

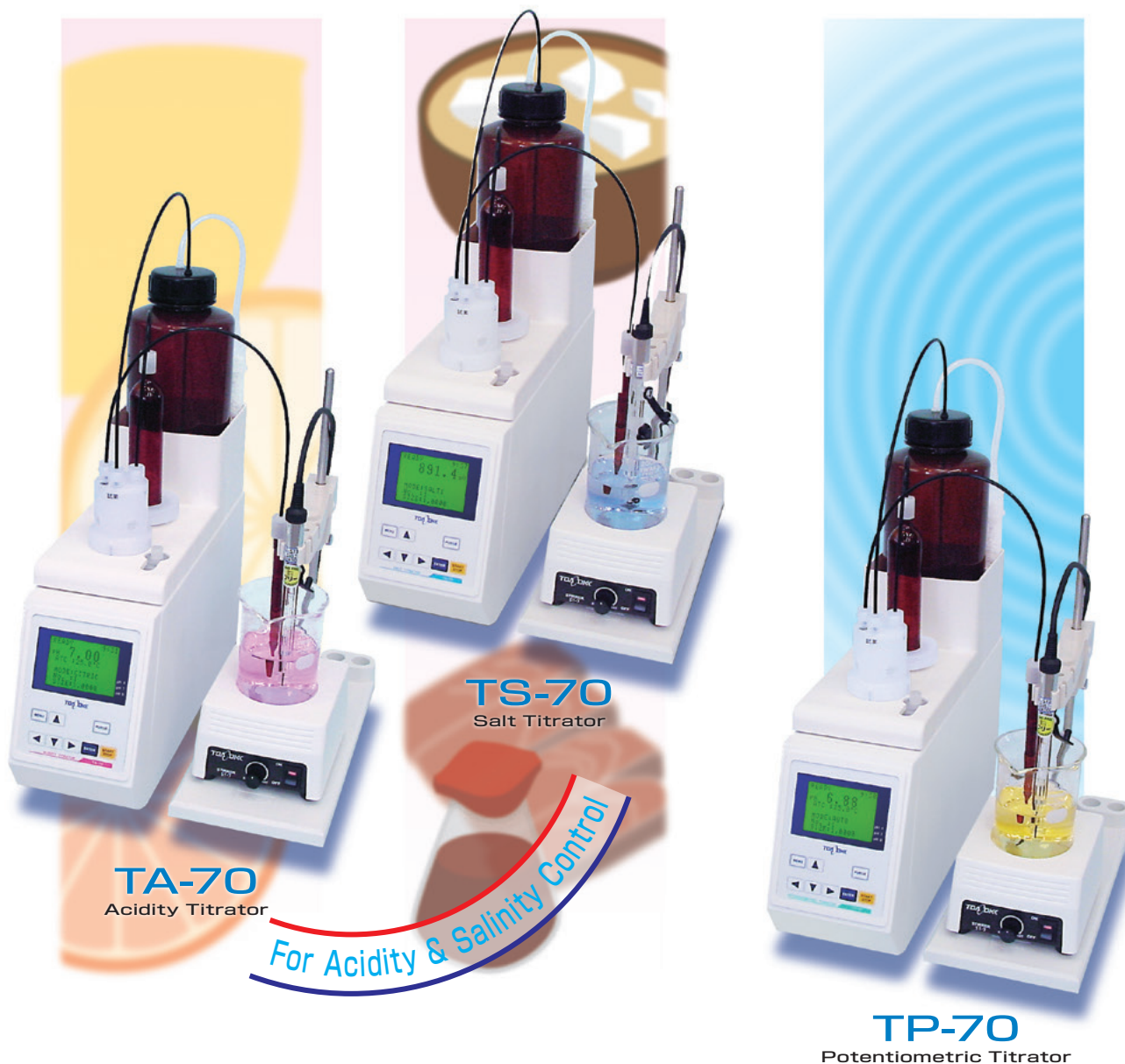
TA-70 Acidity Titrator

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



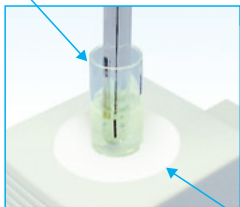
TP-70
Potentiometric Titrator

Micro Volume Titration Kit (option)

Micro volume titration kit combined with 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 :

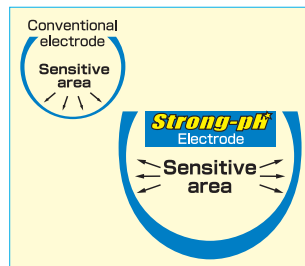
Adaptor, Titration nozzle, Titration cell (50 pcs.),
O-ring P5 (2 pcs.), O-ring P12 (2 pcs.) , Stirring bar (2 pcs.)

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-710)

Analysis Data Storage

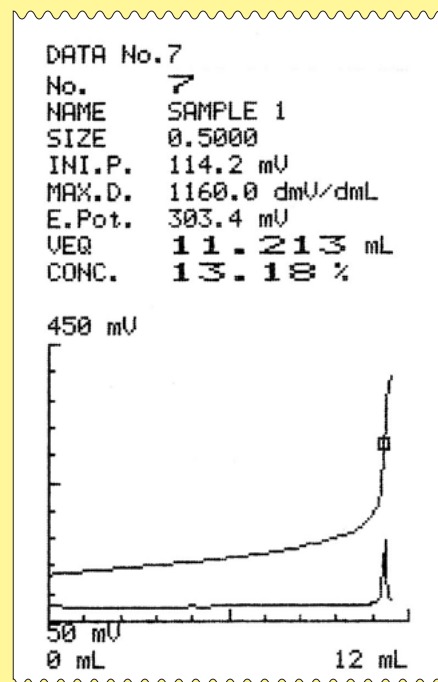
Re-analysis available for 100 data sets

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-710

Easy maintenance

Electrode cleaning tank and electrode storage tank are placed on the front of the unit.

This enables easy maintenance of tubes, electrodes, etc.

Wide-range of electrode cleaning modes available

Pure water shower cleaning comes as a standard feature. Chemical cleaning, bubbling cleaning, and air blow modes are also available as optional features.



Specifications

Display	LCD	
Number of samples/ Beakers used	12 samples	200mL beaker, 300mL tall beaker (Our recommendation: Glass beakers manufactured by AGC TECHNO GLASS CO., LTD. or HARIO CO., LTD.)
	18 samples	100mL tall beaker (Our recommendation: Glass beakers manufactured by AGC TECHNO GLASS CO., LTD. or HARIO CO., LTD.)
	36 samples	30mL beaker, 50mL tall beaker (Our recommendation: Glass beakers manufactured by AGC TECHNO GLASS CO., LTD.)
	60 samples	20mL dedicated beaker (H-20 beaker manufactured by NICHIDEN RIKA-GLASS CO., LTD.)
	100 samples	20mL dedicated beaker (H-20 beaker manufactured by NICHIDEN RIKA-GLASS CO., LTD.)
Stirring method	Standard: Magnetic stirring Option: Propeller stirring	
Cleaning mode*	(1) Pure water shower → Air blow (2) Pure water bubbling → Pure water shower → Air blow (3) Chemical shower → Pure water shower → Air blow (4) Chemical bubbling → Pure water shower → Air blow (5) Chemical bubbling → Pure water bubbling → Pure water shower → Air blow (6) Chemical bubbling → Chemical shower → Air blow (7) Chemical shower → Air blow (8) Chemical bubbling → Pure water bubbling → Chemical shower → Air blow Note: · Air blow cleaning is available when the optional air pump box is installed. · Chemical cleaning is available when the optional external control box and chemical pump are installed. · Bubbling cleaning is available when the optional air pump box and waste water valve are installed.	
Cleaning time	0-9999 seconds	
Detection of final sample	Possible by using end detection pin or defining the final sample number by key operation	
Cleaning tank material	Polypropylene	
Performance-guaranteed temperature	5-40°C	
Power requirements	100-240VAC, 50/60Hz	

Power consumption	Standard	When 100VAC is applied: Approx. 60VA at the maximum When 240VAC is applied: Approx. 90VA at the maximum
	When optional product is connected	When 100VAC is applied: Approx. 100VA at the maximum When 240VAC is applied: Approx. 130VA at the maximum
Dimensions	Main unit (not including table)	Approx. W440 x H409 x D391mm
	When table is attached	Approx. W566 x H409 x D507mm
	Maximum dimensions when in operation	Approx. W566 x H534 x D507mm
Weight of main unit	Approx. 16kg (Not including table and electrodes)	

Standard Accessories

Table (Specify either for 12, 18, 36 or 60 samples)
Electrode cartridge (Specify a suitable type depending on the number of samples/purpose)
Cleaning water tank (10L, with liquid level sensor)
Waste water tank (10L, with liquid level sensor)
Cleaning water tube (3m)
Waste water hose (1.5m)
Completion detection pin
Power cord
2P-3P conversion adapter
Disposable beaker
Operation manual

Options

Product	Code No.
Turntable connection cable (2m) Cable for connection to AUT-701, TA-70, TS-70 or TP-70	7075670K
Air pump box (for air blow)	7400560U
Air pump box (for air blow and bubbling)	7401640U
Waste water valve for TTT-710 (pinch cock)	7401650U
Waste water valve for TTT-710 (solenoid valve)	7401660U
Propeller stirring unit (for table for 12 or 18 samples)	7401670U
Propeller stirring unit (for table for 36 samples)	7401680U
Propeller stirring unit (for table for 60 or 100 samples)	7401690U

*For further information regarding chemical cleaning, please contact us.

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 (OJD0001) 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 P5 (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-710 connection
RS-232 cable (2m)	1188604	For PC connection (D-sub, 9p for PC connection)

Specifications Standard Configuration/Titrator + Magnetic Stirrer ST-7

Titrator Specifications

Description	Acidity Titrator TA-70	Salt 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-710) (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	100VAC 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-045P 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 Power cord 118C025 2P-3P conversion adapter 102A991

Specifications of Magnetic Stirrer ST-7

Usable beaker	Up to 200mL beaker
External connection terminal	Power for overhead rod type stirrer
Power source	100VAC 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



Do not operate products before consulting instruction manual.

International Sales Department:
DKK-TOA Corporation
29-10, 1-Chome, Takadanobaba, Shinjuku-ku, Tokyo 169-8648 Japan
Tel : +81-3-3202-0225 Fax : +81-3-3202-5685