



SAT-500

SALT ANALYZER

Quick, Easy,
Extremely
accurate



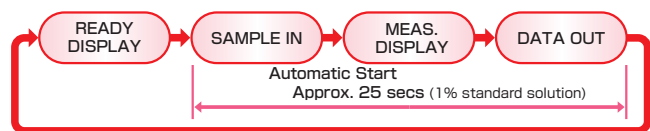
**Expert salinity measurement for
quality control on food production lines**

The Model SAT-500 provides easy measurement of salinity (chloride concentration) by simply dispensing a small amount of the sample solution using a dispenser. In addition, the measurement is quick, with the time from the start of measurement to data output within about 25 seconds. It is equipped with a variety of functions suitable for use in a wide range of applications, such as quality control in food processing, as well as labor saving, time reduction, and high reliability in HACCP.

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SAT-500 SALT ANALYZER

Measurement Procedure



Features

● Simple operation

The basic measurement operation is to inject a sample (solution) into the electrolyte (dedicated cell) using the dispenser.

● Quick measurement

Measurement and data output are completed in about 25 seconds for 1% standard solutions.

● Extremely accurate measurement

Using the 20 μL dispenser, a measurement with less than 0.5% in C.V. is possible for 1% NaCl standard solution.

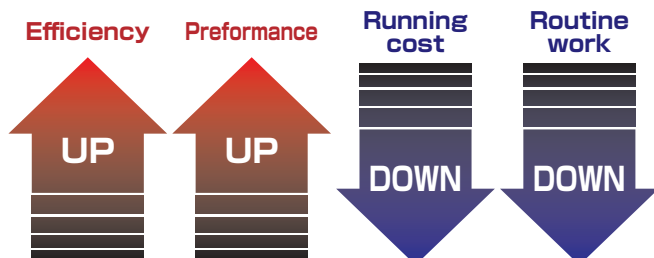
● Same electrolyte (dedicated beaker) can be used continuously

The same electrolyte can be used for continuous measurement; more than 100 measurements for 1% NaCl (when using a 20 μL dispenser) or about 50 measurements for soy sauce (when using a 2 μL dispenser).

● Save running cost and minimize routine set-up work

The same electrolyte can be used for continuous measurement. The same solution can be used for more than 100 measurements of 1% standard solution or 50 measurements of high concentration samples.

This reduces running costs and minimizes routine set-up work.



Expansion



SAT-500



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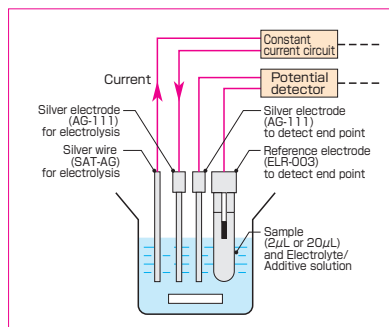
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Principle of Measurement

The model SAT-500 measures the chloride content to obtain salinity based on coulometric titration method (end point is detected by potential difference). When an electric current passes between the silver wire (SAT-AG) and the silver electrode (AG-111), white deposits are formed from the dissolved silver ions and the chloride present in the sample: $\text{Ag}^+ + \text{Cl}^- \rightarrow \text{AgCl} \downarrow$

Therefore, the chloride content in the sample can be determined from the electric charge (current x time) required until all of the chloride in the sample has been depleted by electrolysis.



Since the model SAT-500 uses a highly stable constant current for electrolysis, the electric charge is proportional to time, enabling it to obtain the chloride content by measuring the time needed for electrolysis. In addition, the end point is detected by sensitive calculation of the time when chloride ions disappear and surplus silver ions start to appear using the silver electrode (AG-111) and reference electrode (ELR-003).

Specifications

Measuring Method	Coulometric titration method (end point is detected by potential difference).
Display	Graphic LCD panel (320 x 240 pixels) with back light. English/Japanese language is selectable.
Sample Injection Volume	2, 20, 200 μL or OTHER (1 to 9999 μL)
Measuring Ranges (displayed by %)	2 μL dispenser, 0.00 to 49.99% lower detection limit 2.0% 20 μL dispenser, 0.000 to 4.999% lower detection limit 0.2% 200 μL dispenser, 0.0000 to 0.4999% lower detection limit 0.02% OTHER disp. vol., 0.0000 to 99.99% (depends on calibration solution concentration)
Concentration Conversion	NaCl/Cl ⁻ switching
Concentration Units	% (W/W), % (W/W), mg/L, mol/L
Repeatability	0.5% or less in C.V. value at 1% of NaCl standard solution with 20 μL micro dispenser
Calibration	Automatic single point calibration using NaCl standard solution with a concentration corresponding to the injection volume.
Measurement Start	Automatic start on detection of potential change or manual start by pressing START key.
Printer	Built-in thermal printer
Data Memory	300 data points (with backup)
Output	RS-232C (Can be connected to a PC or external printer)
Operating Temperature Range	10 to 35 $^{\circ}\text{C}$ (avoid sudden temperature changes)
Power Source	AC100 to 240V, 50/60Hz
Power Consumption	Approx. 20VA (maximum)
Dimensions, Weight	Main; Approx. 190(W) x 192(H) x 385(D)mm, Approx. 3.3 kg Meas. Section; Approx. 110(W) x 370(H) x 220(D) mm, Approx. 1.1 kg

Standard accessories

Product name	Model	Qty	Product name	Model	Qty
Stirrer ASSY	6877950K	1 pc	Beaker 20mL for SAT	SAT-B20	1 pc
Electrode holder ASSY	6877940K	1 pc	Stirrer	SAT-SB	2 pcs
Silver electrode	AG-111	2 pcs	Printer paper (5 rolls)	PAP-HCS	1 pack
Silver wire for SAT	SAT-AG	1 pc	Power code	118C025	1 pc
Reference electrode	ELR-003	1 pc	2P Conversion adapter	102A991	1 pc
Electrolyte SAT-1F1 500mL	143A373	1 bottle	Ground wire	6545820K	1 pc
Additive solution SAT-1G1 50mL	143A374	1 bottle	Instruction manual	145A474	1 book
Abrasive solution SAT-1Z1 50mL	143A376	1 bottle	Simple instruction manual	145A475	1 book
Reference electrode inner solution SAT-1E1 100mL	143A375	1 bottle	Micro dispenser *1 *2	(To be specified)	1 pc
			NaCl Standard solution *3		1 bottle

*1 List our company's model for BRAND dispensers.

*2 Only one set of micro-dispensers is included as part of standard accessories.

Please specify from 2 μL (7776230K), 20 μL (7776240K), 200 μL (7776250K).

*3 Please specify either 10% NaCl standard solution SAT-1A1 (143A371) or 1% NaCl standard solution SAT-1A2 (143A372).

Options

●Data compilation software	G-LOG2	●RS-232C Cable (2m)	OGC00002
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Micro Dispenser Components^{*4}

●For 2 μL	: Glass tube (100 pcs) 7776260K, Parts kit for replacement 7776290K
●For 20 μL	: Glass tube (100 pcs) 7776270K, Parts kit for replacement 7776300K
●For 200 μL	: Glass tube (50 pcs) 7776280K, Parts kit for replacement 7776310K

*Parts breakdown for replacement : Hexagon bar wrench 1 pc, Screwdriver 1 pc, Calibration gauge 1 pc, Plunger rod 1 pc, Plunger seal 3 pcs (for 20 μL /200 μL only), Clamp ring 3 pcs, Attachment block 1 pc (for 20 μL /200 μL only), Slotted head screw 1 pc

*4 Not compatible with Drummond micro dispensers (OSZ00018, OSZ00021, OSZ00024).



CAUTION

Please read the operation manual carefully before using products.