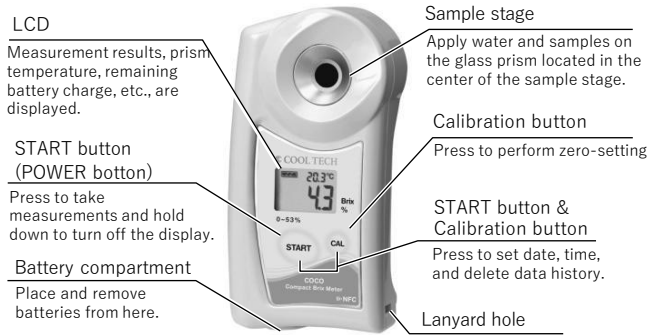


Digital Hand-held "Pocket" Refractometer

COCO-Brix



Parts



Contents

- ◆ Main unit ◆ Instruction Manual ◆ Calibration Report ◆ AAA batteries...2 (this book)

※AAA alkaline batteries are included. Remove the tape from the battery compartment before use.

Our 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.

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.
- ◆ COOL TECH 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.
- ◆ COOL TECH is not liable for any loss and damage caused by the measurement and use of this instrument.
- ◆ Some acids may corrode the glass prism and/or metal sample stage, which may cause erroneous measurements.
- ◆ **Do not use metal tools, such as a spoon, as they may scratch the prism, resulting in erroneous measurements.**
- ◆ 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〉

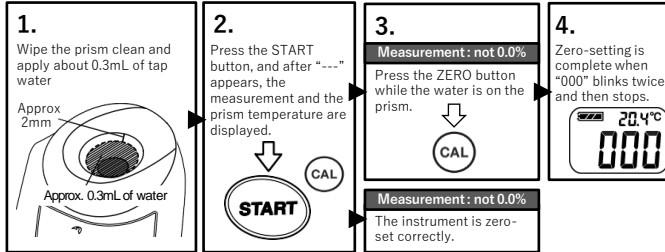
- ◆ The body case is made of PBT resin. Do not expose it to water vapor. Some solvents may compromise the structural integrity of the instrument.

Measurement method

Zero-setting

【Caution】

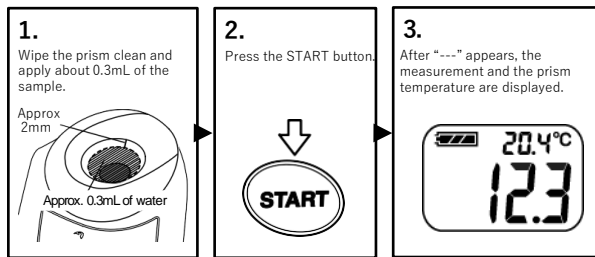
- ◆ Zero-set the instrument at the beginning of each day before use as well as after replacing the batteries.
- ◆ Let water on the prism acclimate to the temperature of the instrument before zero-setting.
- ◆ When "AAA" is displayed, wipe the prism clean, apply water, and press the ZERO button again.



Sample Measurement

【Caution】

- ◆ Do not use metal tools to apply samples on the prism as they may scratch the prism.
- ◆ Initial measurements may fluctuate with hot or cold samples. Wait for the instrument to acclimate to the sample temperature, approximately 20 seconds, to press the START button. Alternatively, press the START button multiple times until measurements become stable.
- ◆ 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 prism area and keep hot water away from the body case.
- ◆ The displayed temperature is that of the prism and may not necessarily match the temperature of the sample.



〈LCD Auto Shut-off〉

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

〈For oily/fatty samples〉

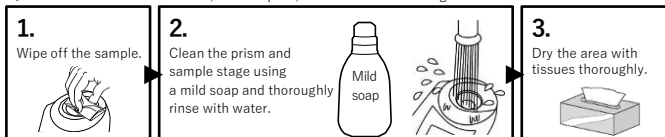
Try stirring the sample on the prism while measuring to improve the repeatability of oily/fatty samples.



Cleaning

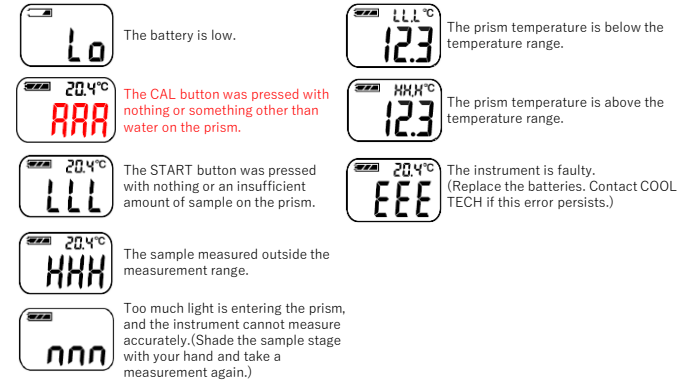
【Caution】

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



Error Messages

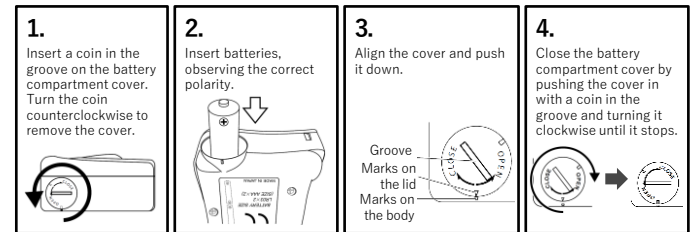
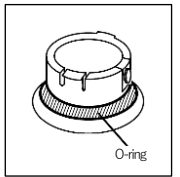
The following messages alert the user when an operation has failed.



Replacing the Batteries

【Caution】

- ◆ 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. (Figure 1)
- ◆ 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.
- ◆ Zero-set the instrument after the batteries are replaced.



Brix scale

Brix represents the weight of sucrose in 100 grams of sucrose solution as percentage by weight. When other dissolved solids are present in the solution, Brix conversion may be applied.

Brix is a measure of the total dissolved solids in a solution and indicates the combined concentration of all soluble substances, such as sugar, salt, protein, and acids.

Automatic Temperature Compensation

The readings are corrected, based on the temperature of the prism, within the automatic temperature compensation range.

【Caution】

- ◆ Measurements may fluctuate with hot or cold samples. Wait for approximately 20 seconds to press the START button. Measurements will stabilize once the instrument acclimates to the sample temperature.

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-Brix 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.

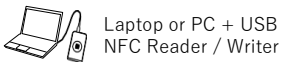
	Android devices / iPhone	Applicable Application Software (app) "NFC Reader"
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* If an NFC tag reader app is already installed on the Android devices or iPhone, this app can be used.

Example of data history read out

2019/01/17 09:30:45	LLL	LLL	LLL	20.4
2019/01/17 09:31:50	12.5	0.31	0.39	20.5
2019/01/17 09:32:12	3.2	1.25	0.39	21.0
2019/01/17 09:34:26	AAA	AAA		21.2
2019/01/17 09:45:39	38.5	5.89	0.15	25.1
2019/01/17 09:46:07	39.2	5.92	0.15	25.3

LLL : Lower limit error
HHH : Upper limit error
OOO : Zero-setting completes
nnn : exophthalmic error
AAA : Zero-setting error



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)

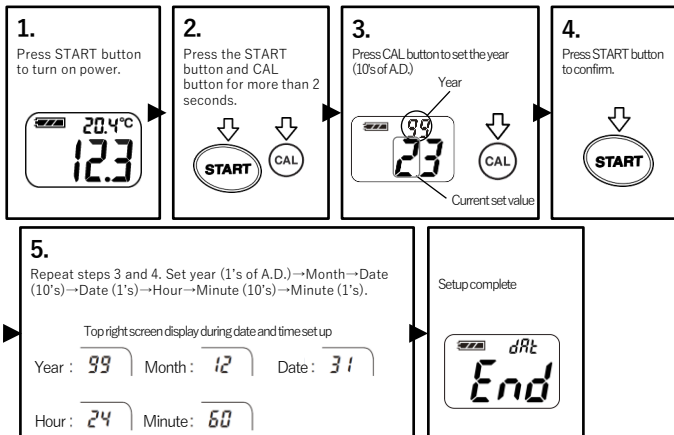
You can check the NFC chip number (serial number) by using an app that can read the serial number.

〈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.

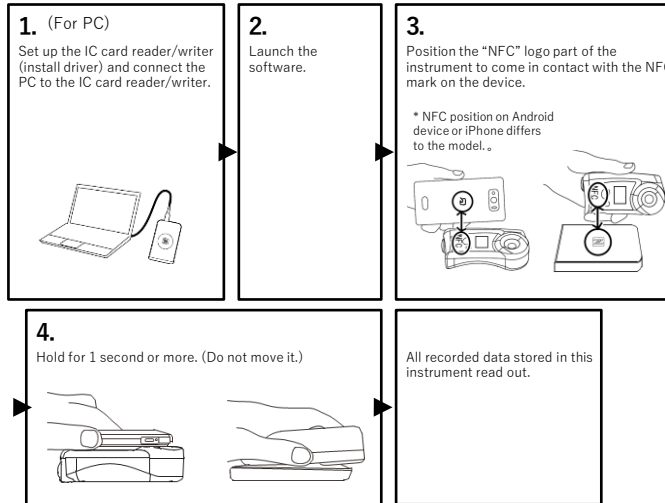


Data history readout

[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.



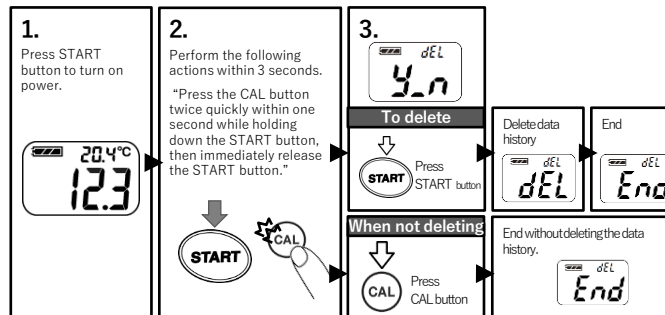
*If data history is not read out, bring both in contact and move the one that is over the other device in a forward and back or left and right small motion.

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.



Storage and Maintenance

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



Clean and dry the sample stage thoroughly, following the "Cleaning" instructions.

Store the unit away from direct sunlight at a stable temperature with as little fluctuation as possible.



仕様

The instrument is warranted for one year from the date of purchase. This warranty is void if the instrument shows evidence of the following. Send the included batteries as well if they are still in use.

- Having been disassembled by unauthorized personnel
- Damages to the prism and/or sample stage
- Water damage or having been dropped
- Having been misused and/or operated outside the environmental specifications
- Leakage from batteries other than those included with the unit

Repair services are available for a fee after the warranty expires. Contact COOL TECH for service and support.

Please have the serial number information ready when contacting us.

Specifications

Measurement range	Brix 0.0~53.0% (Automatic Temperature Compensation) Temp. 10.0~100°C
Resolution	Brix 0.1% Temp. 0.1°C
Accuracy	Brix ± 0.2% Temp. ± 1°C
Automatic temperature compensation range	10~100°C
Ambient temperature range	10~40°C
Sample volume	At least 0.3mL
Measurement time	Approx. 3 seconds
Backlight	The backlight stays on for 30 seconds after any button is pressed.
Output	NFC Forum Type 4 Tag ISO/IEC 14443 Type A Output category Date Time, Brix [%], Temp [degC] (e.g.) 2017/08/17 09:30:45.12.3, 20.4
Power supply	Two (2) AAA alkaline batteries
Battery life	Approx. 11,000 measurements
International Protection class	IP65
Dimensions and weight	55 (W) x 31 (D) x 109 (H)mm, 100g (main unit only)

Scan for manuals in other languages.



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