orders.

■ Standard solution

Item	Model	Code
Standard Solution	pH4(for automatic calibration), 500mL	100-4 3200043638 (9003001600)
	pH4 (for automatic calibration), 4 L	140-4 3200174430
	pH7 500 mL	100-7 3200043637 (9003001700)
	pH9 500 mL	100-9 3200043636 (9003001800)
	ORP standard solution powder For 250 mLx10	160-51 3200043618 (9003003100)
	ORP standard solution powder For 250 mx10	160-22 3200043617 (9003003000)
Internal fluid	Internal fluid for pH reference 250 mL	330 3200043641 (9037005200)

■ W-20XD series specifications

Control Unit	Water proof construction	IP-67	(●) (●)
Multi-Probe *1	Measurement temperature	0~55°C	
	Storage temperature	-5~60°C	
	Measurement depth *2	to 100 m	
	Maximum probe size	95 mm	
	Probe length	430 mm	● ●
	Continuous use *3	30days	
	Data logging	○	
	Manual data memory (2880 items)	○	
	Automatic calibration	○	
pH	Measurement Principle	Glass electrode method	
•Two-point calibration	Range	pH 0~14	(●) (●)
•Automatic temperature compensation	Resolution	0.01 pH	
	Repeatability	±0.05 pH	
	Accuracy	±0.1 pH	
Dissolved oxygen	Measurement Principle	Diaphragm galvanic battery method	
•Salt correction (0 to 40 ppt /automatic)	Range	0~19.99 mg/L	(●) (●)
•Automatic temperature compensation	Resolution	0.01 mg/L	
	Repeatability	±0.1 mg/L	
	Accuracy	±0.2 mg/L	
Conductivity	Measurement Principle	4 AC electrode method	
•Auto range	Range	0~9.99 S/m	
•Automatic temperature conversion (25°C)	Resolution	0.1%F.S.	● ●
•SI units	Repeatability	±1%	
	Accuracy	±3%	
Salinity	Measurement Principle	Conductivity conversion	
	Range	0~4%	
	Resolution	0.01%	● ●
	Repeatability	±0.1%	
	Accuracy	±0.3%	
Total Dissolved Solids (TDS)	Measurement Principle	Conductivity conversion	
•Conversion factor setting	Range	0~100 g/L	
	Resolution	0.1%F.S.	
	Repeatability	±2 g/L	
	Accuracy	±5 g/L	
Seawater specific gravity	Measurement Principle	Conductivity conversion	
•Display σ _t , σ ₀ , σ ₁₅	Range	0~50 σ _t	
	Resolution	0.1 σ _t	
	Repeatability	±2 σ _t	
	Accuracy	±5 σ _t	
Temperature	Measurement Principle	Thermistor method	
	Range	0~55°C	
	Resolution	0.01°C	● ●
	Repeatability	±0.3°C	
	Accuracy	±1.0°C	
Turbidity	Measurement Principle	Penetration and scattering method	
•Unit selection	Range	0~800 NTU	
	Resolution	0.1 NTU	
	Repeatability	±3%	
	Accuracy	±5%	
Water depth	Measurement Principle	Pressure method	
	Range(NTU or mg/L)	0~100m	
	Resolution	0.1 m	● ●
	Repeatability	±3%	
	Accuracy	±5%	
Oxidation reduction potential(ORP)	Measurement Principle	Platinum electrode method	
	Range	1999 mV	
	Resolution	1 mV	(●) (●)
	Repeatability	±5 mV	
	Accuracy	±15 mV	
Ion	Measurement Principle	Ion electrode method	
•Auto range	Resolution	0.1%F.S.	
	Repeatability	±5%	
	Accuracy	±10%	
	Range	NO ₃ : 0.62~62,000 mg/L(pH 3~7) Cl ⁻ : 0.4~35,000 mg/L(pH 3~11) Ca ²⁺ : 0.4~40,080 mg/L(pH 5~11) F ⁻ : 0.02~19,000 mg/L(pH4~10:20 mg/L) K ⁺ : 0.04~39,000 mg/L(pH5~11:3.9 mg/L) NH ₃ : 0.1~1,000 mg/L(pH 12 or more)	
Simultaneously measurable parameters			10 13 (●) Option

Note:The accuracy rating value is obtained from measurements at an intermediate point of the standard solution after two-point calibration (at room temperature and pressure).

The repeatability and accuracy rating percentages are based on the full scale (except for salinity).

* 1: Organic solvents, strong acids, and strong alkaline solvents cannot be measured.

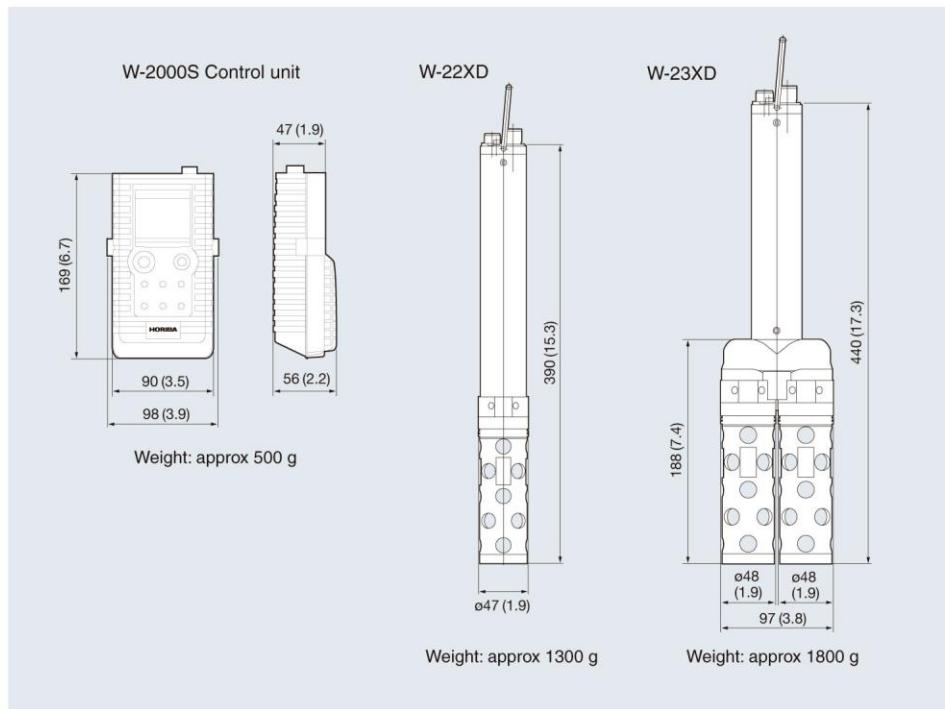
* 2: The maximum depth for ion measurements are 100 m for nitric acid ion, chloride ion, fluoride ion, 15 m for calcium ion, ammonia, and 3 m for potassium ion.

* 3: Based on the data measured automatically at 15 minutes intervals. The battery life taken into account. Periodical maintenance and calibration is necessary when a lot of shellfishes and seaweeds exist at the measurement point.

■ Influence of Hindering Ions, The values show permissible coexistence limits

Nitrate Ion	ClO ₄ =0.3 I ⁻ =0.1 Br ⁻ =2 NO ₂ ⁻ =3 Cl ⁻ =40 F ⁻ =200 CH ₃ COO ⁻ =300 SO ₄ ²⁻ = more than 1000
Chloride Ion	S ₂ O ₃ ²⁻ , S ²⁻ , I ⁻ , Ag ⁺ , Hg ²⁺ =Not possible SCN ⁻ =0.3 MnO ²⁻ =0.1 Br ⁻ =0.03
Calcium Ion	Fe ³⁺ =0.1 Fe ²⁺ , Zn ²⁺ =1 Sr ²⁺ =50 Ni ²⁺ , Cu ²⁺ =70 Co ²⁺ =350 Mn ²⁺ =500 Mg ²⁺ =1,000 Na ⁺ , K ⁺ , Ba ²⁺ , NH ₄ ⁺ =more than 1000
Fluoride Ion	OH ⁻ =10, All negative ions except for OH ⁻ is permissible
Potassium Ion	Rb ⁺ =0.4 Cs ⁺ =3 NH ₄ ⁺ =70 Li ⁺ , Na ⁺ , Mg ²⁺ , Ca ²⁺ , Sr ²⁺ , Ba ²⁺ =more than 1000
Ammonia	—

■ External dimensions unit: mm (in)



■ Option



Carrying Case

W-2030

*Multi-probe guard or Flow Through Cell can only be stored in W-2030



Multi-probe Guard

Model W-2200

*Multi-Probe not included



Flow Through Cell

Model W-2100

Applicable only for W-22XD.

User Registration

Upon online registration, you will have an advantage to download data collection software, technical reports, also sending technical inquiries and more.

Visit <http://www.horiba-water.com> for online registration.

HORIBA continues contributing to the preservation of the global environment through analysis and measuring technology.



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