

PAL™ -SALT/ES-421™

Eco-friendly and Cost-effective Salinity Measurement.

Digital Hand-held "Pocket" Salt Meters

PAL™ -SALT

Cat.No.4250

PAL™ -SALT Mohr

Cat.No.4251

Why choose ATAGO Salt meter ?

- **Fast** - Results are displayed within 3 seconds.
- **Easy measurement** - Just press the START key.
- **Easy calibration**
 - Clean the sensor and press the ZERO key.
- **Digital display**
 - No more varied readings caused by user interpretation.
- **Automatic Temperature Compensation**
 - Reliable for any samples, hot or cold.



IP65 Water resistant
The whole unit can be cleaned under running water.



The PAL™ -SALT Pocket Salt Meter is versatile with a wide range of 0.00 to 10.00%. The resolution is 0.01% up to 2.99% concentration. It is ATAGO's first salt meter to come with the offset feature*.

PAL™ -SALT Mohr gives a reading similar to those obtained from the Mohr's method (titration). Like other ATAGO salt meters, PAL™ -SALT Mohr utilizes conductivity to measure samples. This unit also features an offset function which allows for readings to be compensated based on known standards. Additionally, when measuring a sample that has been diluted by 10 (ex. 10 grams of sample mixed with 90 grams of water), the salt concentration displayed will represent salt content before dilution.

*Offset feature use examples

- #1. Program a dilution factor to automatically display the salt concentration of the original sample.
- #2. Program a conversion factor to align the readings with titration methods.

Measurement Method



Apply 2 to 3 drops onto the sensor section.



Press the START key.



Measurement value is displayed in 3 seconds.

Measurement method	Conductivity method
Measurement range	PAL™ -SALT: 0.00 to 10.0% (g/100g) of salt concentration PAL™ -SALT Mohr: 0.00 to 10.0% (g/100mL) of salt concentration 5.0 to 100°C
Resolution	0.01% (0.00 to 2.99%) 0.1% (3.0 to 10.0%) 0.1°C
Measurement accuracy	Displayed value ±0.05% (0.00 to 0.99%) Relative precision ±5% (1.00 to 10.0%) ±1°C
Sample temperature	5 to 100°C
Sample volume	At least 0.6mL
Measurement time	Approx. 3 seconds
Power supply	2xAAA alkaline batteries
Offset feature	Yes
International protection class	IP65 Water resistant
Dimensions and weight	5.5x3.1x10.9cm, 100g (main unit only)

Digital Salt Meters (Conductivity Method)

ES-421™

Cat.No.4211

The ES-421™ is compact, yet feels substantial and secure on the desk. It serves as a perfect complement to conventional titration methods, reducing reagent costs and contamination risk.



Measurement method	Conductivity method
Measurement range	0.00 to 10.0% (g/100g) of salt concentration
Resolution	0.01% (0.00 to 2.99%), 0.1% (3.0 to 10.0%)
Measurement accuracy	Displayed value $\pm 0.05\%$ (0.00 to 0.99%) Relative precision $\pm 5\%$ (1.00 to 10.0%)
Power supply	006P alkaline battery (9V)
International protection class	IP64 Water resistant
Dimensions and weight	17x9x4cm, 210g (main unit only)

Fish Fillet Salinity Meter / Digital Hand-held "Pocket" Salt-Meter

PAL™ -Fish Fillets

Cat.No.4225

PAL™ -SALT PROBE

Cat.No.4222

PAL-FM1 has been renewed and released as a new version, PAL-Fish Fillets - ideal for measuring both dried fish and raw fillets! It is now possible to measure closer to titration values and more precisely with a minimum error of 0.0%*! Insert the probe into the fillet and in just 3 seconds receive a value that is close to titration.



PAL™-Fish Fillets

The PAL™ -SALT PROBE features convenient operation of submerging the probe in a liquid for measuring the salt content in as fast as 3 seconds. The probe may be inserted directly into semi-solid food. However, measurements at different locations may be inconsistent, and such direct measurements may vary from measurements by dilution methods.



PAL™-SALT PROBE

	PAL™ -Fish Fillets	Cat.No.4225	PAL™ -SALT PROBE	Cat.No.4222
Measurement method	Conductivity method			
Measurement range	0.0 to 10.0% of salt concentration - Scale for open and salted products -		0.00 to 7.0% (g/100g) of salt concentration	
Resolution	0.1%		0.01% (0.00 to 1.99%), 0.1% (2.0 to 7.0%)	
Measurement accuracy	±0.1%(0.0 to 3.9%) Relative Precision ±5%(4.0 to 10.0%) * In the case of saline solution		±0.1% (0.00 to 2.0%) Relative precision ±5% (2.1 to 5.0%) Relative precision ±10% (5.1 to 7.0%)	
Power supply	2×AAA alkaline batteries			
International protection class	IP65 Water resistant			
Dimensions and weight	Main unit : 5.5× 3.1 × 10.9cm, 100g Electrode probe : Φ 1 × 57cm (Cable length : approx.40cm)			

Salinity of Food Samples

% (g/100g)



Soup stock, Brine

Miso soup	0.9	Soup stock	1.9
Vegetable cooking water	1.0	Brine	2.9
Pasta cooking water	1.0	Ayran	4.9

Sauces

Gravy	0.8	Sushi vinegar	5.2
White sauce	0.9	Noodle dipping sauce	5.8
Demi-glace	1.1	Soy sauce dressing	6.1
Pasta sauce	1.2	Kimchi paste	6.1
Tomato puree	1.7	Habanero sauce	6.8
Dressing	1.7	Brood bean butter	7.0
Taco sauce	2.0	Oyster sauce	9.4
Steak sauce	2.0	Bean paste	11.0
Ketchup	3.0	Soy sauce	13.0
Savory pancake sauce	4.5	Fish sauce	21.0

Soups

Soup base for hot pot	0.8	Noodle soup	1.4
Minestrone soup	1.2	Tom yam kung	1.5
Potage	1.2	Curry	1.6

Butter, Cheese

Butter	0.1	Emmental	1.1
Mozzarella	0.7	Brie	1.8
Gouda	0.9	Gorgonzola	3.6

Meats

Sausage	0.8	Sardine	1.0
Ham	1.1	Salmon	2.4
Salami	1.6	Salmon roe	2.8
Bacon	1.7	Salted fish viscera	3.2
Prosciutto	3.2	Anchovy	10.0

Fish

Pickles

Pickle	1.7	Olive	2.8
Sauerkraut	2.1	Pickled radish	3.6
Kimchi	2.2	Preserved vegetable	14.3

Snacks

Chips	1.4	Crackers	2.3
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