Q&A

1. What can this instrument measure?
Various types of food – soups, sauces, condiments, dressings, fish, deli meats, brine, dairy, crackers, chips, and more – can be measured.

2. How do I measure my food?
Different types of food may require different preparation for measurement. Please refer to “Measurement Method.”

3. Can I use tap water for dilutions?
Distilled water is the best, but tap water may be used. Tap water may affect the readings slightly (approx. 0.01%). Do not use mineral water or ion water as they will affect the readings.

4. How do I clean it?
The entire body can be washed under running water. Use soap to remove persistent residues. Clean greasy residues with ethyl alcohol and rinse with water.

5. The readings are unstable.
Try stirring the sample on the sensor while measuring.

6. Can it measure cold/hot food?
Leave the sample on the sensor for 30 seconds before measurement. Alternatively, take multiple readings until the readings stabilize.

7. How often does it need to be calibrated?
Zero-set the instrument at the beginning of each day. Clean the sensor thoroughly and press ZERO with nothing on it.

8. The readings seem wrong.
Apply water or ethyl alcohol on the sensor and wipe it off with tissue paper. Repeat the process a few times if using water. If this does not solve the problem, reference set with a 2.5% standard salt solution.

9. What is the storage instruction?
Store in the box that the instrument originally came in.

What’s this?

Families that season their miso soup lightly — 383g/year

Families that season their miso soup heavily — 651g/year

The average yearly intake of sodium/salt for a Japanese citizen is 3800g.

Japan, a country renowned for its longevity (average life expectancy of 84 years old) consume this much salt.

Around the world, most families have special recipes for a favorite dish. In Japan, every family has their own miso soup recipe. Individual preference in strength of miso soup’s flavor can make a significant difference in salt consumption. A lightly seasoned miso soup can contain around 0.7g of salt in 100g of soup whereas a heavily seasoned miso soup may contain 1.2g of salt in 100g of soup. This difference in salt, when miso soup is consumed daily, adds an additional 274 grams (approx. 18 tablespoons) per year.

Salt is a vital ingredient that brings out the flavor of food. Excessive salt consumption, however, may pose various health risks such as hypertension.

A flavorful, savory miso soup can be made by balancing the amount of dashi (a Japanese soup stock) and the amount of miso. The proper balance reduces the need to add more miso thus reducing salt in the final dish.

Whether for your family, guests, or customers, promoting a healthy low-sodium lifestyle is simply a few drops away with the PAL-SALT.
“I have never used a salt meter.”
A wide variety and price range of salt meters are available online.
ATAGO is your dietary salt reduction partner.
Learn how the PAL-SALT is unlike any other salt meters on the market.

“I have used/am currently using a salt meter.”
Users of conventional salt meters are often concerned with the durability of the instruments as well as the repeatability and accuracy of the readings.
ATAGO’s PAL-SALT was developed to satisfy the demand for a reliable product.

Why choose ATAGO?

Longevity
“My salt meter broke after a short while.”
Conventional gold-plated electrodes may be scratched/worn off over time, which causes erroneous readings.
The electrode of the PAL-SALT is made of titanium, which is more resistant than gold.
Equipped with the full-body water resistance, it can withstand harsh environments, such as an industrial kitchen.
ATAGO’s resolve to create an instrument distinguished from other flimsy, practically disposable salt meters on the market has been realized.
Whenever you have questions or problems, our technical support services team will be happy to assist you.

Reliability
“The readings fluctuate with hot, oily soups.”
At first glance, dip-type salt meters may seem easy to use. However, users of those dip-type salt meters are often unhappy with inaccurate readings caused by unreliable temperature compensation.
On the other hand, the PAL-SALT has a basin-shaped sensor on which food samples are placed.
It will provide reliable readings for any sample including hot, oily soups.

Calibration
“I am not sure if my salt meter is measuring accurately.”
Calibration is the inspection of an instrument to make sure that it is performing as it should.
Is your salt meter calibratable? The PAL-SALT is. When the readings seem to be off, it can be checked and corrected for any errors by you.
ATAGO is also a JCSS-approved manufacturer and provides full calibration services.
From manufacturing to sales and support, ATAGO has been and will continue walking side by side with our customers.

Measurement Method
Depending on the type of sample (food to be measured), different preparation may be required.

Liquids that are drinkable as is
Thin and watery liquids, such as broth, can be measured by placing a few drops directly on the sensor and pressing START.

Thick liquids, pastes
Soups, sauce bases, gravies need to be diluted to 10%. If it is not drinkable as is (anything above 6% Brix with a temperature of 10°C), it should be diluted 10% of the solution so that the salt content falls within the measurement range.

Salty foods (above 10% salt)
Products that contain more than 10% salt, such as pickles, brine, need to be diluted. For example, the 10% dilution of a 12% salt brine will measure 1.2%, and the 20% dilution will measure 0.6%.
Adjust the dilution factor so that the salinity falls within the measurement range.

Solid foods
Solid foods such as bacon, dried foods, fish, and potato chips need to be reconstituted, ground, or crushed, diluted with water (1:10 dilution). For a general guideline, add at least a few minutes (at least six minutes) to allow the salt to leach out of the food. Depending on the density of the sample, whether or not the salt is easily dissolved in the water, the salt concentration of this food, the soaking or crushing method, or the solid sample is mixed with the water, the time needed for the salt to leach out into the water will vary. Set a soaking period on which each product that allows the salt to be thoroughly drawn out.

Preparing Solid Foods
Various by types
Crushing
Grinders and chips are best crushed up.
Dicing
Bread, nuts, and pickles are best chopped up.

Making a 10% Dilution
Always measure your food and water by weight.

1. Weigh the food.
Place approximately 10g of food in a container on a scale.

2. Dilute.
Add water until the total weight is 10 times the amount of food.

3. Stir.
Mix well.

Salts that are drinkable as is
Thin and watery liquids, such as broth, can be measured by placing a few drops directly on the sensor and pressing START.

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Calculating Salt Content from Nutrition Label
The sodium (Na) content is indicated on most packaged food products. Calculate the salt (NaCl) content by the following formula:
NaCl (g) = Na (mg) × 2.54 / 1000

Chloride Titration (Mohr Method)
Titration with silver nitrate measures chloride concentrations. The PAL-SALT uses conductivity. Both methods measure the salt %, but the measurement principles are different, and therefore, the readings may not always match.

Simple 3-second Measurement

“Pocket” Salt Meter
Cat.No.4250

Preliminary Measurement

Preparing Solid Foods

Calculation of Salt Concentration

Chloride Titration (Mohr Method)

Sodium Chloride (NaCl)

Sodium Iodide (NaI)

Chloride Ion (Cl–)

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Sodium Chloride (NaCl)

Sodium Iodide (NaI)

Chloride Ion (Cl–)