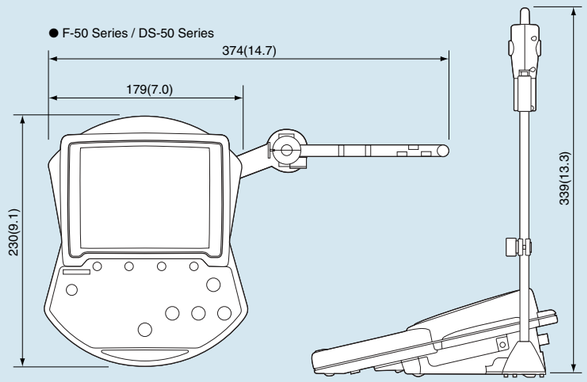
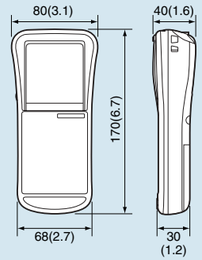
■ Dimesional Outlines Unit: mm(in)

● F-50 Series / DS-50 Series



● D-50 Series / ES-51 / OM-51



Customer Registration System

Register as a Horiba meter user to receive periodical information such as FAQ, Software upgrade, Technical documents and lot others.

http://www.horiba-water.com

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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Explore the future - 2003

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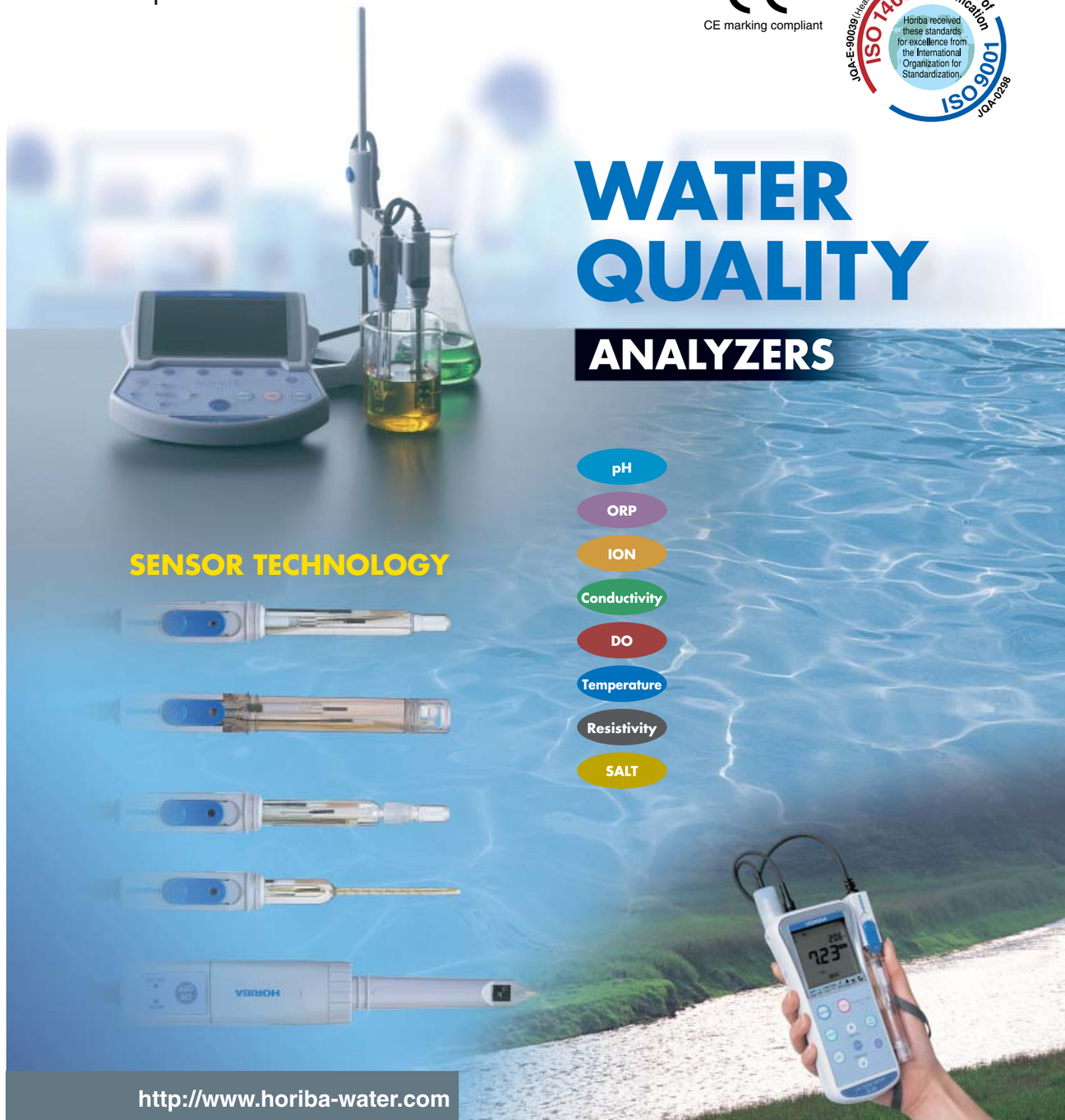
HORIBA

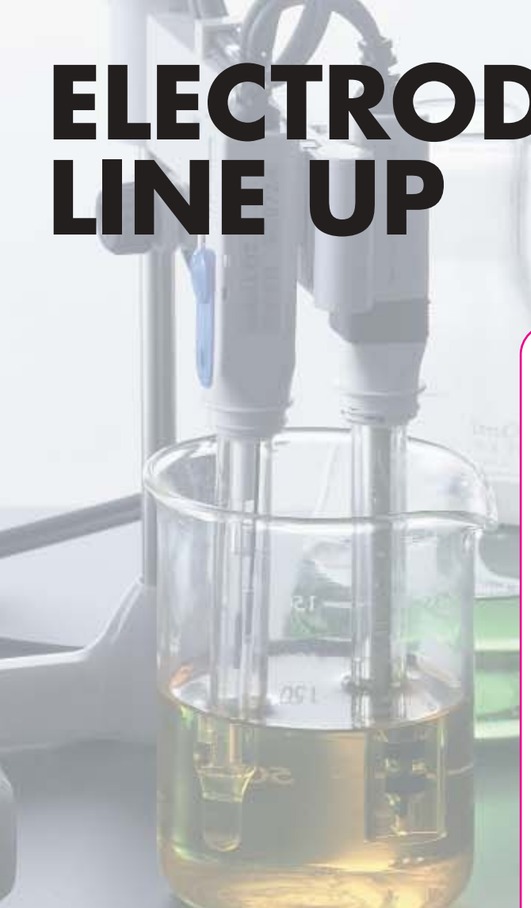
Explore the future

CE marking compliant

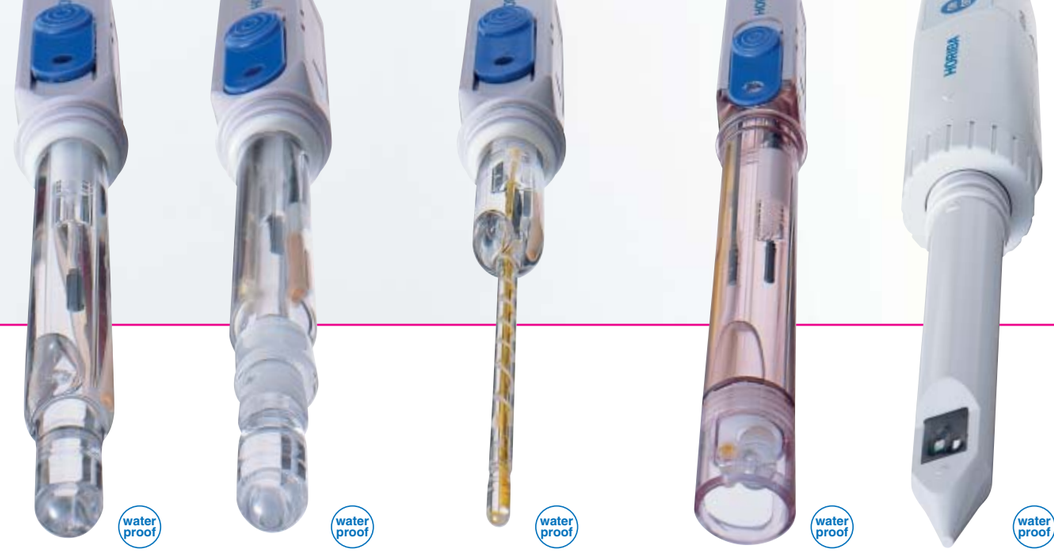
JQA-E-90039 (Head Office/Factory) ISO 14001 Award of Certification
Horiba received these standards for excellence from the International Organization for Standardization.
ISO 9001 JQA-0298



ELECTRODE LINE UP



NEW pH



water proof

General laboratory application

3-in-1 Electrode
9611-10D

water proof

Protein, high viscosity application

3-in-1 Sleeve Electrode
9677-10D

water proof

Precious, trace amount sample

3-in-1 Micro Electrode
9669-10D

ToupH

water proof

Tap water, pure water application

3-in-1 Plastic Electrode
9621-10D

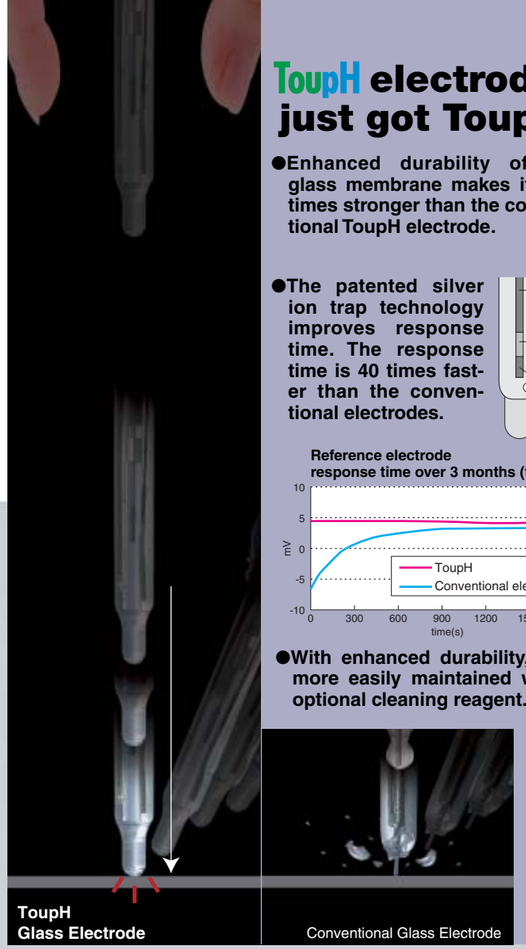
pHast

water proof

Non-glass electrode for food application, etc.

ISFET Electrode
0030-10D

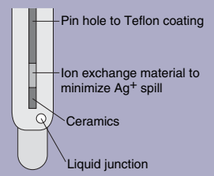
ISFET



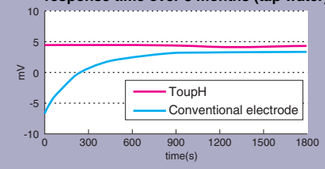
ToupH electrode just got ToupHer!

- Enhanced durability of the glass membrane makes it four times stronger than the conventional ToupH electrode.

- The patented silver ion trap technology improves response time. The response time is 40 times faster than the conventional electrodes.



Reference electrode response time over 3 months (tap water).



- With enhanced durability, the electrode is more easily maintained with a sponge or optional cleaning reagent.

pH (3-in-1)

Sleeve 6367-10D | For Test Tubes 6378-10D | For Food Analysis 6252-10D

pH (Combination)

Standard 6066-10C | For Extra-Thin Test Tubes 6069-10C | Needle Type 6251-10C | Flat Type 6261-10C

ORP

Metalic Electrode
Platinum 3-in-1 Type
9300-10D

water proof

Temperature

Temperature Electrode
4163-10T

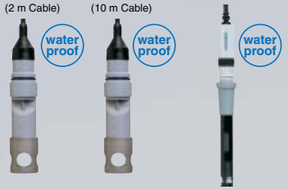
Conductivity

Immersion Type 3551-10D | Immersion Type 3552-10D | Immersion Type 3553-10D | Immersion Type 9382-10D | Flow Type 3561-10D | Flow Type 3562-10D | Flow Type 3573-10C | Flow Type 3574-10C

water proof

Dissolved Oxygen

Field Use 9551-20D (2 m Cable) | Field Use 9551-100D (10 m Cable) | Laboratory Use 9520-10D



water proof

water proof

water proof

ION

Cyanide Ion Electrode
8001-10C

Chloride Ion Electrode (Combination Type)
6560-10C

Chloride Ion Electrode
8002-10C

Sulfide Ion Electrode
8003-10C

Iodide Ion Electrode
8004-10C

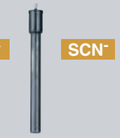
Bromide Ion Electrode
8005-10C

Copper Ion Electrode
8006-10C

Cadmium Ion Electrode
8007-10C

Lead Ion Electrode
8008-10C

Thiocyanate Ion Electrode
8009-10C



Fluoride Ion Electrode (Combination Type)
6561-10C

Fluoride Ion Electrode
8010-10C

Silver Ion Electrode
8011-10C

Ammonia Electrode (Combination Type)
5002A-10C

Sodium Ion Electrode
1512A-10C

Nitrate Ion Electrode (Combination Type)
6581-10C

Nitrate Ion Electrode
8201-10C

Potassium Ion Electrode (Combination Type)
6582-10C

Potassium Ion Electrode
8202-10C

Calcium Ion Electrode (Combination Type)
6583-10C

Calcium Ion Electrode
8203-10C

LABORATORY

navi

F-50 Series
DS-50 Series

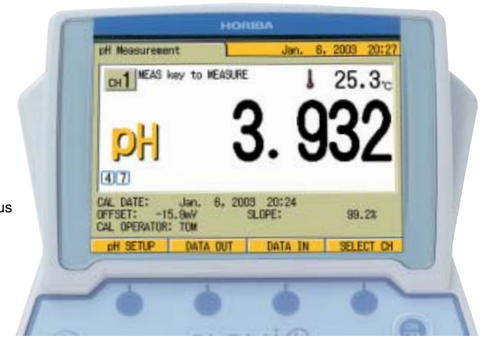
pH
ORP
ION
Conductivity
Temperature
Resistivity
SALT

Screen images are superimposed.

Color display and navigation function for enhanced user-friendliness.

The world's first 5.7 inch wide screen with color display.

Just press "Navi" key
For operation or troubleshooting menus



Enhanced data reliability with validation feature.

(GLP/GMP compliance)

Self diagnostic features and optional printer assures data reliability.

Benchtop multi-parameter meter allows measurement of up to 4 parameters.

Electronic record, audit trail and electronic signatures are security function features. (FDA 21CFR Part11 compliance)

Data can be transferred to a PC by compact flash, Ethernet and/or serial connection.

■ Option

Printer
(For GLP/GMP compliance)

Printer Cable
Part No. 9096003800

Digital Simulator
X-51(pH, ORP, ION, DO)
X-52(COND)

Standard pH meter with custom LCD display

F-51BW

pH ORP

- RS232C printer output
- Battery operation possible

Color LCD display with navigation function

F-52

pH ORP

- RS232C printer output

Two channels meter with pH, ORP and ISE measurement, color LCD display with navigation feature.

F-53

CH.1 pH ORP ION
CH.2 pH ORP ION

- RS232C printer output
- Compact flash

Economical pH, ORP and conductivity meter with custom LCD display

F-54BW

pH ORP COND

- RS232C printer output
- Battery operation possible

Two channels meter with pH, ORP and conductivity measurement. Color LCD display with navigation feature.

F-54

CH.1 pH ORP
CH.2 COND SALT RESI

- RS232C printer output
- Compact flash

World's first meter with FDA 21CFR Part11 support measures pH, ORP, conductivity and ISE

F-55

CH.1 pH ORP ION
CH.2 COND SALT RESI

- RS232C printer output
- Compact flash
- Ethernet

Standard conductivity meter with custom LCD display

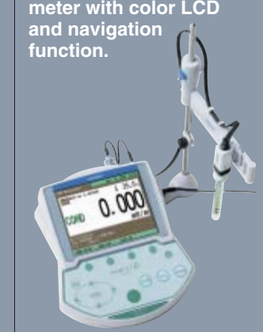
DS-51

COND SALT RESI

- RS232C printer output
- Battery operation possible

※Set includes conductivity electrode. (model 3552-10D)

Enhanced conductivity meter with color LCD and navigation function.



DS-52

COND SALT RESI

- RS232C printer output

※Set includes conductivity electrode. (model 3552-10D)

FIELD

Navi(h)

D-50 Series
ES-51
OM-51

Economical meter for pH and temperature

D-51

pH

Multi-parameter for pH/temperature/ORP with PC/printer output capability.

D-52

pH ORP

• RS232C printer output

Multi-parameter for pH/temperature/ORP/ISE with PC/printer output capability

D-53

pH ORP ION

• RS232C printer output

pH

ORP

ION

Conductivity

Temperature

Resistivity

SALT

DO

Multi-parameter for pH/temperature/ORP/ conductivity with PC/printer output capability

D-54

pH ORP COND

• RS232C printer output

Multi-parameter for pH/temperature/ORP/ dissolved oxygen with PC/printer output capability

D-55

pH ORP DO

• RS232C printer output

Portable conductivity/resistivity/ salinity meter with PC/printer output

ES-51

COND SALT RESI

• RS232C printer output

※Set includes conductivity electrode. (model 9382-10D)

Portable dissolved oxygen meter with PC/printer output

OM-51

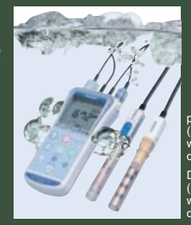
DO

• RS232C printer output

※Select from the followings.
- 2 m cable (OM-51-2)
- 10 m cable (OM-51-10)
- Laboratory (OM-51-L1) (BOD measurement)

Revolutionary waterproof meter and electrodes enhance care-free operation in the lab or field.

HORIBA portable meter conforms to waterproof standard of IEC529:IP67.



pH electrode (model 9621-10D) is waterproof down to depth of 1m.

DO electrode (model 9551) is waterproof down to depth of 10m.

Quick connection to PC allows easy and fast data evaluation.

Portable multi-parameter meter allows measurement of up to 4 parameters.

pH **D-51**
pH with ORP **D-52**

pH

- ION — pH with ISE **D-53**
- COND — pH with Conductivity **D-54**
- DO — pH with Dissolved Oxygen **D-55**

Automatic data-logging function.

Store up to 300 sets of data automatically.

Self diagnostic function assures reliable measurement.

User-friendly self-diagnostic modes for battery voltage, temperature, calibration and LCD checks.

User-friendly features and portability with large LCD display.

■ Option

Digital Simulator

X-51(pH, ORP, ION, DO)
X-52(COND)

Electrode Stand

Part No. 9096002700

■ F-50 series / DS-50 series Specifications

		F-51BW pH ORP •RS232C printer output •Battery operation possible	F-52 pH ORP •RS232C printer output	F-53 CH.1 pH ORP ION CH.2 pH ORP ION •RS232C printer output •Compact flash	F-54BW pH ORP COND •RS232C printer output •Battery operation possible	F-54 CH.1 pH ORP CH.2 COND SALT RESI •RS232C printer output •Compact flash	F-55 CH.1 pH ORP ION CH.2 COND SALT RESI •RS232C printer output •Compact flash •Ethernet	DS-51 COND SALT RESI •RS232C printer output •Battery operation possible	DS-52 COND SALT RESI •RS232C printer output
Measurement method	pH	Glass electrode method	Glass electrode method	Glass electrode method	Glass electrode method	Glass electrode method	Glass electrode method	——	——
	ION	——	——	Ion electrode method	——	——	Ion electrode method	——	——
	Conductvity	——	——	——	AC bipolar method	AC bipolar method	AC bipolar method	AC bipolar method	AC bipolar method
	SALT	——	——	——	——	Conductivity conversion	Conductivity conversion	Conductivity conversion	Conductivity conversion
	Resistance	——	——	——	——	Conductivity conversion	Conductivity conversion	Conductivity conversion	Conductivity conversion
Measurement range	pH	pH0.00 ~ 14.00 Resolution 0.01pH	pH0.000 ~ 14.000 Resolution 0.01/0.001pH	pH0.000 ~ 14.000 Resolution 0.01/0.001pH	pH0.000 ~ 14.000 Resolution 0.001pH	pH0.000 ~ 14.000 Resolution 0.01/0.001pH	pH0.000 ~ 14.000 Resolution 0.01/0.001pH	——	——
	mV(ORP)	-1999 ~ 1999 Resolution 1mV	-1999.9 ~ 1999.9 Resolution 0.1mV	-1999.9 ~ 1999.9 Resolution 0.1mV	-1999.9 ~ 1999.9 Resolution 1mV	-1999.9 ~ 1999.9 Resolution 0.1mV	-1999.9 ~ 1999.9 Resolution 0.1mV	——	——
	Temperture	0.0 ~ 100.0℃ Resolution 0.1℃	0.0 ~ 100.0℃ Resolution 0.1℃	0.0 ~ 100.0℃ Resolution 0.1℃	0.0 ~ 100.0℃ Resolution 0.1℃	0.0 ~ 100.0℃ Resolution 0.1℃	0.0 ~ 100.0℃ Resolution 0.1℃	0.0 ~ 100.0℃ Resolution 0.1℃	0.0 ~ 100.0℃ Resolution 0.1℃
	ION	——	——	0.0μ ~ 999g/L (mol/L)	——	——	0.0μ ~ 999g/L (mol/L)	——	——
	Conductvity	——	——	——	Cell constant 100m^{-1} : 0.000mS/m ~ 19.99S/m Cell constant 10m^{-1} : 0.0μS/m ~ 1.999S/m Cell constant 1000m^{-1} : 0.00mS/m ~ 199.9S/m Resolution 0.05% F.S.	Cell constant 100m^{-1} : 0.000mS/m ~ 19.99S/m Cell constant 10m^{-1} : 0.0μS/m ~ 1.999S/m Cell constant 1000m^{-1} : 0.00mS/m ~ 199.9S/m Resolution 0.05% F.S.	Cell constant 100m^{-1} : 0.000mS/m ~ 19.99S/m Cell constant 10m^{-1} : 0.0μS/m ~ 1.999S/m Cell constant 1000m^{-1} : 0.00mS/m ~ 199.9S/m Resolution 0.05% F.S.	Cell constant 100m^{-1} : 0.000mS/m ~ 19.99S/m Cell constant 10m^{-1} : 0.0μS/m ~ 1.999S/m Cell constant 1000m^{-1} : 0.00mS/m ~ 199.9S/m Resolution 0.05% F.S.
	SALT	——	——	——	——	0.00 ~ 4.00% Resolution 0.01%	0.00 ~ 4.00% Resolution 0.01%	0.00 ~ 4.00% Resolution 0.01%	0.00 ~ 4.00% Resolution 0.01%
	Resistance	——	——	——	——	Cell constant 100m^{-1} : 5.00Ω·m ~ 199.9kΩ·m Cell constant 10m^{-1} : 50.0Ω·m ~ 1.999MΩ·m Cell constant 1000m^{-1} : 0.500Ω·m ~ 19.99kΩ·m Resolution 0.05% F.S.	Cell constant 100m^{-1} : 5.00Ω·m ~ 199.9kΩ·m Cell constant 10m^{-1} : 50.0Ω·m ~ 1.999MΩ·m Cell constant 1000m^{-1} : 0.500Ω·m ~ 19.99kΩ·m Resolution 0.05% F.S.	Cell constant 100m^{-1} : 5.00Ω·m ~ 199.9kΩ·m Cell constant 10m^{-1} : 50.0Ω·m ~ 1.999MΩ·m Cell constant 1000m^{-1} : 0.500Ω·m ~ 19.99kΩ·m Resolution 0.05% F.S.	Cell constant 100m^{-1} : 5.00Ω·m ~ 199.9kΩ·m Cell constant 10m^{-1} : 50.0Ω·m ~ 1.999MΩ·m Cell constant 1000m^{-1} : 0.500Ω·m ~ 19.99kΩ·m Resolution 0.05% F.S.
Repeatability	pH	±0.01pH ±1digit	±0.01pH ±1digit	±0.001pH ±1digit	±0.001pH ±1digit	±0.001pH ±1digit	±0.001pH ±1digit	——	——
	mV(ORP)	±1mV ±1digit	±1mV ±1digit	±0.1mV ±1digit	±1mV ±1digit	±0.1mV ±1digit	±0.1mV ±1digit	——	——
	Temperture	±0.1℃ ±1digit	±0.1℃ ±1digit	±0.1℃ ±1digit	±0.1℃ ±1digit	±0.1℃ ±1digit	±0.1℃ ±1digit	——	——
	ION	——	——	±0.5%F.S. ±1digit	——	——	±0.5%F.S. ±1digit	——	——
	Conductvity	——	——	——	±0.5% F.S. ±1digit	±0.5% F.S. ±1digit	±0.5% F.S. ±1digit	±0.5% F.S. ±1digit	±0.5% F.S. ±1digit
	Resistance	——	——	——	——	±0.5% F.S. ±1digit	±0.5% F.S. ±1digit	±0.5% F.S. ±1digit	±0.5% F.S. ±1digit
Power supply		DC6V (LR6 dry cell battery) AC adapter 100 ~ 240V 50/60Hz	AC adapter 100 ~ 240V 50/60Hz	AC adapter 100 ~ 240V 50/60Hz	DC6V (LR6 dry cell battery) AC adapter 100 ~ 240V 50/60Hz	AC adapter 100 ~ 240V 50/60Hz	AC adapter 100 ~ 240V 50/60Hz	DC6V (LR6 dry cell battery) AC adapter 100 ~ 240V 50/60Hz	AC adapter 100 ~ 240V 50/60Hz
Mass		approx. 1kg	approx. 1.1kg	approx. 1.1kg	approx. 1kg	approx. 1.1kg	approx. 1.1kg	approx. 1kg	approx. 1.1kg

■ D-50 series / ES-51 / OM-51 Specifications

		D-51 pH	D-52 pH ORP •RS232C printer output	D-53 pH ORP ION •RS232C printer output	D-54 pH ORP COND •RS232C printer output	D-55 pH ORP DO •RS232C printer output	ES-51 COND SALT RESI •RS232C printer output	OM-51 DO •RS232C printer output
Measurement method	pH	Glass electrode method	Glass electrode method	Glass electrode method	Glass electrode method	Glass electrode method	——	——
	ION	——	——	Ion electrode method	——	——	——	——
	Conductvity	——	——	——	AC bipolar method	——	AC bipolar method	——
	Dissolved Oxygen	——	——	——	——	Diaphragm galvanic battery method	——	Diaphragm galvanic battery method
	SALT	——	——	——	——	——	Conductivity conversion	——
	Resistance	——	——	——	——	——	Conductivity conversion	——
	Saturation Oxygen	——	——	——	——	——	——	Dissolved Oxgen conversion
	Oxygen	——	——	——	——	——	——	Dissolved Oxgen conversion
Measurement range	pH	pH0.00 ~ 14.00 Resolution 0.01pH	pH0.00 ~ 14.00 Resolution 0.01pH	pH0.00 ~ 14.00 Resolution 0.01pH	pH0.00 ~ 14.00 Resolution 0.01pH	pH0.00 ~ 14.00 Resolution 0.01pH	——	——
	Temperture	0.0 ~ 100.0℃ Resolution 0.1℃	0.0 ~ 100.0℃ Resolution 0.1℃	0.0 ~ 100.0℃ Resolution 0.1℃	0.0 ~ 100.0℃ Resolution 0.1℃	0.0 ~ 100.0℃ Resolution 0.1℃	0.0 ~ 100.0℃ Resolution 0.1℃	0.0 ~ 100.0℃ Resolution 0.1℃
	mV(ORP)	——	-1999 ~ 1999 Resolution 1mV	-1999 ~ 1999 Resolution 1mV	-1999 ~ 1999 Resolution 1mV	-1999 ~ 1999 Resolution 1mV	——	——
	ION	——	——	0.0μ ~ 999g/L (mol/L)	——	——	——	——
	Conductvity	——	——	——	Cell constant 100m^{-1} : 0.000mS/m ~ 19.99S/m Cell constant 10m^{-1} : 0.0μS/m ~ 1.999S/m Cell constant 1000m^{-1} : 0.00mS/m ~ 199.9S/m Resolution 0.05% F.S.	——	Cell constant 100m^{-1} : 0.000mS/m ~ 19.99S/m Cell constant 10m^{-1} : 0.0μS/m ~ 1.999S/m Cell constant 1000m^{-1} : 0.00mS/m ~ 199.9S/m Resolution 0.05% F.S.	——
	Dissolved Oxygen	——	——	——	——	0.00 ~ 19.99mg/L Resolution 0.01mg/L	——	0.00 ~ 19.99mg/L Resolution 0.01mg/L
	Resistance	——	——	——	——	——	Cell constant 100m^{-1} : 5.00Ω·m ~ 199.9kΩ·m Cell constant 10m^{-1} : 50.0Ω·m ~ 1.99MΩ·m Cell constant 1000m^{-1} : 0.500Ω·m ~ 19.99kΩ·m Resolution 0.05% F.S.	——
	SALT	——	——	——	——	——	0.00 ~ 4.00% Resolution 0.01%	——
	Saturation Oxygen	——	——	——	——	——	——	0.0 ~ 199.9% Resolution 0.1%
	Oxygen	——	——	——	——	——	——	0.0 ~ 50.0% Resolution 0.1%
Repeatability	pH	±0.01pH ±1digit	±0.01pH ±1digit	±0.01pH ±1digit	±0.01pH ±1digit	±0.01pH ±1digit	——	——
	Temperture	±0.1℃ ±1digit	±0.1℃ ±1digit	±0.1℃ ±1digit	±0.1℃ ±1digit	±0.1℃ ±1digit	±0.1℃ ±1digit	±0.1℃ ±1digit
	mV(ORP)	——	±1mV ±1digi	±1mV ±1digit	±1mV ±1digit	±1mV ±1digit	——	——
	ION	——	——	±0.5%F.S. ±1digit	——	——	——	——
	Conductvity	——	——	——	±0.5%F.S. ±1digit	——	±0.5%F.S. ±1digit	——
	Dissolved Oxygen	——	——	——	——	±0.1mg/L ±1digit	——	±0.1mg/L ±1digit
	Resistance	——	——	——	——	——	±0.5%F.S. ±1digit	——
Power supply		DC3V (LR6 dry cell battery) Option: AC adapter	DC3V (LR6 dry cell battery) Option: AC adapter	DC3V (LR6 dry cell battery) Option: AC adapter	DC3V (LR6 dry cell battery) Option: AC adapter	DC3V (LR6 dry cell battery) Option: AC adapter	DC3V (LR6 dry cell battery) Option: AC adapter	DC3V (LR6 dry cell battery) Option: AC adapter
Mass		approx. 300g	approx. 300g	approx. 330g	approx. 330g	approx. 330g	approx. 300g	approx. 300g

■ pH Electrode Line up

Name		Model	Description	Temp.range(℃)	pH range	Part No.
Combination electrode	3-in-1 electrode	9611-10D	Waterproof thick membrane type	0 ~ 80	0 ~ 14	9096001800
		9677-10D	Protein, high viscosity type	0 ~ 60	0 ~ 14	9096002000
		9669-10D	Precious, trace amount sample type	0 ~ 60	0 ~ 14	9096001900
		9621-10D	Plastic body	0 ~ 100※2	0 ~ 14	9096001700
		6367-10D	Sleeve※1	0 ~ 60	0 ~ 14	9003011800
		6378-10D	For test tubes※1	0 ~ 60	0 ~ 14	9003011900
		6252-10D	For food analysis※1	0 ~ 60	0 ~ 12	9003013800
		6066-10C	Standard	0 ~ 100	0 ~ 14	9003013400
		6069-10C	For extra-thin test tubes	0 ~ 60	0 ~ 14	9003013500
		6251-10C	Needle type	0 ~ 50	0 ~ 12	9003013600
		6261-10C	Flat type	0 ~ 50	0 ~ 12	9003013700
ISFET electrode		0030-10D	Needle type ISFET	0 ~ 60	0 ~ 14	9096002100
ORP electrode		9300-10D	Platinum 3-in-1 type	0 ~ 60	—	9096000400
Temperature electrode		4163-10T	For temperature compensation and measurement	0 ~ 100	—	9003013000

※1 Do not use this electrode with other electrodes, as it will interfere the measurement value. ※2 0-50℃ when completely immersed.

■ Conductivity Electrode Line up

Electrode	Cell constant m^{-1}(cm^{-1})	Model	Range m^{-1}(cm^{-1})	Samples req'd(ml)	Temp. range(℃)	Part No.
Conductivity electrode	Immersion type 10 (0.1)	3551-10D	10μS ~ 1S (0.1μS ~ 10mS)	50	0 ~ 60	9056000800
	Immersion type 100 (1)	9382-10D	0.1mS ~ 10S (1μS ~ 100mS)	20 ~ 30	0 ~ 80	9096000300
	Immersion type 100 (1)	3552-10D	0.1mS ~ 10S (1μS ~ 100mS)	15	0 ~ 100	9056000900
	Immersion type 1000 (10)	3553-10D	1mS ~ 100S (10μS ~ 1S)	50	0 ~ 60	9056001000
	Flow type 10 (0.1)	3561-10D	10μS ~ 1S (0.1μS ~ 10mS)	10	0 ~ 60	9056001100
	Flow type 100 (1)	3562-10D	0.1mS ~ 10S (1μS ~ 100mS)	16	0 ~ 60	9056001200
	Flow type 1000 (10)	3573-10C	1mS ~ 100S (10μS ~ 1S)	4	0 ~ 60	9056001300
	Flow type 1000 (10)	3574-10C	1mS ~ 10S (10μS ~ 100mS)	0.25	0 ~ 60	9056001400

■ Ion Electrode Line up

Please be aware of the hindering ion and pH range interference of ion electrodes.

Electrode name	Model	Measuring range	Applicable reference electrode	Part No.
Cyanide ion electrode	8001-10C	0.03 ~ 2,600 ppmCN^-	2060A • 2565A	9003015500
Chloride ion electrode (Combination type)※	6560-10C	0.4 ~ 35,000 ppmCl^-	—	9003014500
Chloride ion electrode	8002-10C	0.4 ~ 35,000 ppmCl^-	2565A	9003015600
Sulfide ion electrode	8003-10C	0.3 ~ 32,000 ppmS^{2-}	2060A • 2565A	9003015700
Iodide ion electrode	8004-10C	0.01 ~ 13,000 ppmI^-	2060A • 2565A	9003015800
Bromide ion electrode	8005-10C	0.8 ~ 80,000 ppmBr^-	2565A	9003015900
Copper ion electrode	8006-10C	0.06 ~ 6,400 ppmCu^{2+}	2060A • 2565A	9003016000
Cadmium ion electrode	8007-10C	0.1 ~ 11,000 ppmCd^{2+}	2060A • 2565A	9003016100
Lead ion electrode	8008-10C	2 ~ 20,000 ppmPb^{2+}	2565A	9003016200
Thiocyanate ion electrode	8009-10C	0.6 ~ 5,800 ppmSCN^-	2565A	9003016300
Fluoride ion electrode (Combination type)※	6561-10C	0.02 ~ 19,000 ppmF^-	—	9003014600
Fluoride ion electrode	8010-10C	0.02 ~ 19,000 ppmF^-	2060A • 2565A	9003016400
Silver ion electrode	8011-10C	0.01 ~ 110,000 ppmAg^+	2565A	9003016500
Ammonia electrode (Combination type)※	5002A-10C	0.1 ~ 1,000 ppmNH_3	—	9003016600
Sodium ion electrode	1512A-10C	2.3 ~ 230,000 ppmNa^+	2565A	9003016700
Nitrate ion electrode (Combination type)※	6581-10C	0.62 ~ 62,000 ppmNO_3^-	—	9003014700
Nitrate ion electrode	8201-10C	0.62 ~ 62,000 ppmNO_3^-	2565A	9003016800
Potassium ion electrode (Combination type)※	6582-10C	0.04 ~ 39,000 ppmK^+	—	9003014800
Potassium ion electrode	8202-10C	0.04 ~ 39,000 ppmK^+	2565A	9003016900
Calcium ion electrode (Combination type)※	6583-10C	0.4 ~ 40,080 ppmCa^{2+}	—	9003014900
Calcium ion electrode	8203-10C	0.4 ~ 40,080 ppmCa^{2+}	2060A • 2565A	9003017000
Chloride ion chip	7660	—	—	9003015000
Fluoride ion chip	7661	—	—	9003015100
Nitrate ion chip	7681	—	—	9003015200
Potassium ion chip	7682	—	—	9003015300
Calcium ion chip	7683	—	—	9003015400
Ammonia electrode membrane (6pcs)	membrane(NH_3)	—	—	9012001000

※ Only combination type ion electrode can be used with the D-23.

■ DO electrode / DO Tip Line up

Electrode	Lead length	Model	Specification	Temp. range(℃)	Part No.
Waterproof DO electrode	2m	9551-20D	Field immersible type	0 ~ 40	9096002300
Waterproof DO electrode	10m	9551-100D	Field immersible type	0 ~ 40	9096002400
DO electrode	1m	9520-10D	Laboratory use	0 ~ 45	9096000500
DO Tip	—	5401	Replacement electrode Tip for 9551	—	9033010000
DO Tip	—	7541	Replacement electrode Tip for 9520	—	9074000200

Water Quality

MONITORING SYSTEM

U-20XD Series

The U-20XD Series: Same Innovative features, now with Xtra Durable design

- Heavy-duty stainless steel protective cover
- Pelican® carrying case standard (U-22XD Only)
- Rubber-made sensor guard to protect sensors and prevent contamination

Up to one month Data logging

"Simply leave the probe submerged in the sample and the sensor's built-in memory function enables continuous measurement for up to one month.* Personnal do not need to be present during the measurement process. Data can even be retrieved by personal computers in remote locations."

Simultaneous measurement of 13 parameters

With the W-23XD unit (only), simultaneous measurements of up to 13 parameters (from pH, dissolved oxygen, and conductivity to seawater specific gravity and a variety of ions)

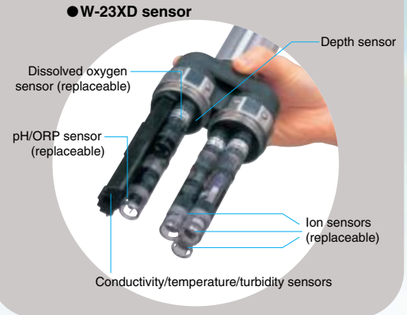
can be obtained —— much more quickly and easily than with conventional instruments. With its powerful measurement capabilities, the compact U-20XD series is recommended for all water quality researchers and professionals.

Measurement at depths as low as 100 meters

With its superior durability and high pressure resistance, the newly developed sensor facilitates measurements as far as 100 meters below the water surface. Thus, in addition to rivers, lakes and other shallow bodies, high-precision measurement can now be readily obtained —— and water quality can be monitored —— at dams, and even in the open sea.

●U-22XD SET, W-22XD sensor

●W-23XD sensor

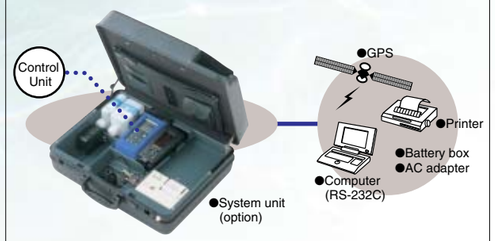


System enables GPS and numerous other data processing mechanisms

System capabilities can be greatly increased by installing the Global Positioning System (GPS), supplied with unit U-2002. GPS allows measurement of location and time, in addition to water quality, and enables main unit screen display of the obtained data —— an indispensable function for maintaining detailed records. With the acquired longitude, latitude and depth data, subject locations can be mapped in 3-D.

GPS functions by processing satellite signals to provide position measurement with pinpoint accuracy. It is widely employed in air and sea navigation, as well as car navigation systems.

The system unit alone is compatible with many I/O interfaces.



COMPACT pH METER

twinpH WATERPROOF pH

Immersion, scoop, and flat measurement.

water proof

B-211 single-point pH7 Auto Calibration

B-212 Two point pH7/pH4 Auto Calibration

B-213 Two point pH7/pH4 Auto Calibration

Measurement method	Glass electrode method
Measurement range	pH2 ~ 12
Repeatability	±0.1pH
Power supply	Two 3-volt lithium batteries
Mass	approx. 53g.

COMPACT CONDUCTIVITY METER

Twin Cond COND SALT

Two measurement methods: drop the sample on the sensor or immerse the sensor in the sample.

B-173

Measurement method		AC bipolar method
Measurement range	Conductvity	0 ~ 19.9mS/cm
	SALT	0 ~ 1.1%
	Temperture	5 ~ 35℃
Repeatability		±1% full scale
Power supply		Two 3-volt lithium batteries
Mass		46g

CARDY Series

CARDY ION

Compact SALT & ION meters

Na^+ Ion meter **C-122** Na^+

K^+ Ion meter **C-131** K^+

NO_3^- Ion meter **C-141** NO_3^-

SALT meter **C-121** NaCl

	C-121/122 ($NaCl/Na^+$)	C-131 (K^+)	C-141 (NO_3^-)
Measurement range	0.1%(w/w) ~ 10%(w/w) NaCl 23 ~ 2300ppm Na	39 ~ 3900ppm	62 ~ 6200ppm
Sample amount required	approx. 0.1ml	approx. 0.1ml	approx. 0.1ml
Sample temperature	5 ~ 35℃	5 ~ 35℃	5 ~ 35℃
Liquid junction	Porous macromolecle	Porous macromolecle	Porous macromolecle
Mass	Approx. 40 g		