

TTT-710

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-801

Acidity meter TA-70

Salinity meter TS-70

Potentiometric titrator 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.

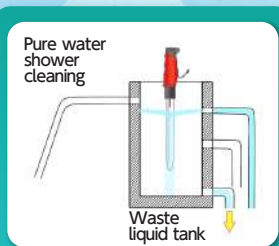
Maintenance of piping and electrodes has become easier.

A variety of electrode cleaning modes are available

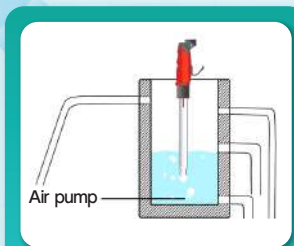
Equipped with shower cleaning with pure water as standard. It can also be used for bubbling cleaning, chemical cleaning, and air blow as an option.



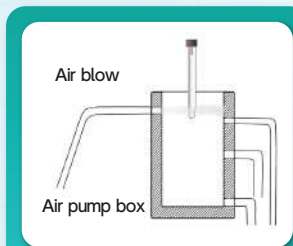
Cleaning tank



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 subsequent sample stirring function (manufacturer option)

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

It proves the effectiveness in cases where the mixing or reaction of measurement solutions takes time.

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-function 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)

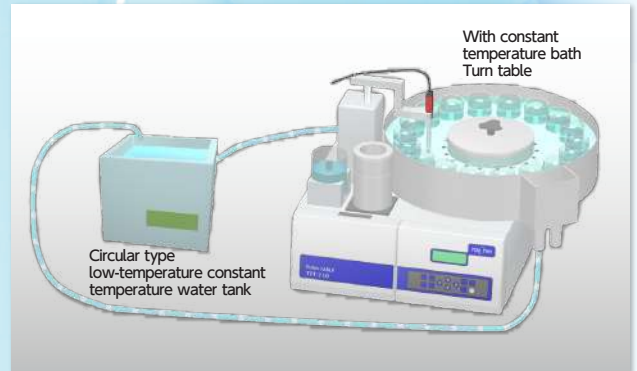


Multi-sample electrical conductivity measurement system for JP18 pharmaceutical water

using CM-42X conductivity meter

or MM-43X multi-function 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 titrator AUT-801

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 |
|--|----------|---------------|--|----------|---------------|
| 1CH cartridge 1 (X) (X mounting hole : 1, N mounting hole : 1) (Corresponds to 12, 18, 36, 60, 100 samples) | 7505010K | | 2CH cartridge 2 (X) (X mounting hole : 2) (Corresponds to 12, 18, 36 sample) | 7505030K | |
| 1CH cartridge 2 (X) (X mounting hole 1, N mounting hole : 2) (Corresponds to 12, 18, 36 samples) | 7505020K | | 2CH cartridge 3 (X mounting hole 2, N mounting hole : 2) (Corresponds to 12, 18 samples) | 6597940K | |
| 1CH cartridge 3 (X) (X mounting hole : 1) (Corresponds to 12, 18, 36, 60, 100 samples) | 7506840K | | Multi-cartridge (J mounting hole 2, ION mounting hole : 2, N mounting hole : 4) (Corresponds to 12 samples) | 6597980K | |
| 2CH cartridge 1 (J mounting hole 2, N mounting hole : 1) (Corresponds to 12, 18, 36 samples) | 6597970K | | Sample suction cartridge (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
● 36 samples table board : 30mL beaker, 50mL tall beaker
● 100 samples table board : 20mL dedicated beaker

● 18 samples table board : 100mL tall beaker
● 60 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-701/801, TA-70, TS-70, TP-70) OPTION2 (R series) Control 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 |
| Frequency 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 | |
| Instruction manual | — | |

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

| 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 | |
| For connecting turn table RS-232C cable (2m) (For connecting AUT-801) | 7703820K | |
| 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-701/801) | 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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