

RC-31P

Handheld Residual Chlorine Meter

Reagentless residual chlorine meter for quick and easy measurement of free chlorine levels in tap water and pool water



The meter comes in two different types: a "Container and Throw-in Sensor Type" and a "Flowing Sensor Type"

Select the sensor tailored to your measurement needs.

Features

Reagentless

The polarography method eliminates the need for handling and preparing reagents. This provides a greater reduction in running costs than conventional methods such as the DPD method.

Waterproof construction

The construction of the meter is consistent with IP67 standards and can withstand full immersion in water (for up to 30 minutes at a depth of 1 m), allowing for hassle-free operation when conducting measurements in the field.

ISO validation functions

- Expanded memory capable of storing 1000 measurement results internally
- Sensor with internal memory "CAL MEMO"

The electrode can store data in the internal memory chip, such as data about the model, serial number, alignment (calibration) value, and electrode coefficient.

In addition, the electrode coefficient is automatically read when the meter is started. Thus, there is no need to manually configure the coefficient each time the meter is used.

Ability to connect to a computer or external printer

Dedicated data acquisition software is available for processing measurement results on a personal computer.

Supports simplified continuous measurement (RC-31P-F only)

Beads polishing kit (0IZ00005) is provided as a standard accessory.



Electrode with a beads polishing kit

Make sure to switch the measurement mode to real-time mode.

(Continuous measurements cannot be performed in auto-hold mode.)

! Notes

There are certain limitations on the pH, conductivity, and temperature of the sample water. For details, see the specifications.

Each meter is adjusted to fit the DPD values in the factory. However, the adjustment might be shifted in certain condition. When you use the meter for the first time, make sure to adjust the meter to fit the DPD or other reference standard. Continue to check the meter on a regular basis to ensure that it is properly adjusted.

When measuring samples for two different water sources and with differing levels of quality, we recommend using meters that individually prepared for each sample.

The turbulent flow of water can affect the measurement results. When performing measurements at locations where the flow rate is high, where the water is circulating, where bubbles are present, or where there is a jet stream, we recommend that you collect the sample in a container first before performing measurements.

Extremely clean water sample might lead to unstable measurement. In this cases, make sure to install the beads polishing kit before performing analysis.

● Container and Throw-in Sensor Type (RC-31P-F)

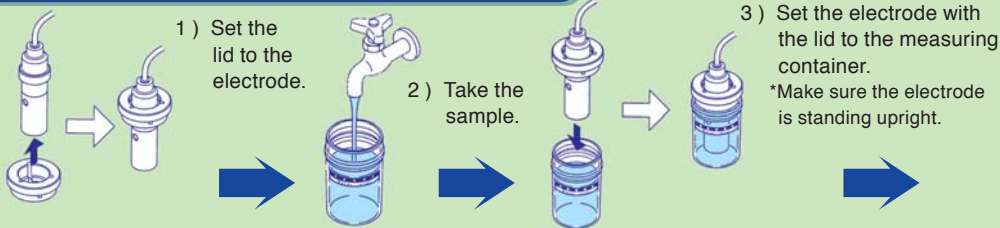


For sampling container measurement



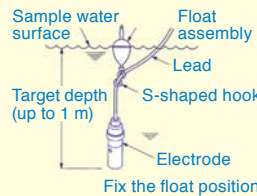
Simplified continuous measurement can also be performed (if the beads polishing kit is installed)

Sampling Container Measurement Method

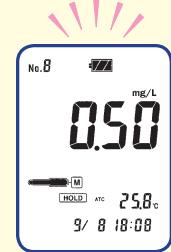


Throw-in Measurement Method

- 1) Put the electrode into the pool, storage tank or bucket. Attach the float to the cable when it is necessary. Attachment of float assembly permits measurement at a constant depth of water.
- ⚠ Not suitable for locations that produce turbulent flows of water, such as a jacuzzi. When conducting measurements at locations with turbulent flows of water, use the sampling container method described above.



- 4) Press the **ENTER/HOLD** key.
- 5) The measurement results are displayed.



● Flowing Sensor Type (RC-31P-Q)



For tap water sampling

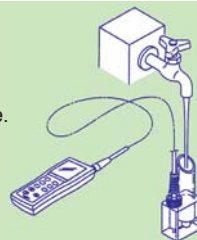


Measuring cell

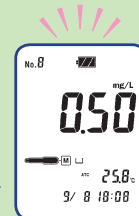


Tap Water Measurement Method

- 1) Set the measuring cell below the tap, loosen the tap slightly and put the sample water into the receiving tube.
- ⚠ The electrode used in tap water measurements is not water-proof (not suitable for throw-in measurements). Make sure to use the electrode together with the measuring cell.



- 2) Press the **ENTER/HOLD** key.



- 3) The measured value is displayed in real time.

Measurement Conditions

Item	RC-31P-F	RC-31P-Q
pH	pH 5.8 to pH 8.0	
Conductivity	8 mS/m or greater *	8 mS/m or greater
Isocyanuric acid present	*	NA
Possible adjustment range	Within ±50% of the values used in the DPD method	

* When measuring samples with a conductivity of 8 to 12 mS/m or samples that contain isocyanuric acid, make sure to install the beads polishing kit.

Samples such as acid water, ionized alkali water, sewage water, and boiler water are not available. We do not recommend using this instrument with samples with a high concentration of combined chlorides, such as ground water, might cause a measurement error that is approximately 25% greater than the actual concentration.

Specifications			
Product Code	RC-31P-F (Container and throw-in sensor type)		RC-31P-Q (Flowing sensor type)
Polarography method	Polarography method		
Object measured	Free residual chlorine		
Sample water	Tap water and pool water (pH: pH 5.8 to 8.0, conductivity: 8 mS/m or greater)		Tap water (pH: pH 5.8 to 8.0, conductivity: 8 mS/m or greater)
Measurement range	Free residual chlorine	0 to 2.00mg/L	
	Temperature	0 to 45°C	
Repeatability	Free residual chlorine	±0.05 mg/L (at 25°C) Filtered water (via activated charcoal) with sodium hypochlorite added (DPD method value 0.5 to 1.0 mg/L)	±0.05 mg/L (at 25°C) Tap water (DPD method value: 0.2 to 1.0 mg/L)
	Temperature	±0.5°C	
Response time	90 seconds or less at 25°C (auto-hold mode)		90 seconds or less at 25°C
Temperature compensation range	Automatic, 0 to 45°C		
Adjustment (calibration)	Function included for adjusting values to fit other analyzed values		
Wetted part materials	Polyvinyl chloride, gold, silver, epoxy resin, ABS, silicone, and chrome plated brass		Polyvinyl chloride, gold, silver, epoxy resin, silicone, and acrylic resin
Internal memory capacity	1000 points data		
Interval function	Recording of data at specified time intervals (1 second to 99 min. 59 sec.)		
Waterproof construction	IP67 (Enabled when connected to a sensor and the external I/O terminals are masked) *Immersion proof for up to 30 minutes at a depth of 1 m		
External output	Ability to be connected to an external printer EPS-P30 (optional)		
RS-232C interface	Equipped (Cannot be connected to an external printer and computer at the same time)		
Ambient temperature	0 to 45°C. 0 to 40°C when connected to an external printer		
Power supply	Two (AA size) alkali or nickel hydride batteries		
Dimensions	Main body: Approx. 68 (W) x 35 (H) x 173 (D) mm Sensor: Approx. ϕ 34 (max. diameter) x 111 (length) mm		Main body: Approx. 68 (W) x 35 (H) x 173 (D) mm Sensor section (electrode, measuring cell): Approx. 60 (W) x 140 (H) x 60 (D) mm
	Weight		Main body: Approx. 280 g (including batteries) Sensor: Approx. 160 g
Standard accessories	One residual chlorine sensor FCL-221CA, one 6542710K sampling container, one beads polishing kit 0IZ00005, one 6288880K float assembly, one "Simple Pack Mini" free residual chlorine DPD test kit pack of 6 (143C472), two AA Alkali batteries (for testing), one hand strap, one instruction manual		One residual chlorine sensor with CLS-221AA measuring cell, one 6542660K cathode polishing paper, one "Simple Pack Mini" free residual chlorine DPD test kit pack of 6 (143C472), two AA Alkali batteries (for testing), one hand strap, one instruction manual

Consumables

Item	Code No.	Item	Code No.
Residual chlorine electrode (Container and throw-in sensor type)	FCL-221CA	Residual chlorine electrode (Flowing sensor type)	CLS-221AA
Cable length: 1 m		Measuring cell included. Cable length: 1 m	
Beads polishing kit	0IZ00005	Ceramic beads	123G007

Options

Item	Code No.	Item	Code No.
Platinum electrode	FCL-240CA	External printer with connection cable	EPS-P30
For high levels combined chlorine sample, such as ground water.		Supports the long term storage of data on plain printed paper.	
Maintenance kit ASSY	6288300K	Printer paper (20 rolls)	P000119
DPD check kit and electrode cleaning agent included.		Ink ribbon (1 piece)	ORD00001
Data acquisition software	GP-LOG	*	
Measurement data is saved as text and exported to the computer.		Cable for external printer	118N061
RS-232C connection cable, 2 m	118N062	* If you already have an external printer (EPS-G/EPS-R), only the cable is needed.	
		Carrying case with shoulder strap	0DA00001

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CAUTION

Do not operate products before consulting with the instruction manual.

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