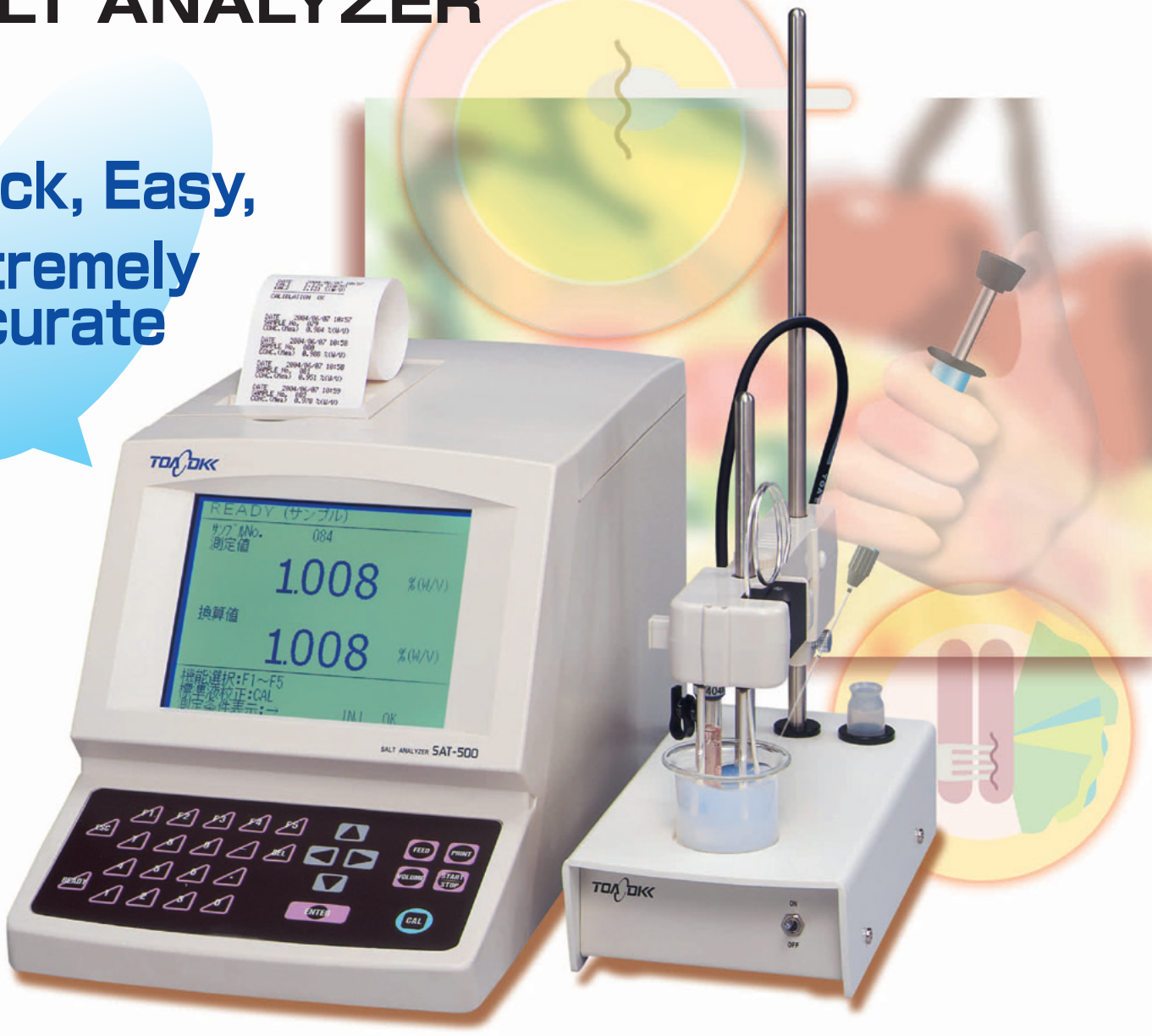
SAT-500
SALT ANALYZER

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.

DKK-TOA CORPORATION

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

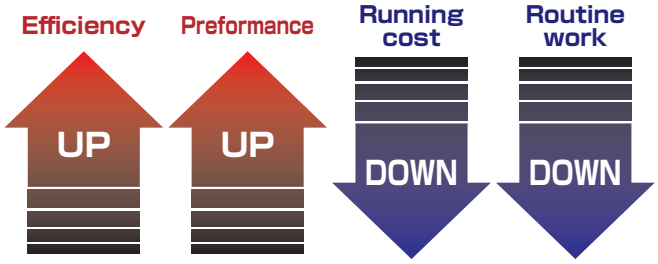
Using the 20 μL dispenser, a measurement with less than 0.5% in C.V. is possible for 1% NaCl standard solution.

●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).

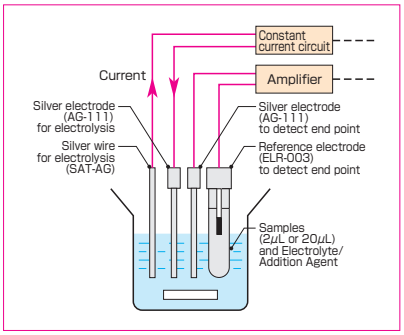
●Save running cost and minimize routine set-up work

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.



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: $Ag^+ + Cl^- \rightarrow AgCl\downarrow$
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. Selectable English/ Japanese language menus.
Sample Injection Volume:	2, 20, 200μL or OTHER (1 ~ 9999μL)
Measuring Ranges (displayed by %)	2μLdispenser, 0.00 ~ 49.99% lower detection limit 2.0% 20μL dispenser, 0.000 ~ 4.999% lower detection limit 0.2% 200μL dispenser, 0.0000 ~ 0.4999% lower detection limit 0.02% OTHER disp. vol., 0.0000 ~ 99.99% (depends on calibration solution concentration)
Concentration Conversion	$NaCl/Cl^-$ switching
Concentration Units	% (W/V), % (W/W), mg/L, mol/L
Repeatability	0.5% or less in C.V. value at 1% of NaCl standard solution with 20μL dispenser
Calibration	Automatic single point calibration using NaCl standard solution at the concentration for the injection volume
Measurement Start	Automatic start on detection of potential change or manual start by pressing START key.
Printer	Built-in thermal printer
Printer Data Memory	300 data points (with backup)
Output	RS-232C (for PC or external printer)
Ambient Temperature	10 ~ 35° C (avoid sudden temperature changes)
Power Source	100 ~ 240VAC, 50/60Hz
Power Consumption	Approx. 20VA (maximum)
Dimensions, Weight	Main; 190(W) × 192(H) × 385(D)mm, Approx. 3.3 kg Meas. Section; 110(W) × 370(H) × 220(D) mm, Approx. 1.1 kg

Standard accessories

Product name	Model	Qty
Stirrer ASSY	6877950K	1
Electrode holder ASSY	6877940K	1
Silver electrode	AG-111	2
Silver wire for SAT	SAT-AG	1
Reference electrode	ELR-003	1
Electrolyte for Salt Analyzer SAT-1F1 500mL	143A373	1
Addition Agent for Salt Analyzer SAT-1G1 50mL	143A374	1
Abrasive Solution for Salt Analyzer SAT-1Z1 50mL	143A376	1
Reference Electrode Inner Solution for Salt Analyzer SAT-1E1 100mL	143A375	1

Product name	Model	Qty
Beaker for SAT 20mL, SAT-B20	SAT-B20	2
Stirrer (two), SAT-SB	SAT-SB	2
Printer paper (2 rolls) ※1	—	1
Power code	118C025	1
2P Conversion adapter	102A991	1
Earth lead	6545820K	1
Instruction manual	145A474	1
Simple instruction manual	145A475	1
Micro dispenser ※2	(specify conc.) (required	1
Standard Solution for Salt Analyzer ※3		1

※1) When ordering additional printer paper, please order 5 rolls (PAP-HCS).
※2) Only one set of micro-dispensers is included as part of standard accessories.
Please select from 2μL (0SZ00018), 20μL(0SZ00021), 200μL(0SZ00024).
※3) When ordering, please select from 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)	0GC00002

Micro Dispenser Components

●For 2μL : Glass tube (100 pcs) 0SZ00019, Parts kit for replacement 0SZ00020
●For 20μL : Glass tube (100 pcs) 0SZ00022, Parts kit for replacement 0SZ00023
●For 200μL : Glass tube (100 pcs) 0SZ00025, Parts kit for replacement 0SZ00026

＊Breakdown of parts
1 stainless steel piston rod, 2 O-rings, 1 knob ring, 1 coil spring, 1 barrel tube, 3 Teflon chips (for 200 μL only)

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⚠ CAUTION Please read the operation manual carefully before using products.