

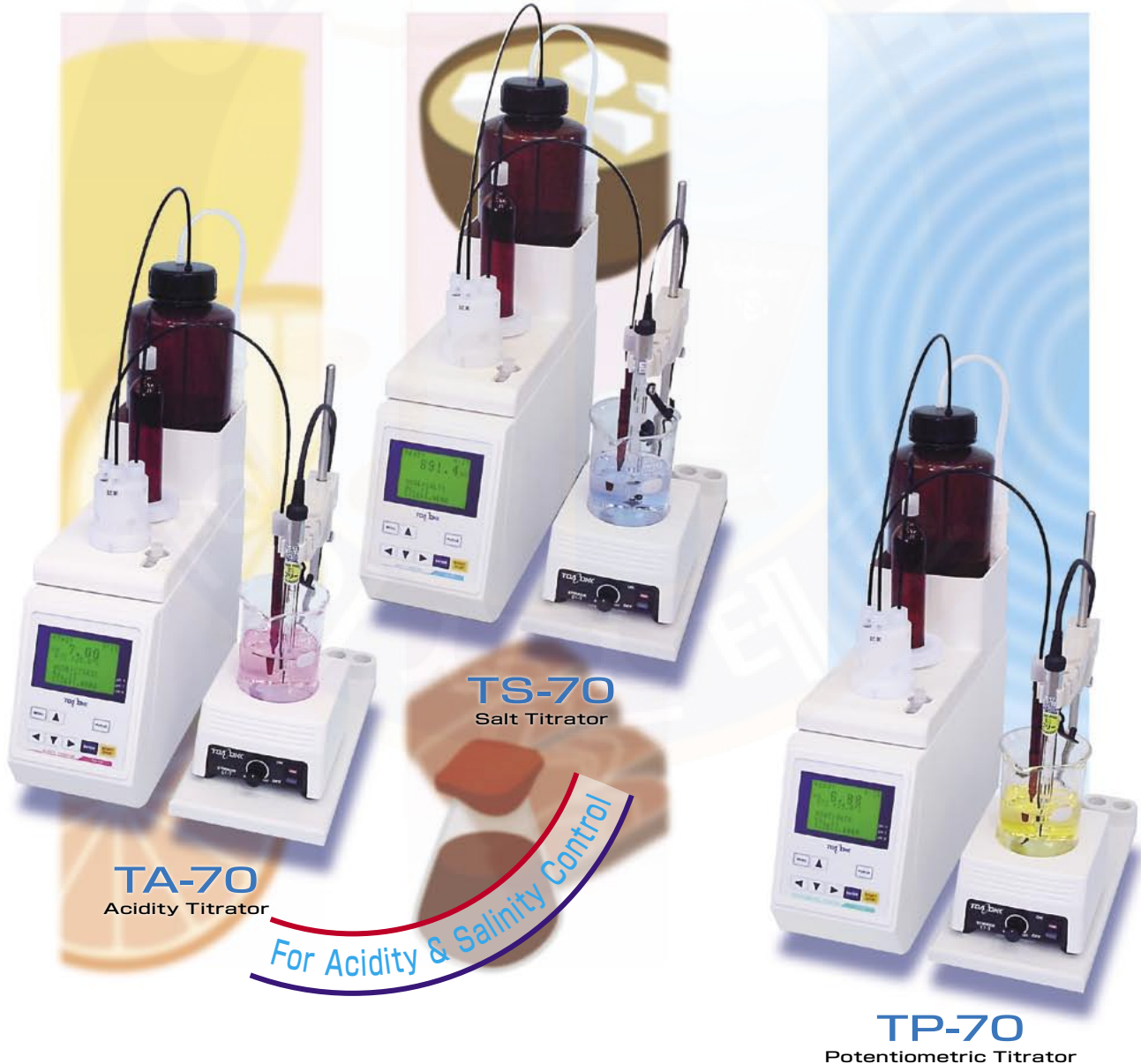
**TA-70** Acidity Titrator

**TS-70** Salt Titrator

**TP-70** Potentiometric Titrator

Easy to Use  
&  
Affordable

Three Single Purpose Models



# Easy to Use & Affordable

For Routine Analysis



**TA-70**  
Acidity Titrator



**TS-70**  
Salt Titrator



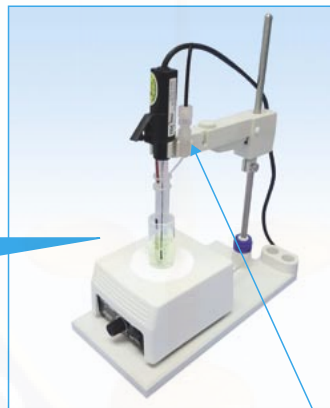
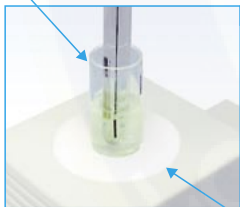
**TP-70**  
Potentiometric Titrator

## Micro Volume Titration Kit (option)

Micro volume titration kit combined with a pH electrode for micro solutions.

This kit features low sample volume consumption and reduced waste water. (Not available for some applications.)

Titration cell



Adaptor

Titration nozzle

Minimum volume : approx. 10 mL  
Maximum volume : approx. 20 mL

The kit consists of the following items :

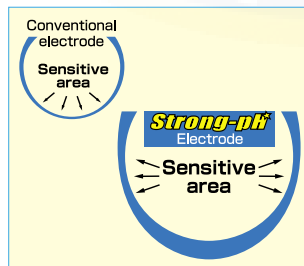
Adaptor, Titration nozzle, Titration cell (50 pcs.),  
O-ring P-5 (2 pcs.), O-ring P12 (2 pcs.) , Stirring bar (2 pcs.)

## Care-free Operation with Durable Glass Electrode

Strong & Float-pH electrodes

**Strong** : Tip part is reinforced.  
(more than ten times tougher than our conventional one)

**Float** : Built-in float enables recognition of inner solution concentration at a glance.



## System Expandability for Enhanced Efficiency

Multi sample titration system is available by connecting Turntable TTT-510

## Analysis Data Storage

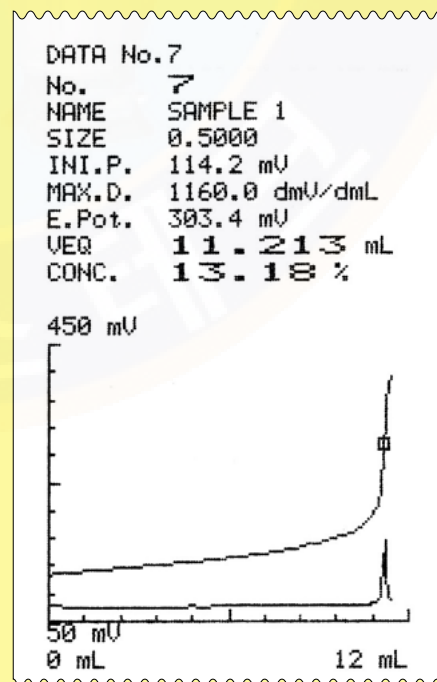
Re-analysis available for 100 data sets

## Fast Titration Mode

Reduced titration time available  
(Not available for some applications.)

## External Printer Available

### Print Sample (TS-70)



Printing items can be set.

■ Automated Continuous Multiple Sample Measurement Capability

Turntable TTT-510

- Chemical resistant cleaning reservoir
- Various electrode cleaning methods

※ Optional air pump, reagent pump and others are required for above cleaning methods (except for pure water shower).

- Electrode holding tank available for overnight operation  
After the final measurement, the electrode is stored in a storage tank filled with pure water, so there are no concerns that the electrode will dry out.



Specifications

Display unit	LCD display
Operating keys/switch	Flat keyboard
Number of samples / Beakers used	12 samples 200 mL, 300mL tall beaker 18 samples 100 mL tall beaker (manufacturer's designation) 36 samples 30 mL, 50 mL tall beaker (manufacturer's designation) 60 samples/(100 samples) 20 mL cell (manufacturer's designation)
Cleaning mode	① Pure water shower → Air blow ② Pure water bubbling → Pure water shower → Air blow ③ Liquid chemical shower → Pure water shower → Air blow ④ Liquid chemical bubbling → Pure water shower → Air blow ⑤ Liquid chemical bubbling → Pure water bubbling → Pure water shower → Air blow ⑥ Liquid chemical bubbling → Liquid chemical shower → Air blow ⑦ Liquid chemical shower → Air blow ⑧ Liquid chemical bubbling → Pure water bubbling → Liquid chemical shower → Air blow Note: · Air blow cleaning is effective when the optional air pump is attached. · Liquid chemical cleaning is effective when the optional liquid chemical pump is attached. · Bubbling is effective when the optional bubbling pump and the waste water valve are attached.
Cleaning time	1-9,999 seconds (setting available)
Air blow frequency	1-9 times (setting available)
End detection	Using end pin or setting final sample number by key operation
Cleaning tank material	Teflon, Daiflon
Electrode storage tank	Standard
Stirring time before measurement	0-9,999 seconds
Waiting time before measurement	0-9,999 seconds
Alarm	Cleaning water 1 (Pure water) Empty, Cleaning water 2 (Chemical) Empty, Waste water Full
Ambient temperature	5-40°C
Power source	AC100V-240V 50/60Hz
Power consumption	Max. approx. 55VA (without optional pump & valve) Max. approx. 175VA (with optional pump & valve)
External dimensions	Main unit : Approx. W380 mm × H392 mm × D622 mm Maximum size when operating : Approx. W415 mm (with table plate) × H518 mm × D622 mm
Weight	Approx. 18 kg (Not including table and electrodes)

Standard Accessories

Table (Designated for 12, 18, 36 and 60 samples)
Electrode holder (Designated samples / use)
Pure water tank (10 L, with float switch)
Waste water tank (10 L, with float switch)
Pure water tube
Waste water tube
End pin
Polyethylene Beaker (200 mL)
Instruction Manual

\*The attachment cable for the titrator is sold separately based on the model designation.

Options

Description	Code
Connection cable (2 m)	7075670K
Air pump	P000023
Liquid chemical pump	P000022
Bubbling pump	OFA00001
Waste water valve (pinch valve)	OQA00001
Waste water valve (solenoid valve)	OQA00002

■ Data Management PC Software

Data Collection Software G-LOG2

Capable of importing data\* to PC in the CSV format using RS-232

※ Only calculated results

■ For Printing Titration Results

External printer with connecting cable  
EPS-R



■ Titration purpose and main electrodes

Purpose	Description	Code	Remarks
Neutralization titration	pH combined electrode (general purpose) <i>Strong-pH</i>	GST-5731C	One of standard accessories of TA-70 Acidity titrator
	pH combined electrode (precision measurement) <i>Strong-pH</i>	ELP-035	
Redox titration	ORP combined electrode (general purpose)	PS-5111C	
Salinity titration	Silver combined electrode (general purpose)	ELX-006	One of standard accessories of TS-70 Salinity titrator, junction is replaceable
Non-aqueous titration	Glass electrode (general purpose)	HGS-2005	Optional electrode adapter (OJD00001) and electrode holder (S-HLD-S) will be required
	Reference electrode (double junction)	HS-305DS	

■ Other Parts

Description	Code	Remarks
Micro volume titration kit	7075600K	Contents : Adaptor, Titration nozzle, Titration cell (50 pcs.), O-ring P-5 (2 pcs.), O-ring P12 (2 pcs.), Stirring bar (2 pcs.)
Electrode adapter	OJD00001	Required for using glass electrodes and reference electrodes
Electrode holder	S-HLD-S	
Turntable connection cable (2m)	7075670K	For TTT-510 connection
RS-232 cable (2m)	118B604	For PC connection (D-sub, 9p for PC connection)

# Specifications

## Standard Configuration/Titrator + Magnetic Stirrer ST-7

### Titrator Specifications

Description	Acidity Titrator TA-70	Salinity Titrator TS-70	Potentiometric Titrator TP-70
Display	LCD with back light		
Titration method	Potentiometric titration		
Number of titration steps	Single step		
Titration mode	①citric acid, ②tartaric acid ③acetic acid, ④malic acid ⑤lactic acid, ⑥factor mode ⑦blank mode	①salinity-1 ②salinity-2 ③factor mode ④blank mode	①inflection point detection ②set point titration mode ③pH adjustment mode
Measuring item/ range	pH : 0.00-14.00 mV : 0.0+/-2,000.0mV Temperature : 0.0-100.0°C Acidity : 0-100%	mV : 0.0+/-2,000.0mV Salinity : 0-100% (as NaCl)	pH : 0.00-14.00 mV : 0.0+/-2,000.0mV Temperature : 0.0-100.0°C Conc., factor : depends on unit setting
Unit	%, mL	%, mL	%, mg/L, g/L, mL Factor (W), Factor (V), Blank
Resolution	pH : 0.01pH mV : 0.1mV Temperature : 0.1°C Acidity : 0.001%	mV : 0.1mV Salinity : 0.001%	pH : 0.01pH mV : 0.1mV Temperature : 0.1°C Conc. : 0.001%
Number of electrode inputs	1		
Data memory	100 sets (re-analysis available)		
Printer	External printer EPS-R (option)		
Printing items	Date, time, titration mode, titration condition, sample No., sample name, sample quantity, initial potential, equivalent potential, titer, concentration, graph		
Communication	2 RS-232 ports For PC, external printer EPS-R and Turntable TTT-510 (software version 1.05 required)		
Syringe	Fine inner grinding position type 20mL brown glass syringe		
Burette accuracy	Whole volume error : +/-0.1% Repeatability : +/-0.01mL		
Using tube	ID 2mm x OD 3mm black Teflon tube		
Wetted materials	Teflon, Daiflon, hard glass		
Minimum dropping volume	0.01mL		
Ambient temp. & RH	5-35°C, 85% or less (without condensation)		
Power source	AC100V-240V 50/60Hz		
Power consumption	Approx. 33VA		
Dimensions & weight	Approx. W110 x H396 x D346 mm, Approx. 5.6 kg		

Standard Accessories	pH electrode GST-5731C pH4.01 standard solution, 500mL 143F191 pH6.86 standard solution, 500mL 143F192 3.3mol/L-KCl solution, 50mL Electrode attachment (J) 01B00005 Electrode attachment (N) 01B00008	Silver combined electrode ELX-006 3.3mol/L-KCl solution, 50mL Outer solution of reference electrode RE-2 (100mL) 143F238 Electrode attachment (J) 01B00005 Electrode attachment (N) 01B00008	Electrode attachment (G) 01B00004 Electrode attachment (J) 01B00005 Electrode attachment (N) 01B00008
	Magnetic stirrer ST-7 Electrode holder 01B00001 Electrode stand w/ stopper 6948810K Unit plate (for 1-20mL syringe) 7075610K Reagent bottle w/1L translucent brown plastic bottle 7075630K	Carbon dioxide adsorbent w/ tube 7075640K 20mL brown syringe AUT-045 Syringe attachment AUT-066P Degassing nozzle (for 1-20mL syringe) P000070 Nozzle cleaning attachment AUT-067P Teflon tube, black, 2m AUT-022P	Nozzle purge tube P000108 Pinstruction manual

### Specifications of Magnetic Stirrer ST-7

Usable beaker	Up to 200mL beaker
External connection terminal	Power for overhead rod type stirrer
Power source	AC line 50/60Hz
Power consumption	Approx. 5VA
Dimensions & weight	Approx. W110 x H73 x D135 mm, Approx. 0.8 kg
Standard Accessories	Stirring bar (φ8 X 25mm) 107D039

DKK-TOA CORPORATION

