

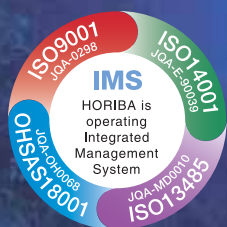
Water Quality Monitoring System W-20XD Series



1 month continuous monitoring

13 simultaneous parameters

Depth up to 100 meters



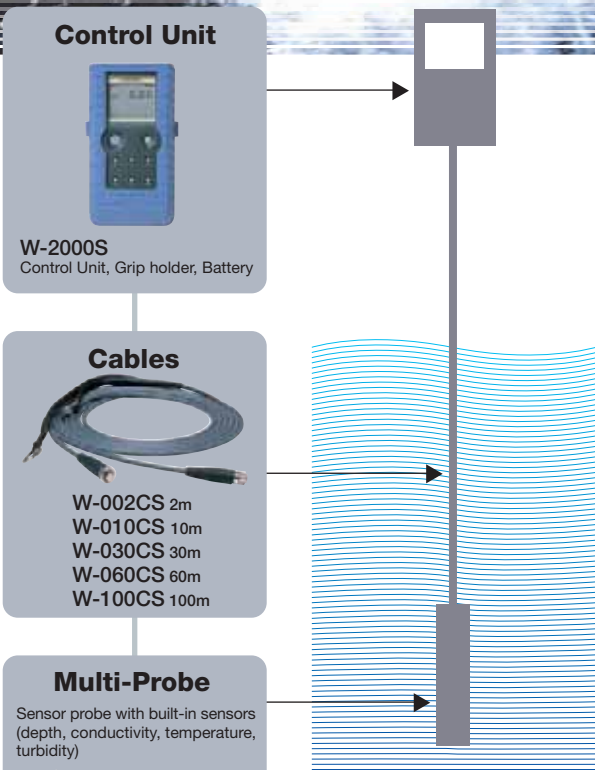
CE marking compliant

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

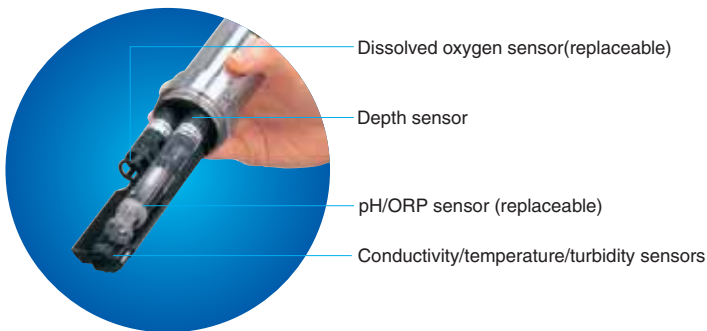
Selection of a cable and ion sensors are necessary to complete a multi-probe system.

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

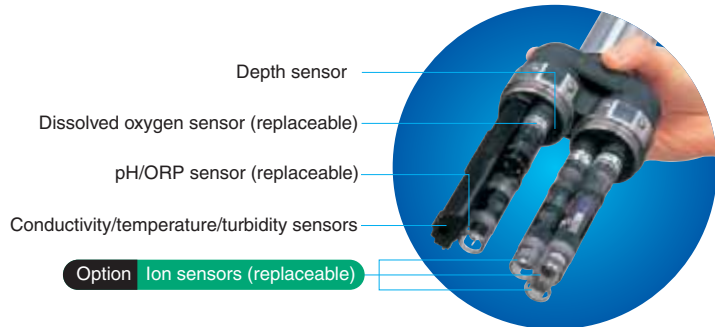
This system is optimal for assessment and testing of the water quality of sea water, river water, dams, well water, ground water, city water, storm water run-off, lakes, ponds, and fish farms. Horiba's sensor design, which has been developed over the course of many years, is housed in a 47mm diameter 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-22XD sensor**



● **W-23XD sensor**



Multi-Probe
Sensor probe with built-in sensors (depth, conductivity, temperature, turbidity)

W-22XD
Packing List
pH4 standard solution, Reference solution, Calibration beaker, Batteries, Instruction manual, Consumables




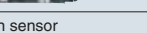
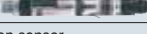

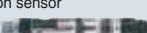
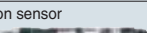
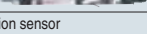


W-23XD
Packing List
pH4 standard solution, Reference solution, Ion auto-cal solution, Calibration beaker, Batteries, Instruction manual, Consumables

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).
()option
6 ion options for the 3 available ports

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 <small>not include the ion sensors.</small>	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 **	Measurement temperature	0-55	●	●																				
	Storage temperature	-5-60																						
	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																						
Resolution		0.01 pH																						
Repeatability		±0.05 pH																						
Dissolved oxygen	Measurement Principle	Diaphragm galvanic battery method	●	●																				
	Range	0-19.99 mg/L																						
	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																						
	Resolution	0.1%F.S.																						
	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.																						
	Accuracy	±5 g/L																						
Seawater specific gravity	Measurement Principle	Conductivity conversion	●	●																				
	Display t, 0, 15																							
	Range	0-50 t																						
	Resolution	0.1 t																						
	Accuracy	±5 t																						
Temperature	Measurement Principle	Thermistor method	●	●																				
	Range	0-55																						
	Resolution	0.01																						
	Repeatability	±0.3																						
	Accuracy	±1.0																						
Turbidity	Measurement Principle	Penetration and scattering method	●	●																				
	Unit selection																							
	Range	0-800 NTU																						
	Resolution	0.1 NTU																						
	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%																						
	<table border="1"> <tr> <td>Nitric acid ion</td> <td>Range</td> <td>NO₃⁻: 0.62-62,000 mg/L(pH 3-7)</td> </tr> <tr> <td>Chloride ion</td> <td></td> <td>Cl⁻: 0.4-35,000 mg/L(pH 3-11)</td> </tr> <tr> <td>Calcium ion</td> <td></td> <td>Ca²⁺: 0.4-40,080 mg/L(pH 5-11)</td> </tr> <tr> <td>Fluoride ion</td> <td></td> <td>F⁻: 0.02-19,000 mg/L(pH4-10.20 mg/L)</td> </tr> <tr> <td>Potassium ion</td> <td></td> <td>K⁺: 0.04-39,000 mg/L(pH5-11:3.9 mg/L)</td> </tr> <tr> <td>Ammonia</td> <td></td> <td>NH₃: 0.1-1,000 mg/L(pH 12 or more)</td> </tr> </table>	Nitric acid ion			Range	NO ₃ ⁻ : 0.62-62,000 mg/L(pH 3-7)	Chloride ion		Cl ⁻ : 0.4-35,000 mg/L(pH 3-11)	Calcium ion		Ca ²⁺ : 0.4-40,080 mg/L(pH 5-11)	Fluoride ion		F ⁻ : 0.02-19,000 mg/L(pH4-10.20 mg/L)	Potassium ion		K ⁺ : 0.04-39,000 mg/L(pH5-11:3.9 mg/L)	Ammonia		NH ₃ : 0.1-1,000 mg/L(pH 12 or more)			
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Ammonia		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 ClO₄⁻=0.03 I⁻=0.1 Br⁻=2 NO₂⁻=3 Cl⁻=40 F⁻=200 CH₃COO⁻=300 SO₄²⁻= more than 1000

Chloride ion S₂O₃²⁻, S²⁻, I⁻, Ag⁺, Hg²⁺=Not possible SCN⁻=0.3 MnO₄²⁻=0.1 Br⁻=0.03

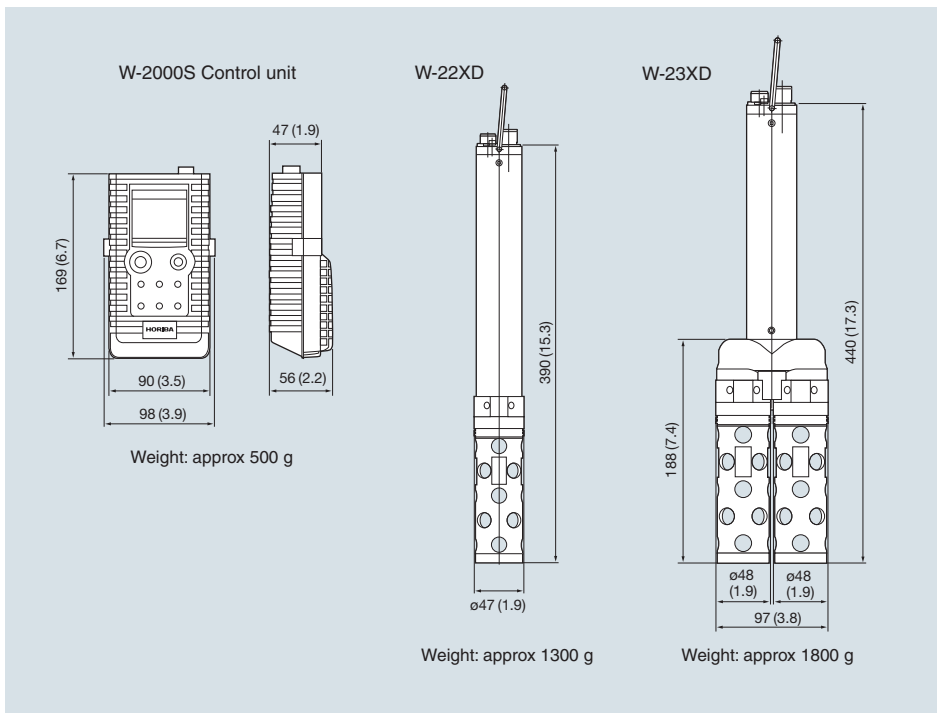
Calcium ion Fe³⁺=0.1 Fe²⁺, Zn²⁺=1 Sr²⁺=50 Ni²⁺, Cu²⁺=70 Co²⁺=350 Mn²⁺=500 Mg²⁺=1,000 Na⁺, K⁺, Ba²⁺, NH₄⁺=more than 1000

Fluoride ion OH⁻=10, All negative ions except for OH⁻ is permissible

Potassium ion Rb⁺=0.4 Cs⁺=3 NH₄⁺=70 Li⁺, Na⁺, Mg²⁺, Ca²⁺, Sr²⁺, Ba²⁺=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 inquires 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.



Please read the operation manual before using this product to assure safe and proper handling of the product.

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