TOA DKK

ISO9001·ISO14001

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

DKK-TOA CORPORATION

The meter comes in two different types: α" Container and Throw-in Sensor Type" and α" 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.

Make sure to switch the measurement mode to real-time mode.
(Continuous measurements cannot be performed in auto-hold mode.)

Electrode with a beads polishing kit

⚠ 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.

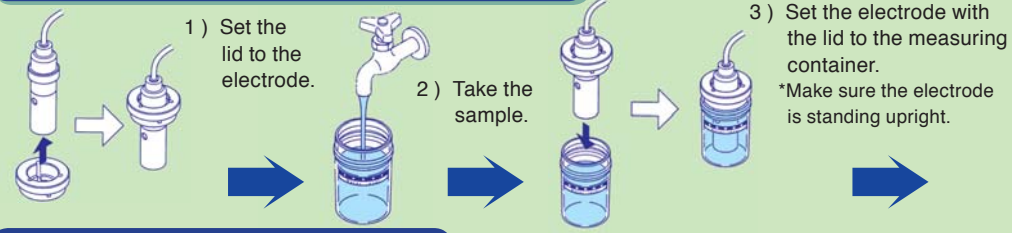
Container and Throw-in Sensor Type (RC-31P-F)

For sampling container measurement

Tap water | Pool water

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

Sampling Container Measurement Method



1) Set the lid to the electrode.

2) Take the sample.

3) Set the electrode with the lid to the measuring container.
*Make sure the electrode is standing upright.

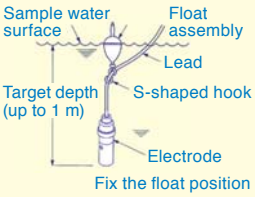
4) Press the **ENTER/HOLD** key.

5) The measurement results are displayed.

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.



Flowing Sensor Type (RC-31P-Q)

For tap water sampling

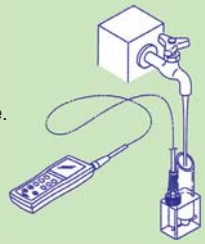
Measuring cell

Tap water

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. ϕ34 (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	Main body: Approx. 280 g (including batteries) Sensor section (electrode, measurement cell): Approx. 510 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.
Residual chlorine electrode (Container and throw-in sensor type)	FCL-221CA
Cable length: 1 m	
Beads polishing kit	0IZ00005

Item	Code No.
Residual chlorine electrode (Flowing sensor type)	CLS-221AA
Measuring cell included. Cable length: 1 m	
Ceramic beads	123G007

Options

Item	Code No.	
Platinum electrode	FCL-240CA	
For high levels combined chlorine sample, such as ground water.		
Maintenance kit ASSY	6288300K	
DPD check kit and electrode cleaning agent included.		
Data acquisition software	GP-LOG	*
Measurement data is saved as text and exported to the computer.		
RS-232C connection cable, 2 m	118N062	

Item	Code No.
External printer with connection cable	EPS-P30
Supports the long term storage of data on plain printed paper.	
Printer paper (20 rolls)	P000119
Ink ribbon (1 piece)	0RD00001
Cable for external printer	118N061
* 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 producuts before consulting with the instruction manual.