Residual Chlorine Meter
Model RC-31P

A portable, easy to use solution for field-measurement of Residual Chlorine

Features

No Reagents Required
Polarographic method enables measurement to be carried out easily without the need for reagent treatment and management. This reduces operating costs compared to using DPD method for measurements. It also allows more stable measurements without the human errors associated with colorimetric measurements.

Waterproof Construction
Meter is constructed to IP 67 standards and can withstand complete immersion into water (1m for 30 minutes). Provides worry free operation in outdoor environments.

ISO Validation Functions
The instrument includes time functions and internal storage of 1000 measurement results. The electrode sensor stores model, serial number, calibration value, alignment coefficient in an internal memory chip. This data is automatically downloaded to the meter when the electrode is connected.

RS232 Output
Stored data can be printed using a separately available printer or data can be sent to other peripherals such as personal computers etc. for further statistical manipulation.

Continuous Measurement Option
Continuous measurement operation is possible (Model RC-31P-F only). A beads cleaning kit (OIZ00005) is available as standard accessory. The measurement mode must be changed to real time (continuous measurement not possible in auto-hold mode).

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

Measurement is performed after collecting sample in the container or by tossing the float type sensor into the water and commences after the ENTER/HOLD button is pressed. The use of a beads cleaning system allows continuous measurements to be performed (Contact DKK-TOA with details of your application for this usage).
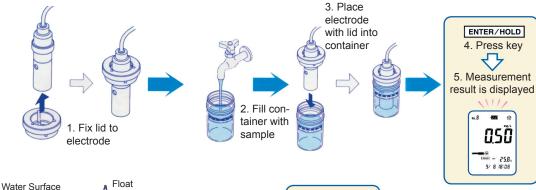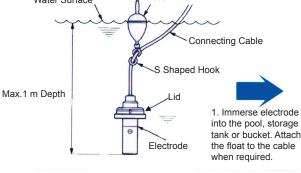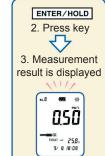
TAP WATER

POOL WATER

Example of sensor with beads cleaning kit. This is used for continuous measurement applications.

1. Fix lid to electrode

2. Fill container with sample

3. Place electrode with lid into container

ENTER/HOLD
4. Press key

5. Measurement result is displayed

Water Surface

Float

Connecting Cable

S Shaped Hook

Max.1 m Depth

Lid

Electrode

1. Immerse electrode into the pool, storage tank or bucket. Attach the float to the cable when required.

ENTER/HOLD
2. Press key

3. Measurement result is displayed

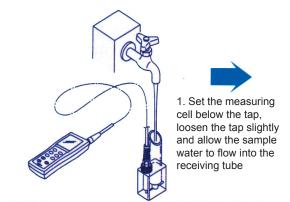* Attachment of float ASSY permits measurement at a constant depth of water.
Not Suitable for turbulent flow (such as jacuzzi etc.). In these cases, please use the container method described above.
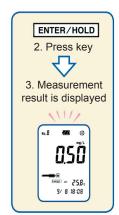
Flowing Sensor Type (RC-31P-Q)

The water to be sampled flows continuously through the sampling cell. An orifice outlet controls the flow rate across the sensor at a constant rate (excess flow overflows out of the top of the cell). Measurement commences after the ENTER/HOLD button is pressed.

TAP WATER

1. Set the measuring cell below the tap, loosen the tap slightly and allow the sample water to flow into the receiving tube

ENTER/HOLD

2. Press key

3. Measurement result is displayed

Measurement Conditions

Item	RC-31P-F	RC-31P-Q
pH	5.8~8.0	
Conductivity	Minimum 8 mS/m < See NOTE 1 below >	Minimum 8 mS/m
Isocyanuric Acid Present	< See NOTE 1 below >	Measurement not feasible

NOTE 1
If measuring sample of conductivity 8~12 mS/m or sample containing isocyanuric acid, please use beads polishing kit for sensor.
NOTE 2:
We do not recommend using this instrument with strong acid or alkali samples, sewage or high temperature boiler feed water. Ground water samples may contain combined chlorides causing a positive error of up to 25%. If in doubt consult DKK-TOA before purchase.

Notes

■ There are certain conditions required for pH, conductivity and temperature of the sample. Please refer to the specifications for details.

■ The meter is aligned with DPD method at the factory prior to shipment. However, the alignment may have shifted prior to use. Please align the meter with DPD method (test kit included as standard accessories) or other reference measuring method prior to using for the first time and on a regular basis thereafter.

■ If you are measuring samples of two different water qualities or sources, we recommend that the meters are prepared individually for each type of sample.

■ For situations where the water flow speed is high, bubbles are present or is flow is turbulent, we recommend that the sample is collected in a container first and then measured.

■ Extremely clean, clear water samples may cause unstable measurement. In these cases please use the beads polishing kit.

Specifications

Product Code	RC-31P-F	RC-31P-Q
Measurement method	Polarography method	
Measurement object	Free residual chlorine	
Sample water (water conditions)	City water & pool water (pH: 5.8~8.0, conductivity: 8mS/m (80µS/cm) or more	Water from the tap (pH: 5.8~8.0, conductivity: 8mS/m (80µS/cm) or more
Measuring range	Residual Chlorine: 0~2.00mg/L, Temperature: 0~45°C	
Repeatability	± 0.05mg/L or less (at 25°C) Filtered water (by activated charcoal) with sodium hypochlorite added (DPD method value 0.5~1.0 mg/L)	± 0.05mg/L or less (at 25°C) Tap water (DPD method value: 0.2~1.0 mg/L)
Temp. repeatabilty	± 0.5 °C	
Response time	Within 90 seconds at 25°C (auto hold mode)	Within 90 seconds at 25°C.
Temp. compensation range	Automatic, 0~45°C	
Alignment function	Alignment with other measured value from reference instrument.	
Materials in contact with sample	Polyvinyl chloride, gold, silver, epoxy resin, ABS, silicone & chrome plated brass.	Polyvinyl chloride, gold, silver, epoxy resin, ABS, silicone & acrylic resin
Internal memory capacity	1000 data points	
Interval function	Data recording at set intervals between 1 sec ~ 99 minutes, 59 seconds	
Waterproof construction	Immersion proof, IP67 for both sensor and meter with interface connections cover (30 minutes at 1m depth)	
External output	RS-232C interface equipped as standard for connection to PC or printer (available separately)	
Ambient Temp. and Humidity	0~45°C, 90% RH or less (no condensation); 0~40°C if optional printer is attached	
Power source	Alkali or nickel hydride battery LR6 (AA size) x 2pcs	
Dimensions	Main body: approx. 68 (w) x 35 (h) x 173 (d) mm, Sensor: approx. 34 (max. dia.) x 111 (length) mm	Main body: 68 (w) x 35 (h) x 173 (d) mm, Sensor section (sensor & measuring cell): approx. 60(l) x 140(h) x 60(w) mm
Weight	Main body: approx. 280g (incl. batteries) Sensor: approx. 160g	Main body: approx. 280g (incl. batteries) Sensor: approx. 510g
Standard accessories	Residual chloride sensor FCL-221CA x 1, Measuring container (0DG00003) x 1, Beads polishing kit (OIZ00005) x 1, Float ass'y (6288880K) x 1, "Simple Pack" Residual chlorine DPD test kit pack of 6 (143C472) x 1, Hand strap x 1, Instruction manual x 1, Dry battery (for test) x 2	Residual chlorine sensor with measuring cell CLS-221AA x 1, Cathode polishing paper (6542660K) x 1, "Simple Pack" Residual chlorine DPD test kit pack of 6 (143C472) x 1, Hand strap x 1, Instruction manual x 1, Dry battery (for test) x 2

Consumables

Description	Code	Description	Code
Residual chlorine electrode for container and throw-in measurement, cable length: 1m	FCL-221CA	Residual chlorine electrode for tap water, with measuring cell, cable length: 1m	CLS-221AA
Beads polishing kit	0IZ00005	Ceramic beads	123G007

Options

Description	Code	Description	Code
Platinum electrode (for measurement of sample with high levels of combined chlorine)	FCL-240CA	External printer with cable (for long term data recording on paper)	EPS-P30
Maintenance kit (with DPD check kit and electrode cleaning detergent)	6288300K	Printer paper (20 rolls)	P000119
RS232 connecting cable, 2m	118N062	Ink ribbon x 1	ORD00001
Carrying case with shoulder strap	0DA00001	Cable for external printer (suitable for EPS-G, EPS-R printers)	118N061