

# TTT-710

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## TURN TABLE

Supports continuous automatic measurement of multiple samples



### Compatible models

pH meter HM-42X

Conductivity meter CM-42X

Multi-water quality meter MM-43X

Automatic titration AUT-701

Acidity meter TA-70

Salinity meter TS-70

Potentiometric titra TP-70

\*Please contact us for old products

# Proposal of multi-sample measurement system that realizes labor saving

## Continuous automatic measurement of up to 100 samples is possible

Four types of tables (12, 18, 36, 60 samples) are prepared according to the application. Furthermore, it is possible to measure with a 100 sample table as a manufacturer option.

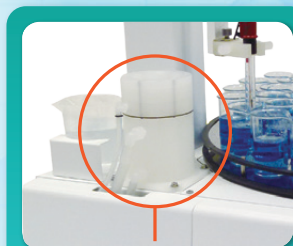
## Excellent maintainability

An electrode cleaning tank and an electrode storage tank are located on the front of the device.

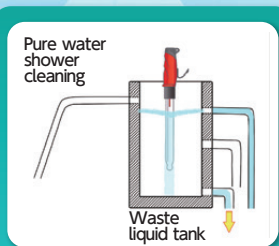
Maintenance of piping and electrodes has become easier.

## A variety of electrode cleaning modes are available

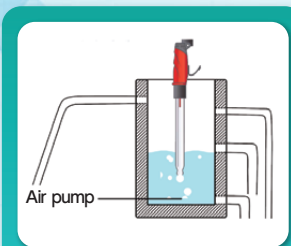
Equipped with shower cleaning with pure water as standard. It can also be used for bubbling cleaning, chemical cleaning, and air blow as an option.



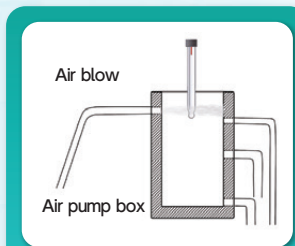
Cleaning tank



Shower cleaning



Bubbling cleaning



Air blow

## A turntable with a constant temperature water tank is available (manufacturer option)

It is possible to measure multiple samples at a constant temperature, such as measuring the electrical conductivity of pharmaceutical water in JP18.

(An external circulating constant temperature water tank is required separately.)

## Equipped with next sample stirring function (manufacturer option)

The measurement solution can be mixed in advance by prestirring the next measurement sample.

This is effective when it takes time to mix the measurement liquid or react.

## An analyzer installation stand is available to save space (optional).



TTT-710 Product introduction / useful videos

On our website and YouTube, we introduce the configuration and specifications of the turntable, system examples, optional items, etc. on videos.



# System construction example

## Multi-sample pH / electrical conductivity measurement system using multi-water quality meter MM-43X

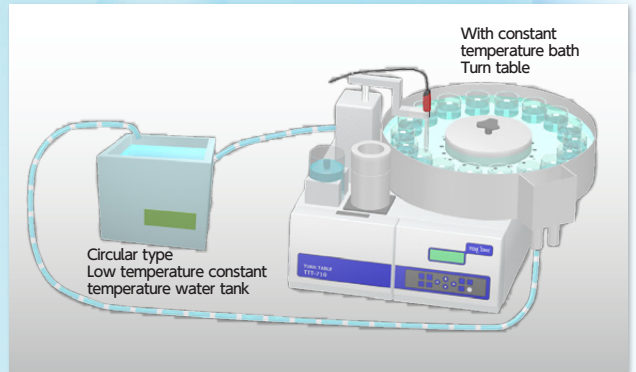
Simultaneous measurement of pH and electrical conductivity of the same sample is possible.

(Recommended to use only for samples with high electrical conductivity where the effect of potassium chloride can be ignored)



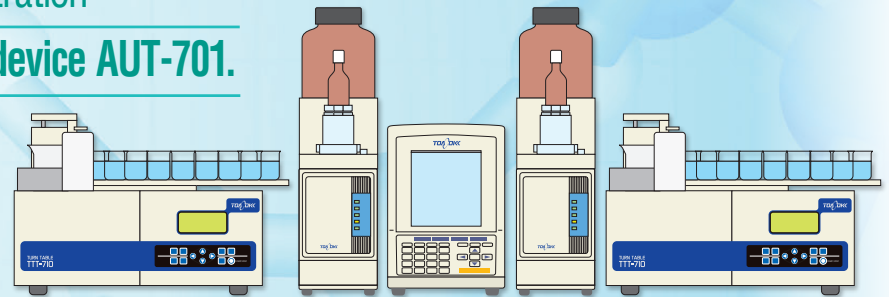
## Multi-sample electrical conductivity measurement system for JP18 pharmaceutical water using CM-42X conductivity meter or MM-434X multi-water quality meter

The water from the constant temperature water tank is circulated to keep the measured temperature constant. Up to 36 samples can be automatically measured at  $25 \pm 1^\circ \text{C}$ .

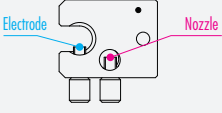
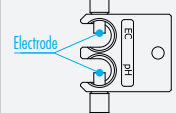
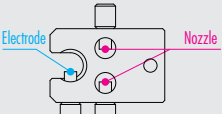
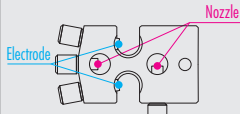
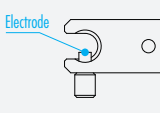

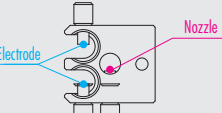
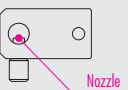


## Dual multi-sample automatic titration system by automatic titration device AUT-701.

Multi-sample titration of two different types of titration items is possible.



### Electrode cartridge

Product name (Mountable numbers of electrodes / nozzles)	Code No.	External view	Product name (Mountable numbers of electrodes / nozzles)	Code No.	External view
<b>1CH cartridge 1 (X)</b> (X mounting hole : 1, N mounting hole : 1) (Corresponds to 12, 18, 36, 60, 100 samples)	7505010K		<b>2CH cartridge 2 (X)</b> (X mounting hole : 2) (Corresponds to 12, 18, 36 sample)	7505030K	
<b>1CH cartridge 2 (X)</b> (X mounting hole1, N mounting hole : 2) (Corresponds to 12, 18, 36 samples)	7505020K		<b>2CH cartridge 3</b> (X mounting hole2, N mounting hole : 2) (Corresponds to 12, 18 samples)	6597940K	
<b>1CH cartridge 3 (X)</b> (X mounting hole : 1) (Corresponds to 12, 18, 36, 60, 100 samples)	7506840K		<b>Multi-cartridge</b> (J mounting hole 2, ION mounting hole : 2, N mounting hole : 4) (Corresponds to 12 samples)	6597980K	
<b>2CH cartridge 1</b> (J mounting hole 2, N mounting hole : 1) (Corresponds to 12, 18, 36 samples)	6597970K		<b>Sample suction cartridge</b> (N mounting hole : 1) (Corresponds to 12, 18, 36, 60, 100 samples)	6597990K	

\* "X, J, ION, N" written on the mounting holes represent the mounting electrodes and nozzles.  
X: for X/R series, J: for J/S series electrode, ION: single-purpose type ion electrode N: nozzle

\* Corresponding beaker for each table board

- 12 samples table board : 200mL beaker, 300mL tall beaker
- 18 samples table board: 100mL tall beaker
- 36 samples table board: 30mL beaker, 50mL tall beaker
- 60 samples table board: 20mL dedicated beaker
- 100 samples table board : 20mL dedicated beaker

Specification		
Display		LCD
Numbers of samples/ Corresponding beakers	12 samples	200mL beaker, 300mL tall beaker (Recommended product : AGC Techno Glass or HARIO glass beaker)
	18 samples	100mL tall beaker (Recommended product : AGC Techno Glass or HARIO glass beaker)
	36 samples	30mL beaker, 50mL tall beaker (Recommended product : AGC Techno Glass or HARIO glass beaker)
	60 samples	20mL dedicated beaker (Nichiden Rika Glass H-20)
	100 samples	20mL dedicated beaker (Nichiden Rika Glass H-20)
Stirring method		Standard : Magnetic stirrer method Option : Propeller stirring method
External control input / output		RS-232C (For controlling X/R series, AUT-701, TA-70, TS-70, TP-70) OPTION2 (R series) IControl input / output Automatic burettes (ABT-511) Control input / output External control box Control input / output Air pump box Control input / output Liquid level sensor signal input (washing water 1, waste liquid) Power output for propeller stirring unit
Cleaning mode		①Pure water shower → Air blow ②Pure water bubbling → Pure water shower → Air blow ③Chemical solution shower → Pure water shower → Air blow ④Chemical solution bubbling → Pure water shower → Air blow ⑤Chemical solution bubbling → Pure water bubbling → Pure water shower → Air blow ⑥Chemical solution bubbling → Chemical solution shower → Air blow ⑦Chemical solution shower → Air blow ⑧Chemical solution bubbling → Pure water bubbling → Chemical solution shower → Air blow ⑨User cleaning (Cleaning sequence can be randomly set) User cleaning is effective only when the X series is connected. * Air blow cleaning is effective when using the optional air pump box. * Bubbling cleaning is effective when using the optional air pump box and waste liquid valve. * Please contact us for details on chemical cleaning.
Cleaning time		0 to 9999 minutes
Times of air blow		1 to 9 times
Number of repeated measurements		1 to 9 times
Measurement end detection		Detection by end detection pin or end table number setting
Stirring time before measurement		0 to 9999 minutes
Waiting time before measurement		0 to 9999 minutes
Tank fluid level alarm		Cleaning water 1 (Pure water) : Empty Cleaning water 2 (Chemical solution) : Empty (When connecting the optional level sensor for chemicals) Waste liquid : Full
Guaranteed performance temperature		5 to 40°C
Power		AC100 to 240V 50/60Hz
Power consumption	Standard	AC100V when used : Max approx. 60VA AC240V when used : Max approx. 90VA
	Option when connected	AC100V when used : Max approx. 100VA AC240V when used : Max approx. 130VA
External dimension		Approx. 440(W)×409(H)×391(D)mm (When the table board is not attached) Approx. 566(W)×409(H)×507(D)mm (When the table board is attached) Approx. 566(W)×534(H)×507(D)mm (Maximum operating dimensions)
Main unit weight		Approx. 16kg (When the table board is not attached) Approx. 18kg (When the table board is attached)

Standard Accessories		
Product name	Code No.	
Table board (Specify one type from 12, 18, 36, 60 samples)		
For12 samples	7401540U	
For18 samples	7401550U	
For36 samples	7401560U	
For60 samples	7401570U	
Electrode cartridge (Numbers of samples/specify one type depending on the application)*1		
1CH cartridge1(X)	7505010K	
1CH cartridge2(X)	7505020K	
1CH cartridge3(X)	7506840K	
2CH cartridge1	6597970K	
2CH cartridge2(X)	7505030K	
2CH cartridge3	6597940K	
Multi-cartridge	6597980K	
Sample suction cartridge	6597980K	
Washing water tank (with 10L liquid level sensor)	—	
Waste liquid tank (with 10L liquid level sensor)	—	
Washing water tube (3m)	—	
Waste liquid hose (1.5m)	—	
End detection pin	7401630U	
O Ring	115A006	
Hoffman pinch cock small	126C049	
Power code	118C025	
2P-3P conversion adapter	102J040	
Disposable beaker 200mL	136C179	
Operating instructions	—	

\*1 Refer to the previous page for details on the electrode cartridge.

\*2 This is the price when you place an additional order.

Option		
Product name	Code No.	
For connecting turn table RS-232C cable(2m) (For connecting HM-42X, CM-42X, MM-43X)	7433040K	
For connecting turn table RS-232C cable (2m) (For connecting AUT-701, TA-70, TS-70, TP-70)	7075670K	
For connecting turn table RS-232C cable (2m) (For connecting HM-30R, CM-30R, MM-60R)	118C087	
OPTION2 connecting cable (For connecting HM-30R, CM-30R, MM-60R)	7401740K	
ABT-511 connecting cable	7401750K	
Air pump box(For air blow )	7400560U	
Air pump box(For air blow + bubbling)	7401640U	
Waste liquid valve for TTT-710 (Pinch cock)	7401650U	
Waste liquid valve for TTT-710 (Solenoid valve)	7401660U	
Propeller stirring unit(For 12, 18 samples table )	7401670U	
Propeller stirring unit(For 36 samples table )	7401680U	
Propeller stirring unit(For 60, 100 samples table )	7401690U	
Installation stand for analyzer (For X series)	7451570U	
Installation stand for analyzer (For AUT-701)	7401710U	
Installation stand for analyzer (For R series)	7401700U	



DKK-TOA CORPORATION



CAUTION

Please read the operation manual carefully before using products.

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Information and specifications are subject to change without notice.