

# COCO-pH



## Parts



GOOD DESIGN

**LCD**  
Measurement results and remaining battery charge are displayed.

**START button (Power button)**  
Press to take measurements and hold down to turn off the display.

**Battery compartment**  
Place and remove batteries from here.



**Sample stage**  
Apply samples on the electrode in the center of the sample stage.

**Glass electrode**  
**Reference electrode**

**CAL button**  
Press to perform calibration.

**START button + CAL button**  
Press to set date, time, and delete data history.

**Lanyard hole**

## Contents

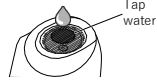
- ◆ Main unit
  - ◆ Instruction Manual
  - ◆ Calibration Report
  - ◆ AAA batteries ...2
  - ◆ Silicon Cover
  - ◆ Standard solution for calibration (pH4.01, 6.86, 9.18) 1each
- The instruments are rigorously inspected to ensure each unit meets the highest standards of quality assurance.

## Introduction

Thank you for purchasing the instrument. Carefully read and follow all instructions. Keep this manual for future reference.  
A small amount of solution may leak from the reference electrode. This is normal and does not affect the unit's performance.

**Important: Please Read and Follow Instructions Carefully Before Initial Use**

Place plenty of tap water and leave it for a while.  
※Dry electrodes will result in abnormal measurement values.



## Safety Instructions

Read and follow all safety instructions before operating the instrument. Failure to comply with the following instructions may result in personal injury or property damage.

### WARNING

- ◇ Ensure safety when handling hazardous materials. Observe precautionary measures and use protective equipment. Be aware of the hazards of such chemicals and emergency response guidelines.
- ◇ ATAGO may not be held liable for any injury or damage arising in connection with handling of hazardous materials during the use of the instrument.
- ◇ Do not drop the instrument or subject it to strong physical shock.
- ◇ Do not attempt to repair, modify, or disassemble the instrument.

### CAUTION

- ◇ Carefully read this manual to have basic knowledge of the function of each component.
- ◇ Our company is not liable for any loss and damage caused by the measurement and use of this instrument.
- ◇ Our company shall not be held responsible for any or all damages that may result from using the instrument for those other than its intended purpose (measurement of pH level of a liquid sample).
- ◇ If the standard solution for calibration comes in contact with hands or skin, immediately rinse with plenty of water.
- ◇ The glass electrode is fragile; be careful not to damage it. Glass shards may cause injury.
- ◇ Do not use metal tools, such as a spoon, as they may scratch the glass electrode, resulting in erroneous measurements.
- ◇ Do not measure organic solvents, adhesives, cement, alcohol or hydrogen fluoride.
- ◇ Do not use water above 50°C to rinse the instrument.
- ◇ Only use the specified battery type. Observe proper polarities, properly aligning the anodes and cathodes.
- ◇ Store the instrument away from direct sunlight/heat sources and excessive amounts of dust/debris.
- ◇ Do not expose the instrument to a rapid change in ambient temperature.
- ◇ Do not subject the instrument to strong vibration.
- ◇ Do not subject the instrument to extreme cold temperature.
- ◇ Do not place the instrument under anything heavy.
- ◇ Loosen the battery compartment cover for air transportation.

(International Protection Classification IP65)

The instrument is water-resistant, not waterproof, and should not be submerged.

(Chemical Resistance of Body Case)

The body case is made of PBT. Do not expose it to water vapor or solvents.

## Calibration

### Select a Calibration Option

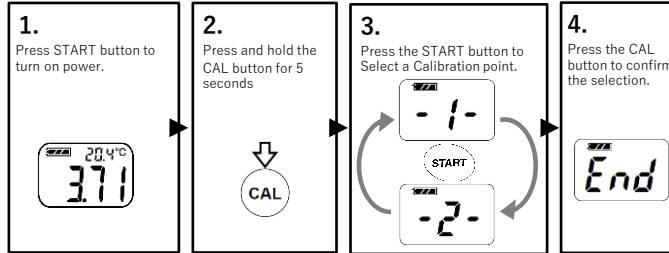
Select the Calibration option, either 1 or 2, according to values of the standards.

#### ● Calibration points -1-

Calibration can be done at 3 points (pH 4.01, pH 6.86, and pH 9.18). If the sample is above pH 6.9, calibration can be done at 2 points (pH 6.86 and pH 9.18). If the sample is less than pH 6.9, calibration can be done at 2 points (pH 4.01 and pH 6.86).

#### ● Calibration points -2-

Calibration can be done at 3 points (pH 4.01, pH 7.00, and pH 10.01). If the sample is above pH 7.0, calibration can be done at 2 points (pH 7.00 and pH 10.01). If the sample is less than pH 7.0, calibration can be done at 2 points (pH 4.01 and pH 7.00).

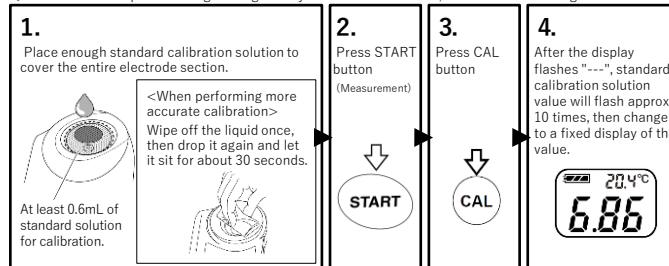


※Be sure to calibrate after changing the setting.

## Calibration

### 【Caution】

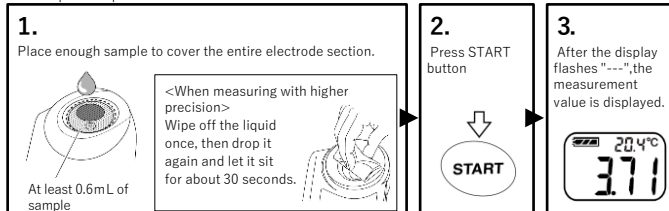
- ◇ Perform calibration before initial use and at least once a month to maintain precision and accuracy.
- ◇ Measure a standard calibration solution. When the measurement value falls outside of the expected range, perform calibration.
- ◇ When the time lapsed since last measurement is more than 2 weeks, it is recommended to calibrate the instrument.
- ◇ If the ambient temperature changes during the daily work with this instrument, it needs the calibration again.



## Measurement

### 【Caution】

- ◇ Do not splash water above 50°C. The plastic may warp, which may compromise the water resistance.
- ◇ When measuring hot samples, place only the necessary amount and do not let it overflow from the sample stage well.
- ◇ When hot water is necessary to clean off hardened samples, use water-soaked gauze around the sample stage and keep hot water away from the body case.
- ◇ In rare cases, a measurement value may be displayed even if there is not sample placed on the electrode section. In such instances, simply place some sample on the electrode section and press the START button. Measurements will be taken normally.
- ◇ When measuring samples such as strong acids and high alkaline, take a quick measurement and rinse off any remaining sample with tap water.



### ＜LCD Auto Shut-off＞

The instrument will turn itself off after 5 minutes of inactivity. To manually turn it off, hold down the START button for more than 2 seconds.

## Calibration and Measurement Guidelines

- ◇ When the electrodes are dry after long period of not being used
- ◇ Do not damage the electrodes.



Place plenty of tap water and leave it for a while.



Do not use metal tools.



Be careful not to scratch the electrodes

- ◇ Insufficient amount of sample



It will result in abnormal measurement or calibration.



At least 0.6mL.

## Automatic Temperature Compensation (ATC)

The instrument detects the temperature of the electrode section and automatically compensates within the temperature compensation range.

### 【Caution】

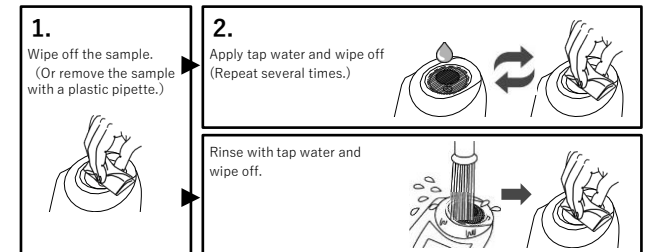
For samples at high or low temperatures, leave the instrument until the temperature of the sample and the instrument have blended, or repeat the measurement several times. The value will be almost stable. Use this value as the measured value.

## 測定後のお手入れ

### 【Caution】

- ◇ Do not scratch the electrode.
- ◇ The instrument is water-resistant, not waterproof, and should not be submerged.

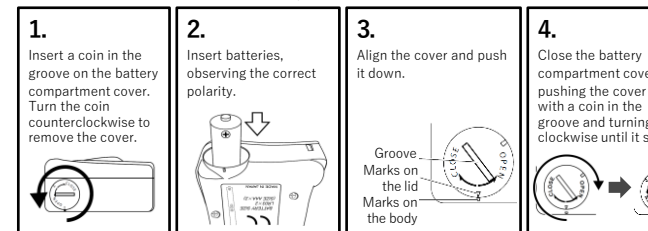
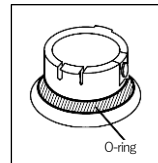
For samples containing oils or fats:  
Clean oily residues on the electrode section with ethyl alcohol. Then rinse the electrode section with tap water thoroughly.



## Replacing the Batteries

### 【Caution】

- ◇ Please remove the tape in the battery compartment before first use.
- ◇ Fasten the battery compartment cover tightly to prevent water ingress or poor connection, which will cause erroneous measurements. Push the cover in firmly and turn.
- ◇ When the O-ring on the cover is dirty or damaged, the water resistance may be compromised.
- ◇ When the battery icon indicates the low power level ( ), replace both batteries with a brand-new set of AAA alkaline batteries (1.5V).
- ◇ Static images may occasionally appear on LCD. Such retained pixel charges do not indicate a faulty display, consume the battery power, or affect the instrument's performance in any way.
- ◇ Check the expiration dates on batteries before purchase.
- ◇ Calibrate the instrument after the batteries are replaced.



## About Data Transmission Function

This instrument stores maximum number of 100 measurement data. This instrument is equipped with NFC (Near Field Communication) technology.

Data history can be accessed by bringing COCO-pH to any Android devices, iPhone or PC-linked USB NFC Reader/Writer\* (in conformance to PC/SC specification).

\* Operation tested with SONY USB NFC Reader PaSoRi RC-S380.



[Caution] Data exceeding 100 entries will be overwritten from oldest to newest.

## Preparation

### 〈Software installation〉

Install a software to readout the NFC tag ahead of time.

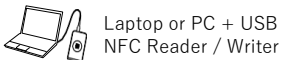
	Android devices / iPhone	Applicable Application Software (app) "NFC Reader"
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\* If an NFC tag reader app is already installed on the Android devices or iPhone, this app can be used.

Example of data history read out

2019/01/17 09:30:45	LLL	20.4
2019/01/17 09:31:50	8.31	20.5
2019/01/17 09:32:12	8.25	21.0
2019/01/17 09:34:26	AAA	21.2
2019/01/17 09:45:39	c6.86	22.5
2019/01/17 09:46:07	c4.01	25.1
2019/01/17 09:46:50	5.92	HHH

LLL : Lower limit error  
HHH : Upper limit error  
AAA: Calibration error  
EEE: Error  
c6.86 : pH 6.86 Calibration completes  
c4.01 : pH 4.01 Calibration completes



Laptop or PC + USB  
NFC Reader / Writer

Data history can be exported to Microsoft(R) Excel (R)(for Windows(R)) using NFC software "ATAGO Logger (NFC)."

\* "ATAGO Logger (NFC)" is available for download :  
<http://www.atago.net/ur/>

A 0135897  
667937 E 581

Back side of the body Instrument's serial number  
UniqueID = Last 10 digits of NFC chip number (NFC'S serial number)

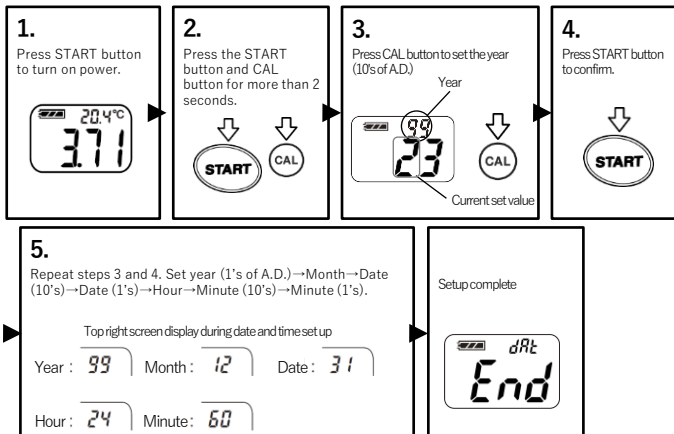
You can check the NFC chip number (serial number) by using an app that can read the serial number.

### 〈Date and time setting〉

Set the date and time (year [the last two digits of the western calendar], month, date, time and minute) prior to data history readout.

#### 〔Note〕

- ◇ Reset the date and time when batteries are removed for 24hours or more.
- ◇ Time is set in 24-hour system and seconds are fixed at 00.

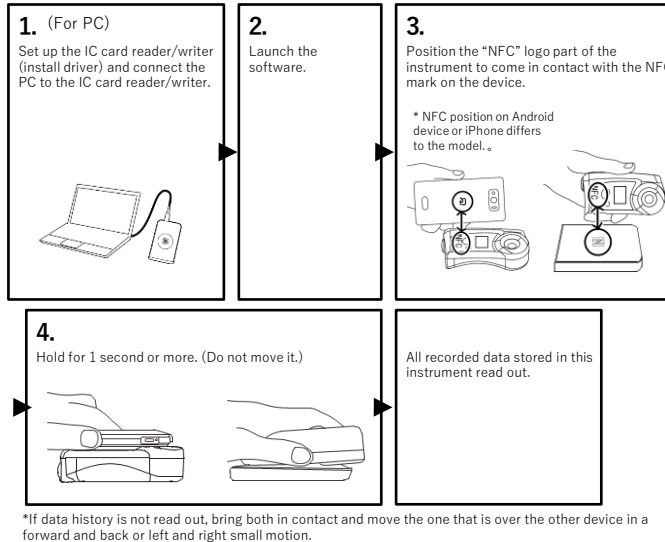


## Data history readout

[Caution] Bring the instrument and the Android / iPhone device or USB NFC Reader / Writer as close to each other as possible. (Position it so that the distance between both devices is 5mm or less.)

#### 〔Note〕

- ◇ Data history can be read out while this instrument is powered off.
- ◇ Data history readout will not delete the stored data history.

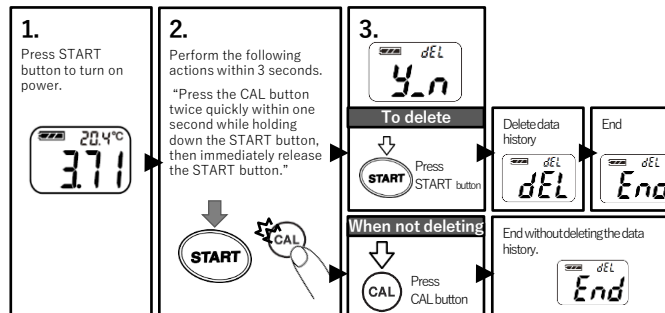


## Delete data history

All data history will be deleted from this instrument.

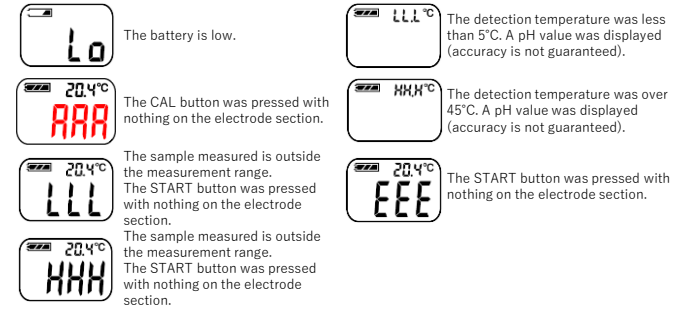
#### 〔Caution〕

- ◇ Deleted data history can not be restored.
- ◇ A data history can not be selected.



## Error Messages

The following messages alert the user when an operation has failed.



## Storage and Maintenance

Store the instrument in a dry place away from direct sunlight. Exposure to humidity and heat may damage the instrument.



Gently wipe away any excess moisture on the instrument.  
Store the unit away from direct sunlight at a stable temperature with as little fluctuation as possible.

## 仕様

Measurement range	pH 0.00~14.0	Temp. 10~40°C
Resolution	pH 0.01	Temp. 0.1°C
Accuracy	pH ±0.10	Temp. ±1°C
ATC range	10~40°C	
Ambient temp. range	10~40°C	
Sample volume	At least 0.6mL	
Calibration	Calibrate at 3 points (6.86, 4.01, 9.18) (7.00, 4.01, 10.01)	
Measurement time	Approx. 3 seconds	
Backlight	操作時に 30 秒点灯、30 秒後消灯	
Output	NFC Forum Type 4 Tag ISO/IEC 14443 Type A Output category : Date Time, pH, Temp [degC] (e.g.) 2017/08/17 09:30:45, 3.17, 20.4	
International Protection class	IP65 Water resistant	
Dimensions and weight	55(W) × 31(D) × 109(H)mm, 100g (main unit only)	

Scan for manuals in other languages.



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