

The warranty period extension method 1 year→2 years

The warranty period will be extended from 1 year to 2 years when you register customer information. ATAGO Logger NFC can also be downloaded at the same time.

Trouble scanning the code? Access this link <https://www.atago.net/ur/index.php?l=en>



QR code

Digital Hand-held "Pocket" IR Brix Meter

PAL-HIKARI 10

Instruction Manual

Cat.No.5460



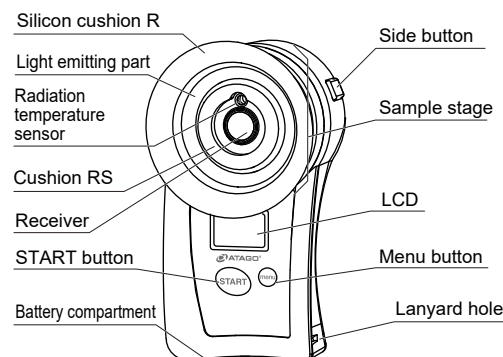
Introduction

Thank you for purchasing the instrument.
Read and follow all safety instructions before operating the instrument.
Failure to comply with the following instructions may result in personal injury or property damages.

This instrument measures amount of light absorbed by shining the near infrared light to the fruit then converts to Brix (sugar level) to display. Brix (sugar level) can be measured with no need to cut and squeeze the fruits.

Measurement variance may be seen depending on the variety and harvest timing. This instrument is equipped with offset function to match the value in such cases.

Parts

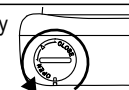


Contents

- Main unit (with silicone cover) 1
 - Instruction Manual (this book) 1
 - Inspection Report 1
 - Cushion RS (for replacement) 3
 - AAA alkaline batteries 2
- ※AAA alkaline batteries are included.

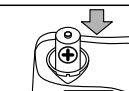
Replacing the Batteries

1. Insert a coin in the groove on the battery compartment cover. Turn the coin counterclockwise to remove the cover.



2. Insert two batteries

Note Observe the correct polarity.

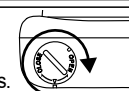


3. Align the cover and push it down.

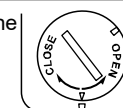
Groove



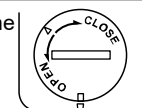
4. Close the battery compartment cover by pushing the cover in with a coin in the groove and turning it clockwise until it stops.



When the cover is open



When the cover is closed



- About battery indicator

When the battery icon indicates the low power level, replace both batteries with a brand new set of AAA alkaline batteries (1.5V).

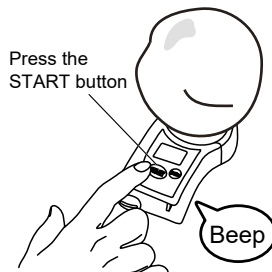
* Check the expiration dates on batteries before purchase.

Measurement

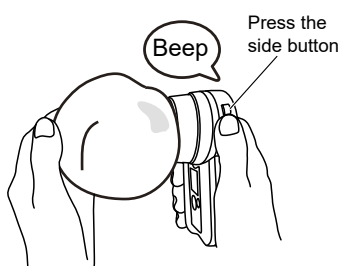
Place a fruit, then press the START button.

Press against a fruit, then press the side button.

or



Beep



Beep

Touch the fruit and do not move.

The measurements are displayed.



<LCD Auto Shut-off>
The instrument will turn itself off after 30 seconds of inactivity. To manually turn it off, hold down the START button for more than 3 seconds.

Depending on the variety, there may be a difference between the refractometer (sugar meter) and the measured value. Please confirm the difference from the value measured with your refractometer (PAL - 0 of the set when purchasing IR Brix Meter x Brix Meter) and use the offset function as necessary. (Refer to "Offset Function")

Measurement tips and precautions

- **Acclimate the fruit and this instrument to ambient temperature.**

The temperature difference between the surface and the inside of the fruit, and temperature difference between this instrument and the fruit may affect the measurement values.

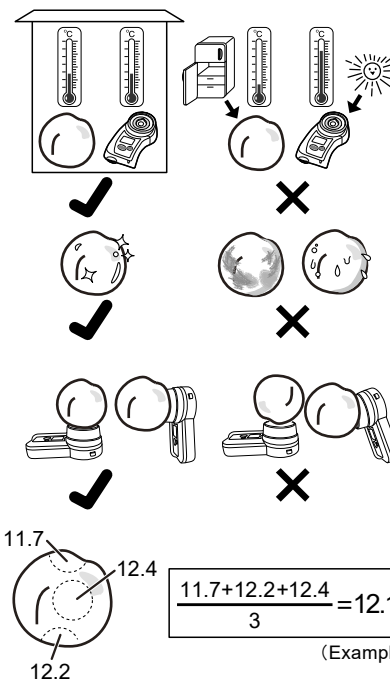
Especially when measuring refrigerated fruits, be sure to let the fruits acclimate to the ambient temperature.

- **Clean the surface of the fruits. Do not measure the spoiled spots.**
The instrument may not measure correctly when there is water droplets, dust or scar, and bruising soft spots.

- **Place the sample stage to the fruit.**
Measure an area larger than 70mm in diameter with no dents. Be sure to avoid any spacing between the fruit and the outer cushion to avoid the external light interference. If the cushion is deteriorated, please replace it with a brand new cushion. (Refer to "How to change the cushion")

- **Sugar level varies depending on the measured area.**

Example for measurement value: Take few measurements from the same fruit, then compute and use the average.



Error Messages

When there is an operation error or malfunction, the below error message will show with alarm sound for warning.

The battery is low.

Measurement was taken for fruits with Brix lower than the measurement range.

Measurement was taken for fruits with Brix higher than the measurement range.

Measurement was taken while the sample stage was not in contact with fruit. When correct measurements are not achievable due to interference from external light.

There is a temperature difference between the fruit and the main unit.

The instrument is faulty. Replace the batteries. Contact ATAGO if this error persists.

When it is outside of temperature compensation range.

※Main units temperature error will preferentially display when the main units and fruits temperatures are both out of range.

Measurement was taken when the units temperature was 5°C or lower.

Measured when the main unit's temperature is exceeding 45°C.

Measurement was taken when the fruit's temperature was 5°C or lower.

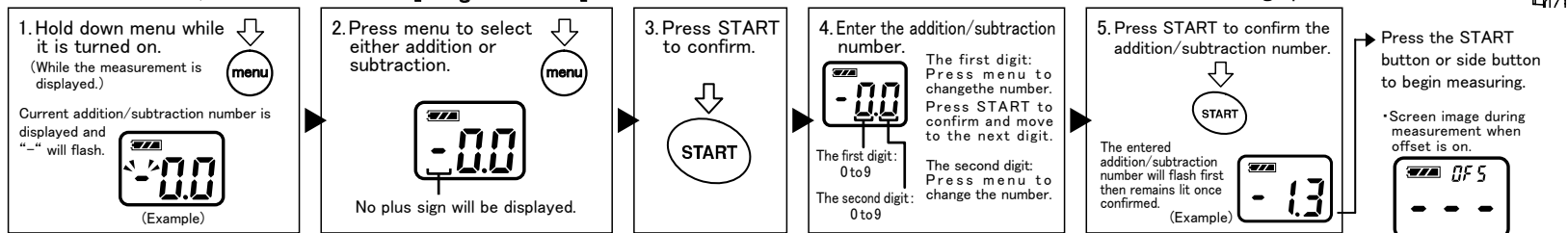
Measured when the fruit's temperature is exceeding 45°C.

When the history of measured data reaches 100. Turn OFF the NFC Function or Delete Data History.

Offset Function

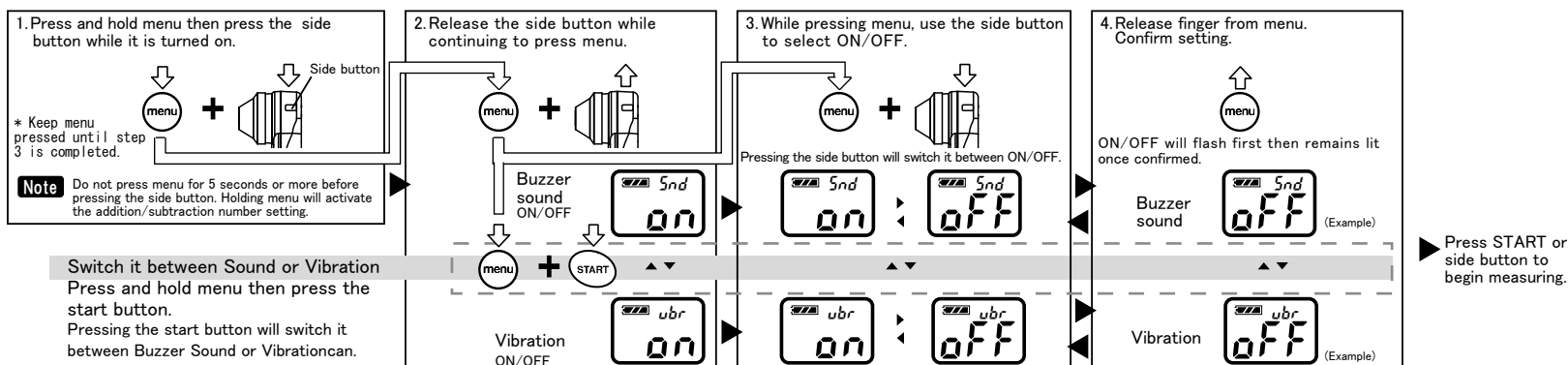
This function modifies the measurement value by a constant. Use this function to match the measurement value to the refractometer (Brix meter).

How to set addition/subtraction number [Range:-9.9~9.9]



How to Set Alarm Sound and Alarm Vibration

Buzzer sound and Vibration can be set to alarm when measurement error is displayed or at the beginning and end of measurement.



Automatic Temperature Compensation

The measurement values are temperature dependent. This unit is equipped with automatic temperature compensation to correct the readings that are within the range to display measurement value at 20°C.

The unit displays temperature at the fruit surface.

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.

When the measured values are off

- ① Are there any difference between the fruit, unit, and ambient temperature?
- ② Are there any water droplets or soiled area in the measurement section?
Is the fruit spoiled?
- ③ Does the fruit and inner cushion have a good contact?
Especially when using the side button, is it out of alignment?
- ④ Are there any difference depending on measured section?
①~④ → Refer to “Measurement tips and precautions”
- ⑤ Are there any damages or soil on the light emitting or receiving section? → Refer to “Cleaning”
If light emitting or receiving section is damaged or soiled, contact ATAGO.
- ⑥ Is the cushion wet? → Refer to “Cleaning”
Replace cushion to a new one if there is any deterioration. → Refer to “How to Change the Cushion”
- ⑦ Check the offset feature → Refer to “Offset Function”

Safety Precautions

WARNING

- Do not aim it at a face when measuring.
- Do not attempt to repair, modify, or disassemble the instrument.

CAUTION

- Before use, carefully read this instruction manual and fully understand the function and operation for each part of the instrument. • ATAGO is not liable for any or all damages as a result of use of the instrument for those other than its intended purposes (measurement of Brix, of fruits). • Do not hit or protrude the light emitting or receiving section with a sharp object.
- ATAGO is not liable for any loss and damage caused by the measurement and use of this instrument. • Do not expose the instrument to a rapid change in ambient temperature. • Do not use the instrument where there is much dust. • Do not subject the instrument to strong vibration. • Do not place the instrument under anything heavy. • If the instrument is dropped or subjected to a strong impact, contact your supplier for inspection. • Loosen the battery compartment cover for air transportation.

Repair and Warranty

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
- 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 an ATAGO authorized service center for service and support.

Specifications

Measurement fruits	Peach
Measurement range	Brix 8.0 to 20.0% Temperature 5.0 to 45.0°C
Resolution	Brix 0.1% Temperature 0.1°C
Measurement accuracy	Brix ±1.5%* Temperature ±1°C
Repeatability	Brix ±1%
Automatic temperature compensation range	5.0~35.0°C
Ambient temperature range	5 to 35°C
Measurement time	Approx. 1 second
Backlight	The backlight stays on for 30 seconds then turns off after 30 seconds. The backlight is off when measurements are taken.
Power supply	Two (2) AAA alkaline batteries
International Protection class	IP64
Dimensions and weight	61(W) x 44 (D) x 115 (H)mm, 120g (main unit only)
Maximum number of data history	100
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

* Peach varieties and measurement environment may affect accuracy.

Cleaning

To clean the soiled sample stage, use a wetted tissue or soft cloth to wipe the area.
Completely dry the cushion area.
Avoid using ethyl alcohol. It may compromise the adhesion on the cushion.



Never splash water on the unit.



Do not use organic solvents (paint thinner, benzene, gasoline, etc.) on the plastic body case.

Storage



- Do not keep:
- In a hot and humid place
 - In direct sun light
 - Inside a closed car
 - Close to a heater
 - Extreme low temperature

How to Change the Cushion

The Silicon cushion R, the Cushion RS and the Silicone Cover can be replaced.
Please contact ATAGO.

RE-39011 Silicon cushion R

1. Pull off the Silicon cushion R from the sample stage.
2. Fit the Silicon cushion R on to the sample stage.

RE-39012 Cushion RS (3sets)

1. Remove the old cushion from the sample stage.
2. Peel the paper backing off the sticker. Place the cushion on the sample stage.

Note Do not block the radiation thermometer with the cushion.

RE-39415 JORDAN for PAL-HIKARI (Silicon Cover)

ATAGO instruments are rigorously inspected to ensure each unit meets the highest standards of quality assurance.

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