



USER MANUAL

TW – 180

TW – 300

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1. INTRODUCTION

1.1. Manufacturer's Information

Manufacturer 신진메딕스(주) (SHIN JIN MEDICS INC.)

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1.2. Date of Manual Preparation and Manual Version

Date of the first creation 2014 – 06 – 12

Date of the final modification 2016 – 12 – 10

Manual Version 1.0.0.1

1.3. Use of Instrument and Function

This equipment is used in radiation immunological diagnosis which is a field of nuclear medicine. It is a device that rinses the residue in the tubes with distilled water or specific washing solution given in the kits after helps to happen the reactions between isotope reagents and patient sample in test tube.

Up to 30 tubes (up to 180 for the TW-180) can be rinsed according to the specified settings. The number of tube racks is automatically calculated by the sensor and there is no need to enter the number of racks separately.

TW series can adjust the dispensing volume from 1ml to 4ml. The frequency of dispensing can also be specified from 0 to 9 times. The Suction time can be set between 1-99 seconds, and the washing method can be selected from either Rack type or Plate type.

It is used together with the RIA Automatic Laboratory System (RALS), an integrated RIA operating system developed by Sin Jin Medics Inc. In this case, the entire RIA inspection system can be efficiently automated.

2. User Manual Description

Purpose This user manual is intended to provide safety and convenience in using TW series.

2.1. Suitable Equipment

TW – 180 (Maximum 180 tubes)

TW – 300 (Maximum 300 tubes)

3. Safety Precaution

3.1. Main Indications



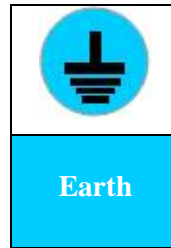
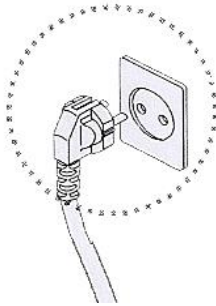
Not allowed



Warning



Do as it says



3.2. Safety Precaution

Precaution for Installation

- 1) Do not expose to sunlight and install it in areas of humidity below 80 percent.
- 2) Set it on a solid desk which can stand its heavy weight.
- 3) Install it at least 30 cm or longer apart from walls or nearby equipment.
- 4) Do not install near equipment that is combustible or explosive.
- 5) Set it where a voltage drop is stable (+/- 10%). If not, set an AVR.
- 6) Use only an outlet for earth.

Precautions for Use


- 1) If the temperature is less than 2°C or more than 40°C and humidity is more than 80%, the equipment may not operate properly.
- 2) Do not connect or disconnect the power cord with wet hands, as this may result in electrical shock.
- 3) Disconnect main power immediately and contact the service engineer if it emits smoke or strange smell.
- 4) During the Washing, do not remove the Rack or Carrier. If it needs to be removed, stop the equipment.
- 5) Rack must be filled with all tubes before operating the washer.
** Put an empty tube in the empty space of the rack.
- 6) Disconnect main power immediately and contact the service engineer if an error occurs.

Other Precautions.

- 1) The equipment should be transported as not to turn upside down.
- 2) Do not clean equipment with chemical solution and recommend to clean with a soft cloth and water.
- 3) Use of parts other than the verified replacement parts may cause fetal problems to the equipment and the damage caused by it is not covered by the policy.

4. Composition

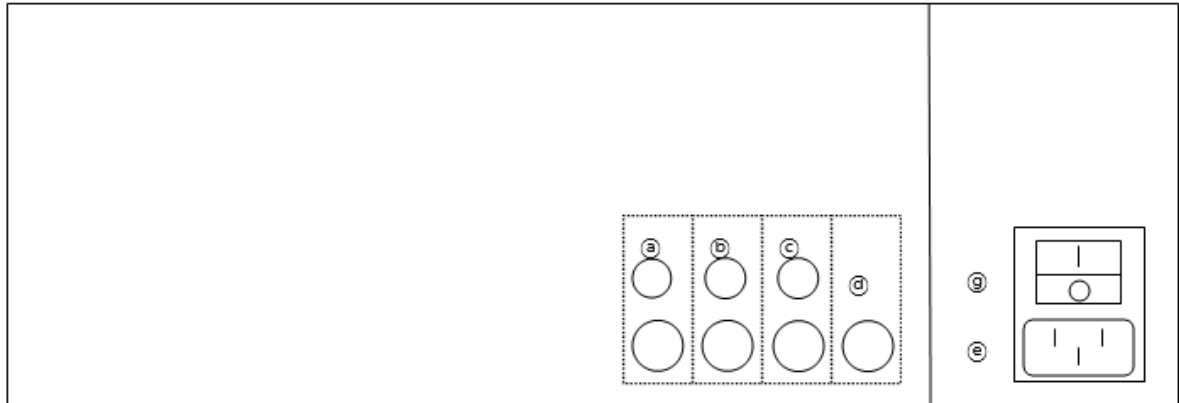
4.1. Instrument Components

Component	Quantity	Image
Main Body	1 EA	
Waste Tank Set	2 EA	
Flushing Solution Tank Set	2 EA	
AC Power Cable (220V)	1 EA	
User Manual	1 EA	
Service Manual	1 EA	
Maintenance Manual	1 EA	

4.2. Instrument Performance

	Description	
Dimension	TW-180	580(W) * 600(D) * 300(H)
	TW-300	820(W) * 600(D) * 300(H)
Weight	TW-180	20 kg
	TW-300	27 kg
Maximum Tube	TW-180	180
	TW-300	300
Needle	20	
Flushing solution type	2 types (Tank 1, Tank 2)	
Washing Count	0 – 9 (0 : only suction)	
Suction Time	1 – 99	
Dispensing Volume	1 – 4	
Rack Detection Sensor	Ultrasound wave	
Solution Tank sensor	Floating sensor	
Washing Type	Rack type, Plate type	
Power	220V, 60Hz	

5. Installation Method

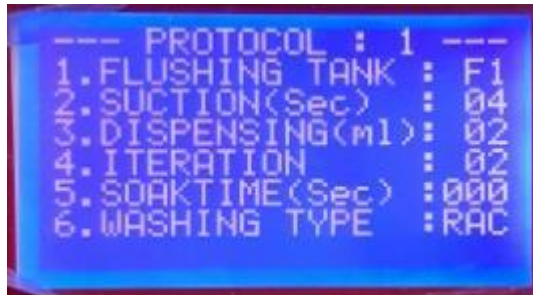


1. Connect the hose of the washing Tank and the signal wire (yellow or white) to ①.
2. Connect the hose of the washing Tank and the signal wire (yellow or white) to ②.
3. Connect the hose of Waste Tank and the signal wire (red) to ③.
4. Connect the hose of Waste Tank2 to ④.
5. Plug Main Power Cable in ⑤.
6. Press the Main switch (⑥).

6. Operation

6.1. Control Panel

LCD Screen



1) Flushing Tank

- Selected Flushing Solution is indicated.

2) Suction(Sec)

- Suction Time is indicated.

3) Dispensing(ml)

- Flushing Solution Dispensing volume is indicated.

4) Iteration

- Washing repetition count is indicated.

5) Soak time(Sec)

- Soaking time is indicated.

6) Washing Type

- Rack type (RAC) or Plate type (PLT) need to be selected.

Control Panel



- 1) **Direction Button** : For the Operation Setting
- 2) **EDIT/OK** : For the Protocol Setting
- 3) **FLUSHING** : For the Flushing (Repeat 5 times dispense and Suction)
- 4) **WASTE** : Used to empty the Waste Tank that built in the equipment.
**** Used when the "W Inside Full" Error Message is shown.**
- 5) **N.P** : Needle Position Button. It is used to adjust the height of the needle unit

6.2. Functional Operation Method

6.2.1. How to set up the Protocol

Flushing Solution Type

- 1) Press the EDIT/OK button.
- 2) If the number on the screen blinks, it can be edited. Use the left and right button to select the number.
- 3) Only 1 or 2 can be selected.

Suction Time

- 1) After press the EDIT/OK button, press the Down button to make the number blink.
- 2) Set the time by using the left or right button.
- 3) It can be set from 01 to 99.

Dispensing volume

- 1) After Press the EDIT/OK button, Press the down button twice to make the number blink.
- 2) Use the LEFT or RIGHT button to set the desired dispensing volume.
- 3) It can be set from 1 ~ 4.

Number of repetitions of operation

- 1) After press the EDIT/OK button, press the down button 3 times to make the number blink.
- 2) Use the LEFT or RIGHT button to set the number of repetitions.
- 3) In case of '0', only Suction operates. The remaining numbers represent the number of repetitive operations of Dispensing and Suction. It can be set from 0 ~ 9.

SOAK TIME

- 4) After press the EDIT/OK button, press the down button 4 times to make the number blink.
- 1) Set the time by using left and right button. (Add or subtract 10 seconds)
- 2) It can be set from 0 to 990 seconds. (In case of 000, conduct the normal washing.)
- 3) Soak Time is the time to immerse the washing solution in the tube for a certain period of time. It is calculated after all the tubes on the desk contain the washing solution.

**** After completion of all procedures, press the EDIT/OK button. .**

6.2.2. How to save the Protocol

- 1) Select the Number (1~4) by using the left and right button.
- 2) Set the each procedure according to Setting Protocol.
- 3) After the completion of setting, press the EDIT/OK button.
- 4) Once the EDIT/OK is pressed, the number will stop blinking and it will be saved.

6.3. Error Alarm and Actions

- 1) Press the Waste Button when the **“W Inside Full”** message shows at the bottom of LCD screen.
- 2) Empty the outside of the waste tank when the **“W Outside Full”** message shows at the bottom of LCD screen.
- 3) Fill the Washing Solution Tank A with water or other chemicals when **the “F1 is Empty”** message shows at the bottom of LCD screen.
- 4) Fill the Washing Solution Tank B with water or other chemicals when the **“F2 is Empty”** message shows at the bottom of LCD screen.

**** ** If it beeps, it will stop at that point. After removing the cause of the beep, press the Start button and the program will continue in the order that was originally set.**