

750 Series Water Purification system

750 / RO-751 / UP-752



Inspection Certificate

- Item : Water Purification System
- Model :
- Serial No. :
- Date :
- Origin :

We hereby certify that above goods has been inspected before shipment and found in good order.

Authorized Signature

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1 General Description

1. New Power System

The Power System is the unique water purification system combining 2 systems—New RO System & New UP System. It can produce simultaneously from the city/ground water.

1) Feed water : City Water / Ground Water

※ Ground Water : Refer to page 32, 33, 35

2) Built-in filters

- RO System ① 10" Prefilter
 ② 14" A/C filter
 ③ RO Pack
- UP System ① Power UP Pack
 ② 0.2 μ m Capsule filter

3) STD Accessories : Manual, Power Cord

4) Optional Accessories

- ① 254/185 UV Lamp
- ② MW 5000 UF filter
- ③ PVDF 1/4 Dispensing Gun
- ④ Pretreatment System
- ⑤ 20L/40L Water Tank

5) Product Quality

- ① RO Product : 5 ~ 30 μ S/cm
- ② UP Product : 18.3 ~ 10.0 M Ω •cm

6) Applications

- ① General laboratory tests
- ② Preparations of stock solution
- ③ Washing & rinsing for glasswares
- ④ Analytical Instruments
- ⑤ Preparations of stock solution
- ⑥ Microorganism analysis
- ⑦ Cell Culture
- ⑧ DNA/RNA Tests

2. Features

- Certified CE, ISO 9001
- Obtained GD, QD Mark (Good Design, Qualified Design)
- Products produced to European standard
- Long life easy to use Patented Products"
- Auto calibration for water sensors
- Auto regular recycling every hour
- Standby function : Auto recycling lower than setting value.
- Programmable by 2 steps for the filter exchanges to maintain water quality

3. Applications

Type	A	B	C	D
Type I grade water	●	●	●	●
Analytical Instruments	●	●	●	●
AAS, ICP/MS, IC	●	●		●
HPLC, GC, TOC		●		●
Organic analysis		●		●
Cell & tissue culture			●	●
In vitro fertilization			●	●
Electrophoresis			●	●
R Nase, D Nase & DNA free				●
Molecular Biology				●

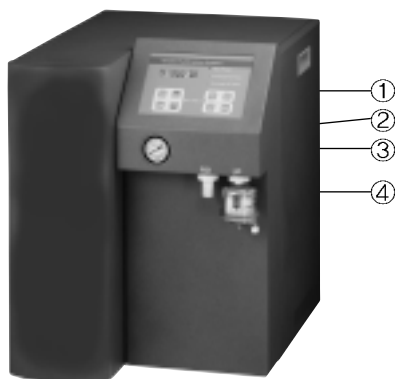
※

4. Specifications

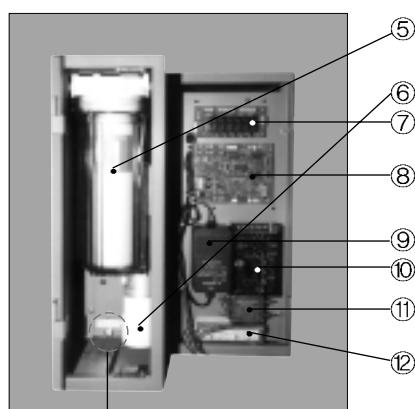
	750-1	750-2	750-3	
Product flow rate (RO.U.P)	Max. 18L / Hr	Max. 28L / Hr	Max. 38L / Hr	
Water quality display	• Feed water : 0 to 999 $\mu\text{S}/\text{cm}$ (Optional) • Pure water : 0.0 to 250.0 $\mu\text{S}/\text{cm}$ • Ultra pure : 0.0 to 18.3 $\text{M}\Omega \cdot \text{cm}$			
Controller	Microprocess one touch technology			
Display	16 \times 2 characters backlight LCD digital display			
Type	A	B	C	D
Feature				
– 0.2 μm Final filter	STD	STD	STD	STD
– 254/185 UV lamp		STD		STD
– MW 5000 UF filter			STD	STD
– PVDF $\frac{1}{4}$ Dispensing gun				STD
Included Filters & Accessories	• Prefilter • Super A/C filter • RO Pack • Power UP Pack, • Level sensor • Manual, • Hand Lever • Power cord			
Water Quality				
– TOC (ppb)	5 – 10	0 – 5	5 – 10	0 – 5
– Endotoxin (Eu/ $\text{m}\ell$)	NA	NA	< 0.001	< 0.001
– Bacteria (cfu/ $\text{m}\ell$)	< 1	< 1	< 1	< 1
– Particles (>0.22 μm / $\text{m}\ell$)	< 1	< 1	< 1	< 1
Controller functions	1. Self test : self-test for diagnosing operating conditions. (Internal/ External) 2. Auto cleaning functions ; ① When it turns on : 30sec to 5 min (Auto extension cleaning) ② “Ready” display : Auto regular cleaning ③ “Standby” display : Auto cleaning lower than setting value 3. Built-in auto sensor calibration 4. Built-in auto reset function 5. Filter exchange indicator (Programmable by 2 steps : 1st reminder & 2nd exchange) ① A/C filter ② RO Pack ③ Power UP Pack ④ 254/185 UV Lamp			
Safety functions	1. Low pressure of tap water : Auto/manual operating modes 2. Automatic motor stop functions : ①Low pressure ②Tank full ③Suspension of tap water supply			
Optional accessories	• PVDF $\frac{1}{4}$ Dispensing gun • Pretreatment system			
Dimensions (W \times D \times H)	400 \times 567 \times 500mm			
Power	230V, 50/60 Hz 60W			

2 System Structure

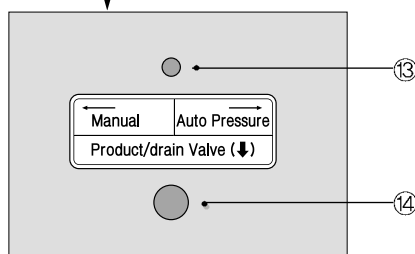
1. Front Side



- ① Display Board
- ② Pressure Gauge
- ③ RO Product Line (White Line)
- ④ UP Product Line
(with 0.2 μ m Capsule filter)

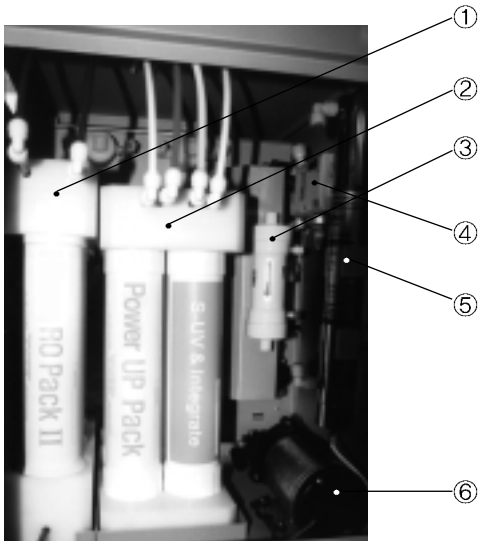


- ⑤ 10" Prefilter
- ⑥ 14" A/C filter
- ⑦ Slave Board I
- ⑧ Slave Board II
- ⑨ Pump Adapter
- ⑩ Power Supply
- ⑪ Noise Filter
- ⑫ UV Lamp Adapter (Power, UP)

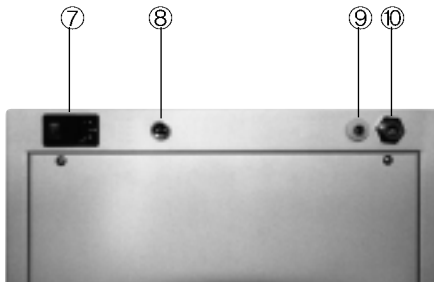


- ⑬ Auto Pressure S/W
 - Auto : Only works when the tap water pressure is above than 1kg/cm².
 - Manual : Works with regardless of the tap water pressure.
- ⑭ Product/Drain valve

2. Back Side



- ① RO Pack
- ② Power UP Pack
- ③ MW 5000 UF filter
- ④ Pressure S/W
- ⑤ 254/185 UV Lamp
- ⑥ Pump



- ⑦ Power S/W
(230V \pm 10%, 50/60 Hz, 6 W)
- ⑧ Level Sensor
- ⑨ Drain Line (ϕ 6) (Blue Line)
- ⑩ Input Line (ϕ 10) (Blue Line)

3. Dispensing Gun Connection



PVDF $\frac{1}{4}$ Dispensing Gun



Dispensing Gun + 0.2 μ m Final filter

3 Installation Conditions

1. Environmental Conditions

- 1) Indoor installation
- 2) Altitude should be up to 2000 m
- 3) Ambient temperature : 5°C ~ 40°C
(If the temperature is lower the 5°C, the system can be frozen up)
- 4) Maximum relative humidity : 80%
- 5) Power : 230 \pm 10%V, 50/60Hz \pm 1HZ, 60V
- 6) Pollution degree 2
- 7) Installation Categories II



CAUTION!! - Refer to accompanying documents



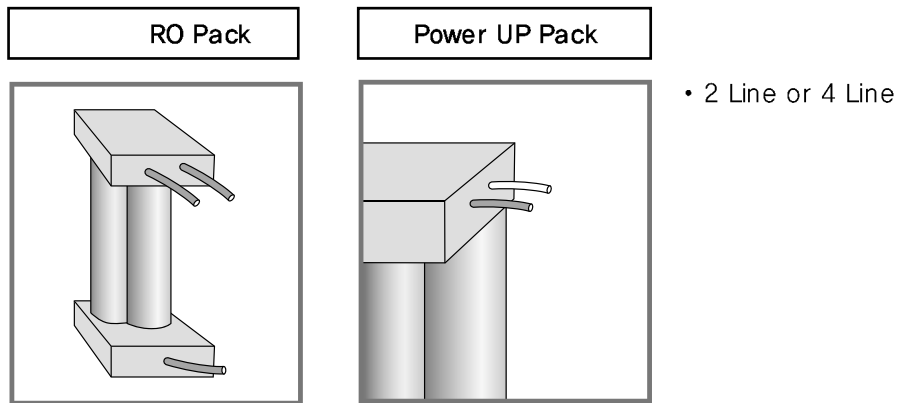
CAUTION!! - ELECTRIC SHOCK

“To avoid electrical shock, do not open the cover.
Refer servicing to qualified personnel only.”

- 8) The instrument should be placed on steady workbench that is free from a strong vibration source.
- 9) The location room should be free from a strong electro magnetic interference source or harmful or corrosive gases.

1. Filter & Pack Check

- 1) Check 10" Prefilter
- 2) Check 14" A/C filter
- 3) Connect 0.2 μ m Capsule filter into UP Product hole.
- 4) RO Pack/Power UP Pack : Open the cover at backside and connect RO Pack & UP Pack.



2. Back Side ※ Refer to Page 8

- 1) ⑩ Connect tap water into blue $\Phi 10$ hose (Input Line)
- 2) ⑨ Connect blue $\Phi 6$ hose at sink table (Drain Line)
- 3) ⑧ Connect level sensor into the water ※ Refer to Page 31
- 4) ⑦ Connect power cable (230V $\pm 10\%$, 50/60Hz, 60W)

3. Front Side ※ Refer to Page 7

- 1) ③ After connect the white $\Phi 6$ hose, connect it into water tank.
- 2) ④ Connect 0.2 μ m Capsule filter into hole.

5 Operating Method

- 1) Remove the lock function at front door. (Fastened bolt located at the bottom)
- 2) Open the tap water
- 3) Main S/W-ON
- 4) Press **RO** button
- 5) Check the flow rate of Drain & Product line
- 6) Press **UP** button

Remarks

1. If the tap water pressure is lower than 1kg/cm^2 , **Pressure Low** will be Display. ※ Refer to Page 7

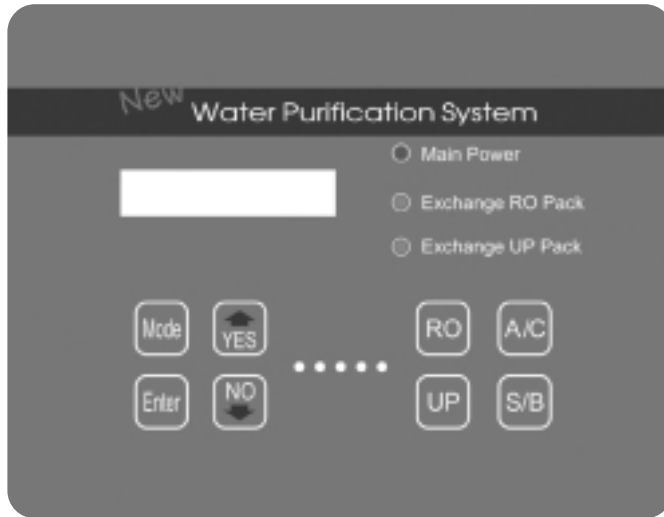
Convert the Auto Pressure S/W to **Manual**

2. When the system works, the Pressure Gauge should be around $4\sim 5\text{ kg/cm}^2$.
3. After checking "Drain and Product" the product ratio should be adjusted by **Product / Drain Valve** ※ Refer to Page 7

Model	Flow rate	
	Product	Drain
750-1	3	7
750-2	4	6
750-3	4	6

4. Attaching the 'Pre-treatment System' is strongly recommended for Power & RO systems.
 - City water : PT-1, PT-2, PT-3 Available.
 - Ground water : WS10, WS10-1, WS10-2, WS20 Available.※ Please Refer to Page 34, 35

6 Display Board



- **Main Power**
- **Exchange RO Pack** : Blinking at the time of RO Pack exchange.
- **Exchange UP Pack** : Blinking at the time of UP Pack exchange.

Mode ① Mode function
② Initial / Ready display mode : Press for 3 seconds.

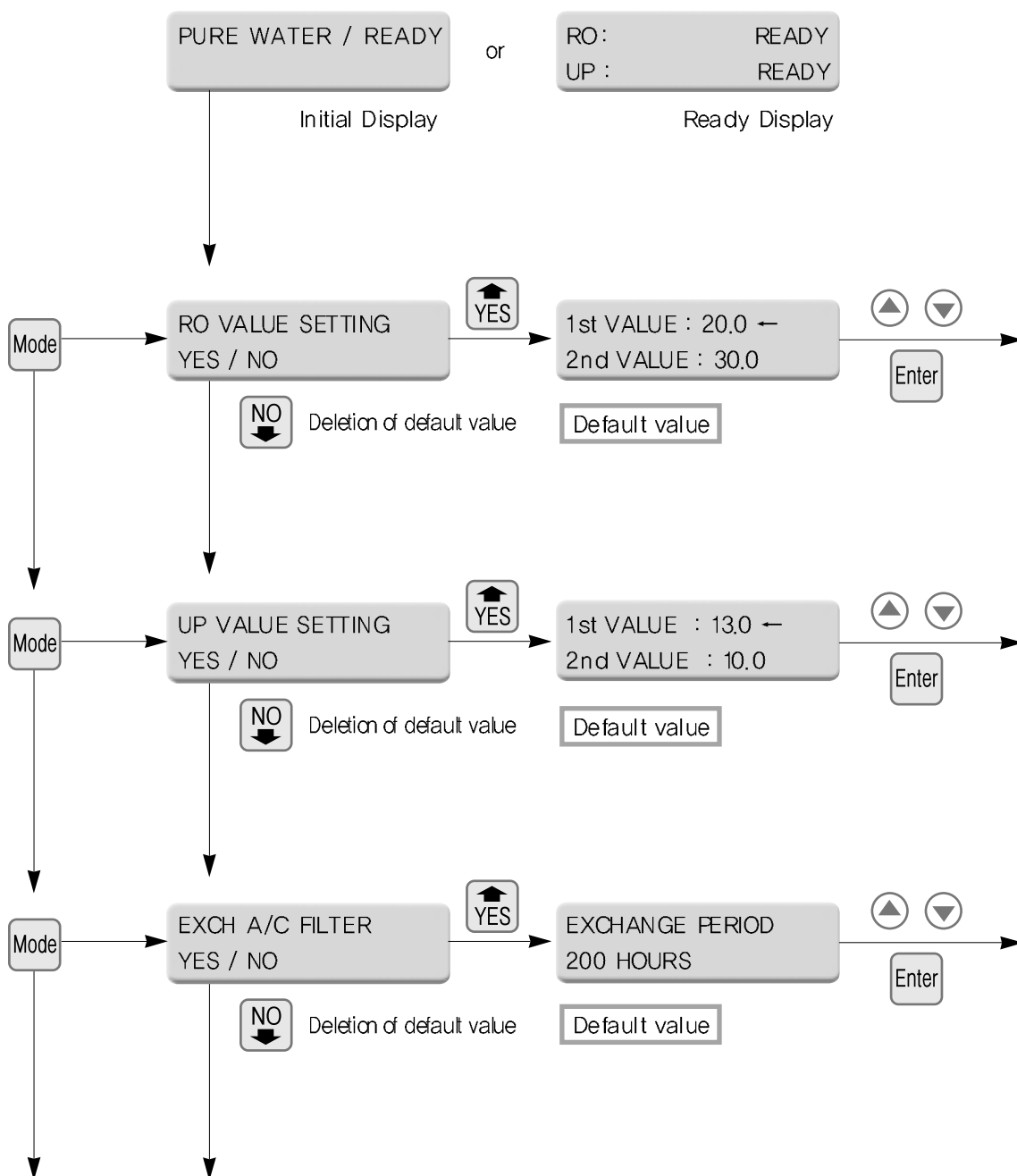
RO RO product & stop function

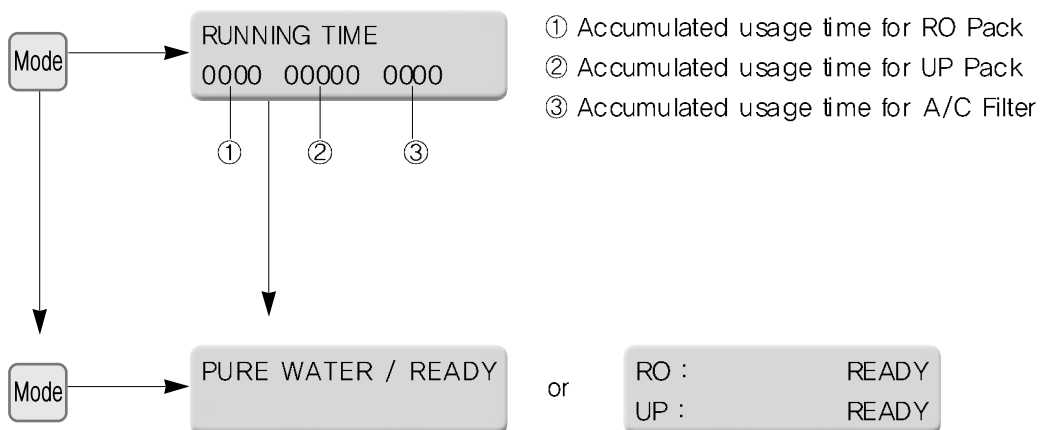
A/C After exchange A/C filter, press for 3 seconds.
– Accumulated time for A/C filter shall be down to 0.

UP UP product & stop function

S/B Auto-cleaning function when the purity of UP water is getting worse.
(standby)

7 Mode Key Flow Chart





※ Once the default value changes, the system is operated based upon changed default value. Therefore, the default value change is not recommendable.

8 Mode Function

- 1) RO VALUE SETTING
YES / NO



• **Exchange period indicator function for RO Pack**

- ① 1st Value : Alert message when RO product value is higher than 20 μ s.
- ② 2nd Value : System will stop automatically when RO product value is higher than 30 μ s.

- 2) UP VALUE SETTING
YES / NO



• **Exchange period indicator function for UP Pack**

- ① 1st Value : Alert message when UP product value is lower than 13 M Ω .
- ② 2nd Value : Product will recycle automatically when UP product value is lower than 10 M Ω .

- 3) EXCH A/C FILTER
YES / NO



• **Exchange period and usage time adjustment function for A/C Filter.**

- 4) RUNNING TIME
0000 00000 0000

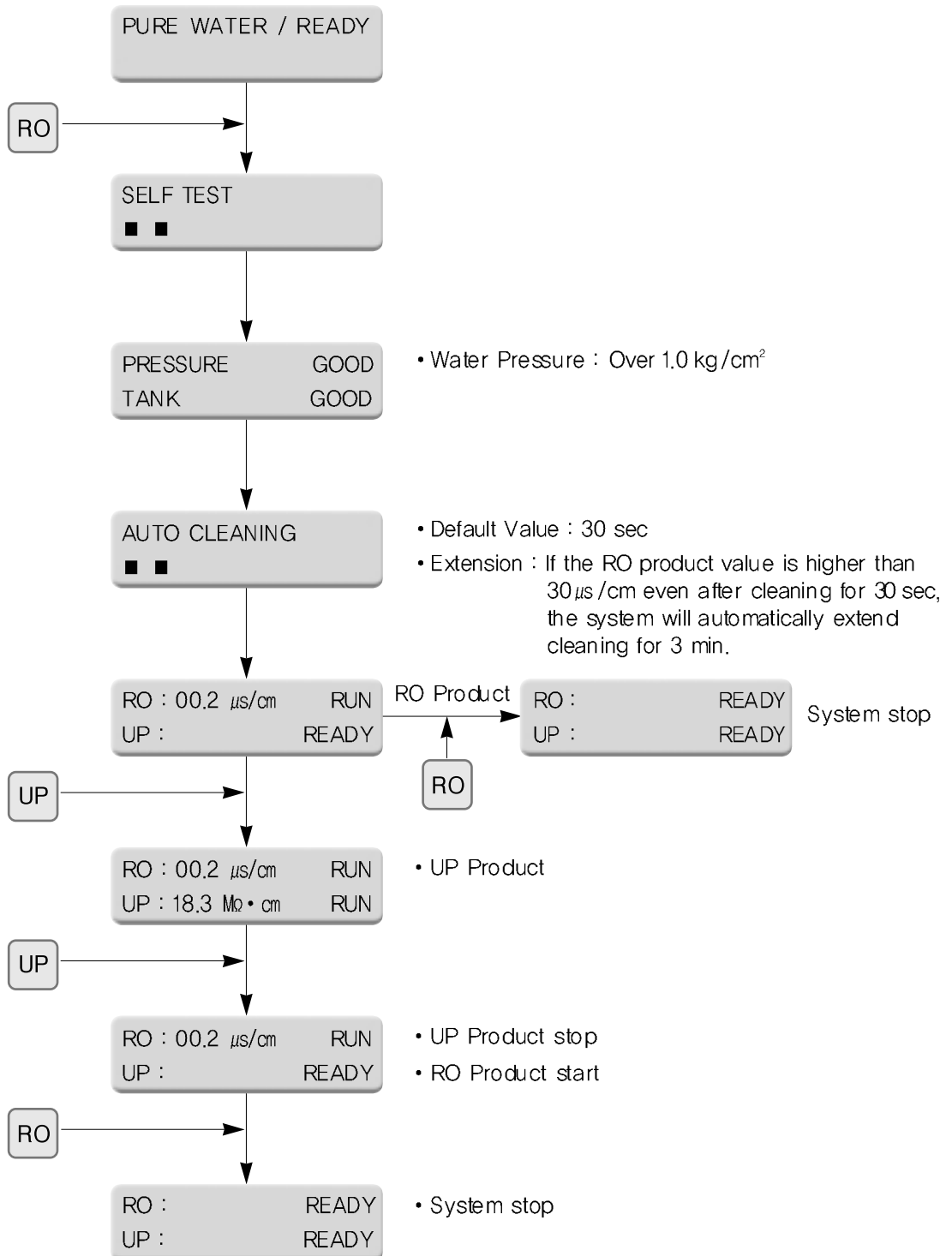
①

②

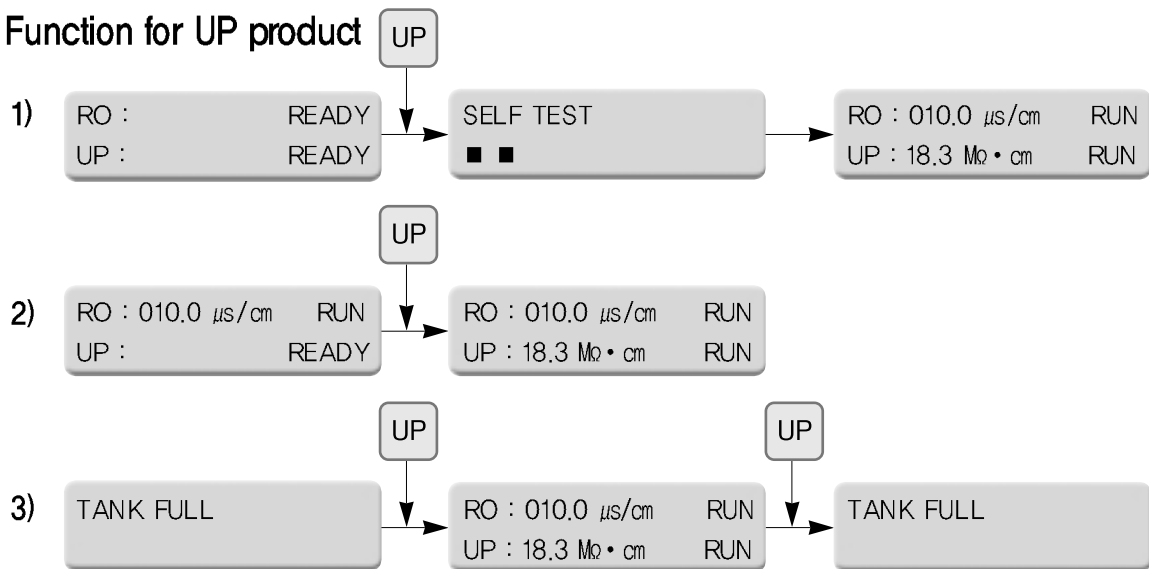
③

- ① RO : Accumulated usage time for RO Pack
- ② UP : Accumulated usage time for UP Pack
- ③ A/C filter : Accumulated usage time for A/C filter

1. Power S/W ON



2. Function for UP product



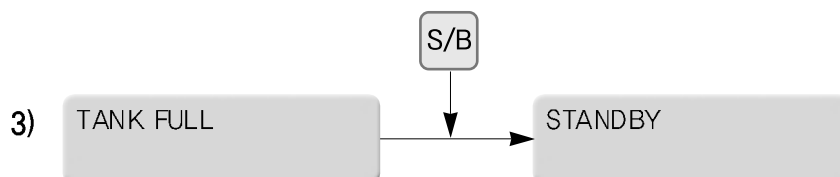
3. Function for UP Water quality control

- 1) RO : READY, UP : READY → Waiting for 1hr. → AUTO FLUSHING 120S • 120s auto-cleaning for every 1 hours

Auto-cleaning and water quality control for inside all the Filter Pack at Power System

- 2) STANDBY

At **Standby** mode, auto-cleaning and water purity value maintenance are available when UP water value is getting worse.

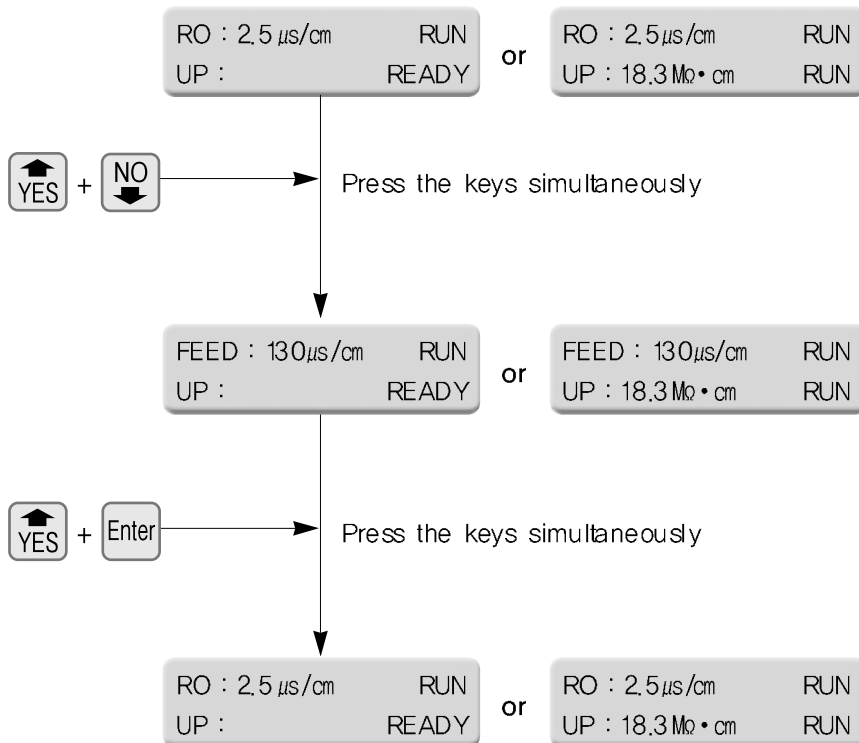


Please press **S/B** button, in order to keep the UP water purity value inside of the system when the system condition is Tank full.

10 Feed Water Check Method (Optional)

- Available to check feed water quality when 'Feed water sensor' is built-in.

1) Available only in running



11 Filter Exchange Method & Prevention from Freezing

1) Filter Exchange Method

- ① Stop the system
- ② Close the tap water
- ③ **UP** Press → working for around 20 seconds → **RO** Press (Stop the system)
- ④ Exchange the filter when there is no water pressure inside it

2) Prevention from freezing

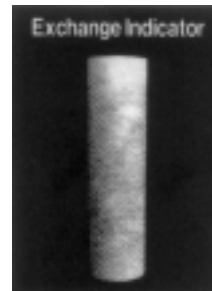
※ This instrument can be frozen up when it is left at below 0°C for a long time.
Make sure there is no water left.

- ① Stop the system
- ② Close the tap water
- ③ Convert **Auto Pressure S/W** to manual mode
- ④ **UP** Press → Working for around 60 seconds → stop the system
- ⑤ Open the 10" Housing, drain all waters out and reassemble it.

12 Filter Exchange

1. Prefilter

- Exchange : When it becomes brown color.
- Exchange period : Approx. 20~40 days
- Refer to the sticker (Exchange indicator) on 10" Housing.



2. A/C Filter

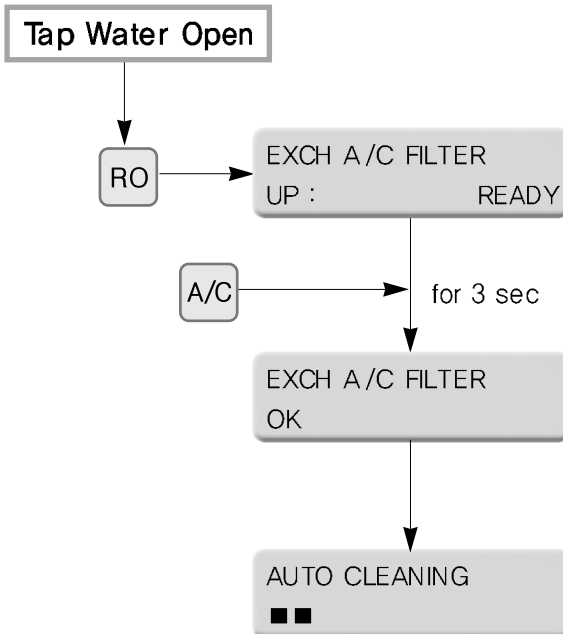
Default Value : 200 hours

1) Display

EXCH A/C FILTER
UP : READY

2) Exchange Method : After stop the system, refer to **11** - 1) ※ Page 20

3) After Exchange Filters



※ **Mode** → **Running Time** the accumulated usage time of A/C filter will come to 0.

3. RO Pack

Default Value : ① 1st Value – 20 $\mu\text{S}/\text{cm}$
② 2nd Value – 30 $\mu\text{S}/\text{cm}$

Mode → RO Value Setting the setting value is changeable.

1) Display

- LED Lamp light on

EXCHANGE RO PACK
UP : READY

- 1st Warning

- LED Lamp light on

EXCHANGE RO PACK

- 2nd Warning
- System stop

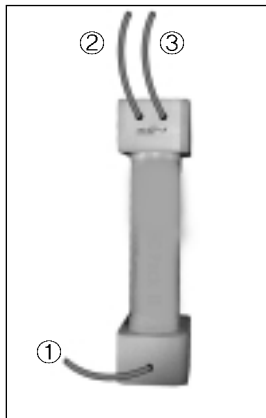
Mode

for 3 sec

Initial Display

2) Exchange Method : After stop the system, refer to **11** – 1) ※ Page 20

3) RO Pack Structure



- ① Inlet Line : Blue Line
- ② Product Line : Blue Line
- ③ Drain Line : Blue Line

4. Power UP Pack and Filter

Default Value : ① 1st Value – 13.0 M Ω • cm
② 2nd Value – 10.0 M Ω • cm

Mode → UP Value Setting the setting value is changeable.

1) Filter types in ultra pure part

- ① Power UP Pack
- ② 0.2 μ m Capsule filter
- ③ MW 5000 UF filter

2) Display

RO : 000.5 μ s/cm READY
EXCHANGE UP PACK

• LED Lamp light on

3) Filter Exchange

- ① Exchange Power UP Pack + 0.2 μ m Capsule filter
- ② MW 5000 UF filter : At the same time when Power UP Pack is exchanged

4) Filter Type

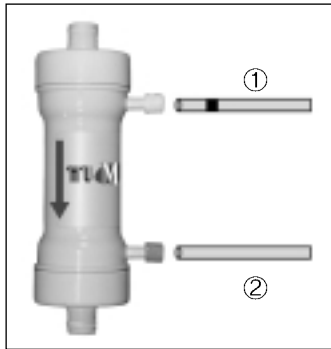


- ① Inlet Line : White Line
- ② Product Line : White Line



- ① Inlet Line : White Line
- ② Inlet Line for UV Lamp : White Line
- ③ Outlet Line for UV Lamp : Yellow Line
- ④ Product Line : White Line

5. MW 5000 UF Filter



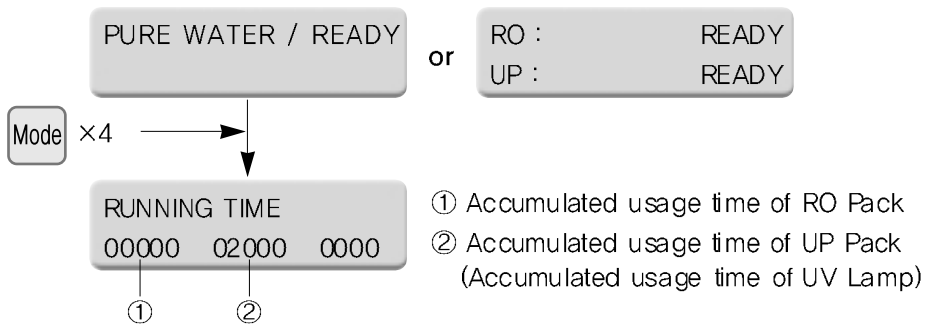
① Inlet Line : White Line with Red Mark

② Outlet Line : White Line

6. UV Lamp Exchange Method

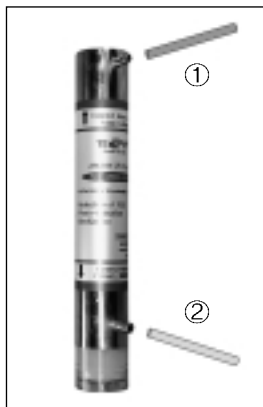
Default Value : 2000 hrs

1) How to check the exchange period



2) Only when **UP** key is pressed, the UV Lamp is turned on, so when the accumulated usage time of UP Pack is reached at 2000 hrs, exchange UV Lamp

3) UV Lamp structure

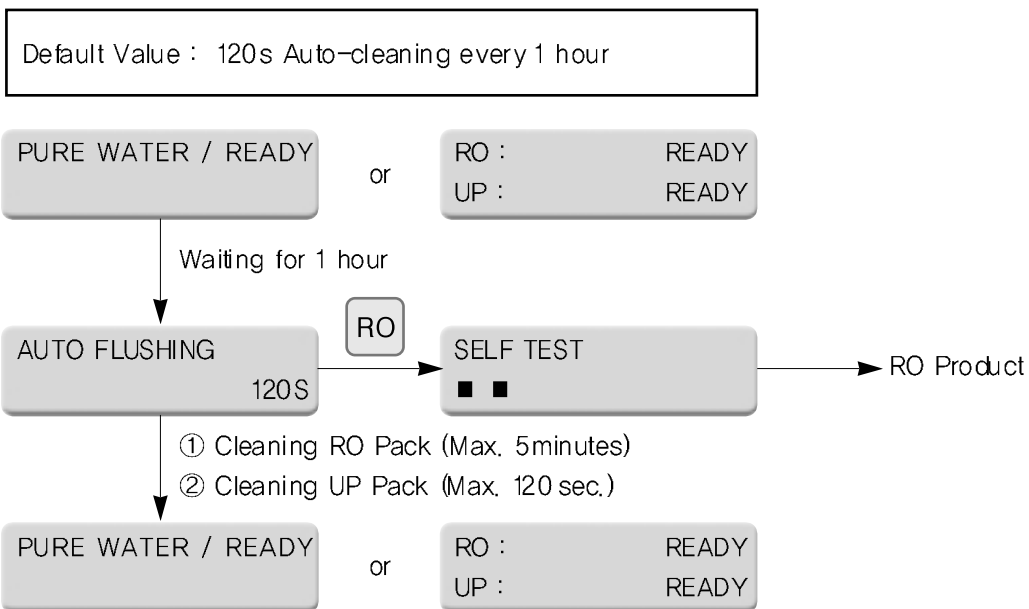


① Outlet Line : Yellow Line

② Inlet Line : White Line

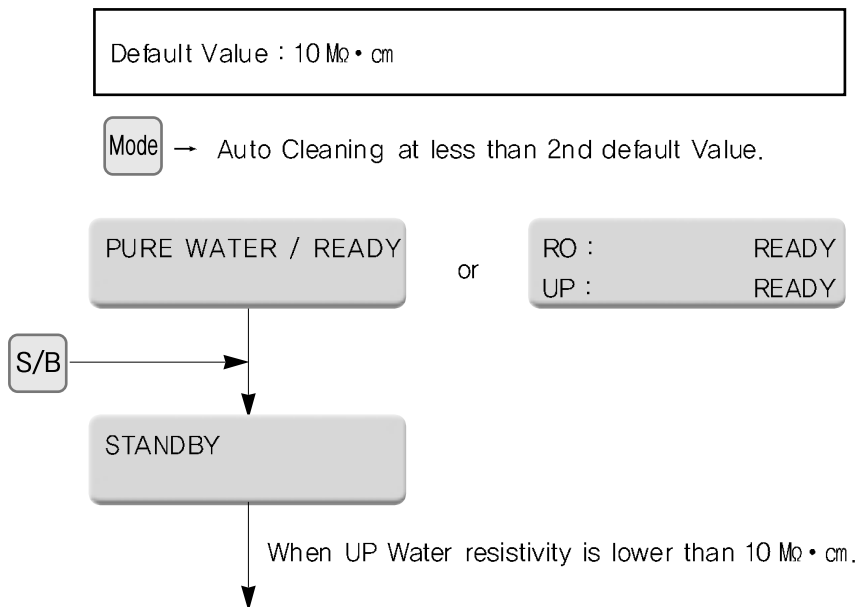
13 Auto Cleaning Function

1. Initial / Ready Display



2. Standby Display

– Auto cleaning when up water resistivity is getting worse.



STANDBY 120S
RO CLEANING

Max. 5 minutes

STANDBY 60 S
UP : 09.0 CLEANING

Recovery of UP quality

STANDBY

S/B

RO : READY
UP : READY

STANDBY 300 S
UP : 09.0 CLEANING

• If the water quality is getting decreased, extended 120 sec.

Recovery of UP quality

STANDBY

STANDBY
CHECK UP PACK

- LED Lamp light on
- Exchange UP Pack

Mode

for 3 sec

PURE WATER / READY

or

RO : READY
UP : READY

※

STANDBY

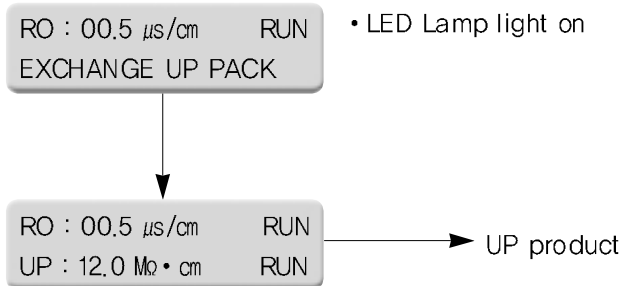
Return from Stand/by function, Just press S/B again.

3. Less than Default Value of UP Water

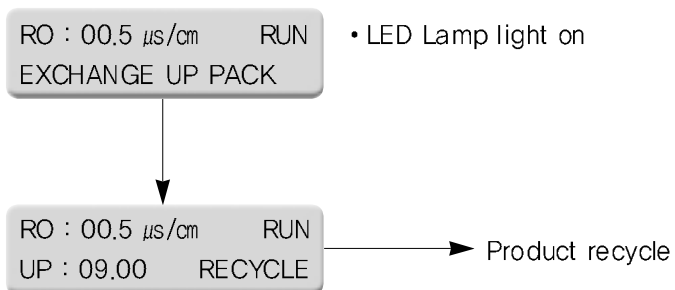
Default Value : ① 1st Value - 13M Ω •cm
② 2nd Value - 10M Ω •cm

Mode → UP Value Setting setting type (1st Value, 2nd Value)

1) Less than 1st Value



2) Less than 2nd Value



※ If you want to produce UP water which is lower than 2nd value, you can adjust the value by pressing Mode → UP Value Setting

14 Error Message

1. When the inlet water pressure is low Default Value : 1.0 kg/cm² (15psi)

PRESSURE LOW

Solutions

- ① Adjust the inlet water pressure to above than 1.0 kg/cm² (15psi)
- ② Auto Pressure S/W should be converted to Manual
※ Refer to system structure Page 7

2. When the water tank is full

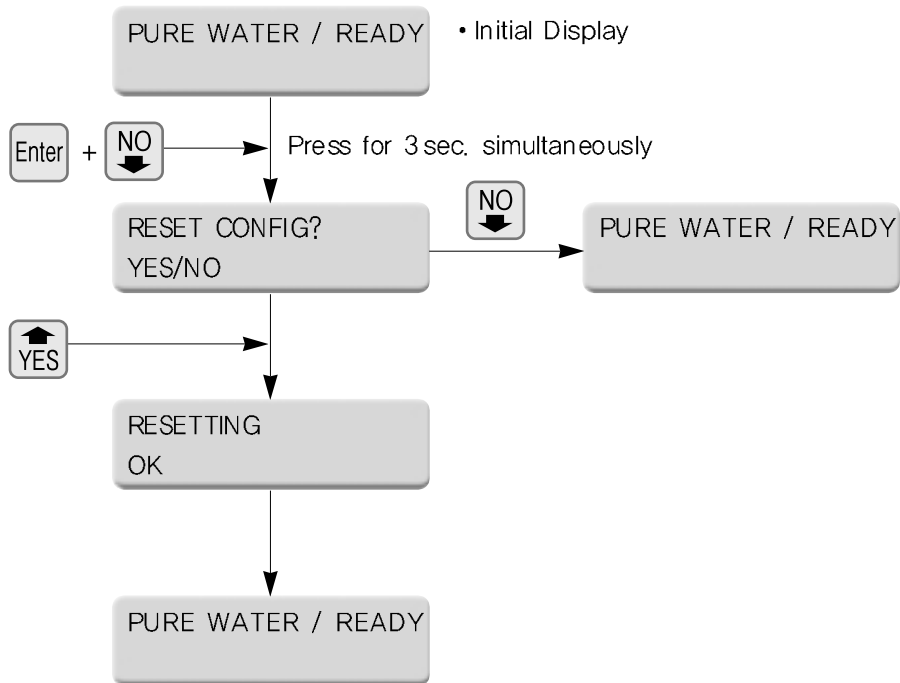
PRESSURE GOOD
TANK FULL

Solutions

- ① Use the product water in water tank, and when the water level is getting low, restart the production.

15 Reset Function

- To reset (initialize) the Default Value



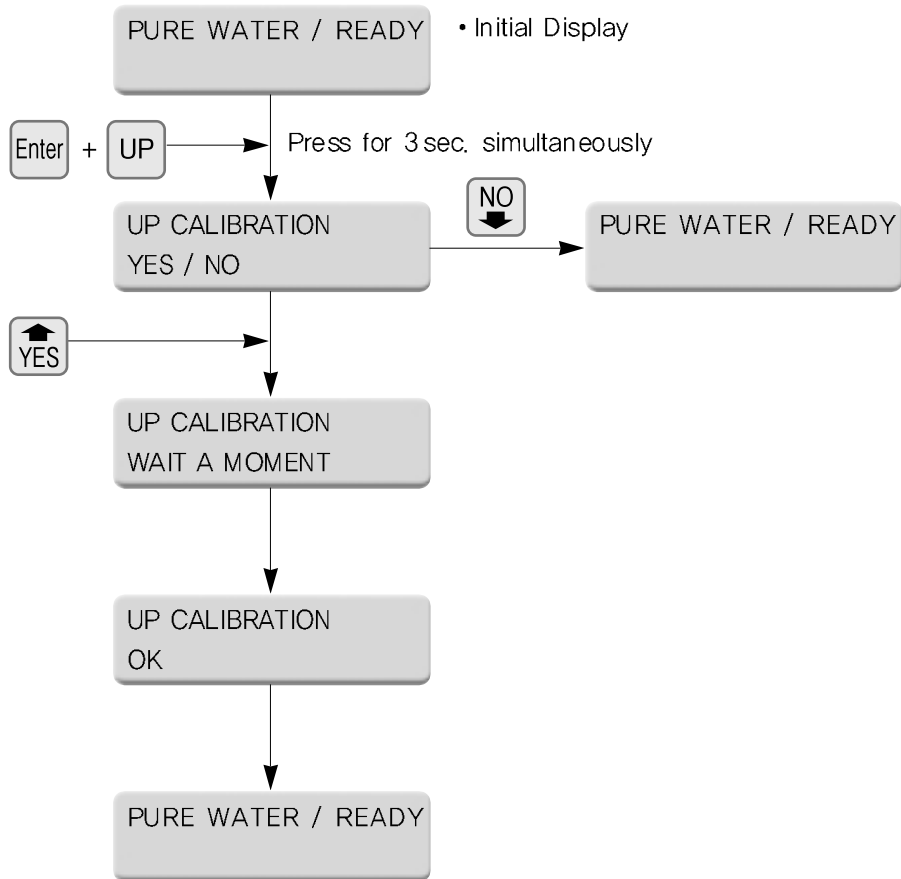
※ All setting values at **Mode** function are changed to initial ones.

※ Rapid way to set values



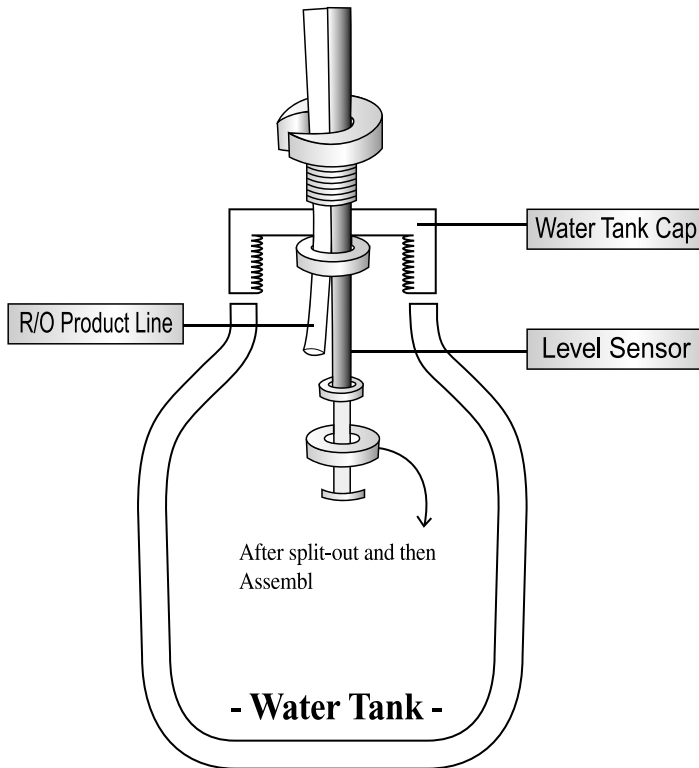
16 UP Sensor Calibration Function

- Not recommended except very particular error.

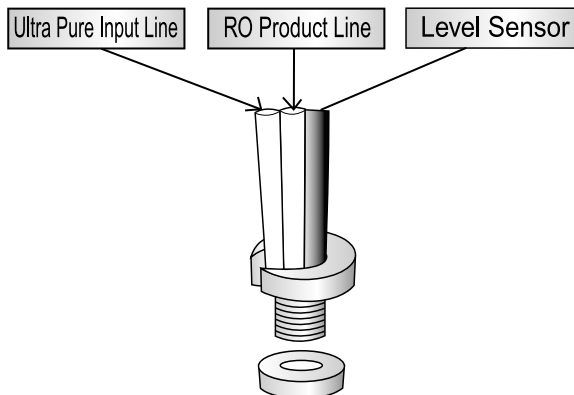


17 Using Method of Level Sensor

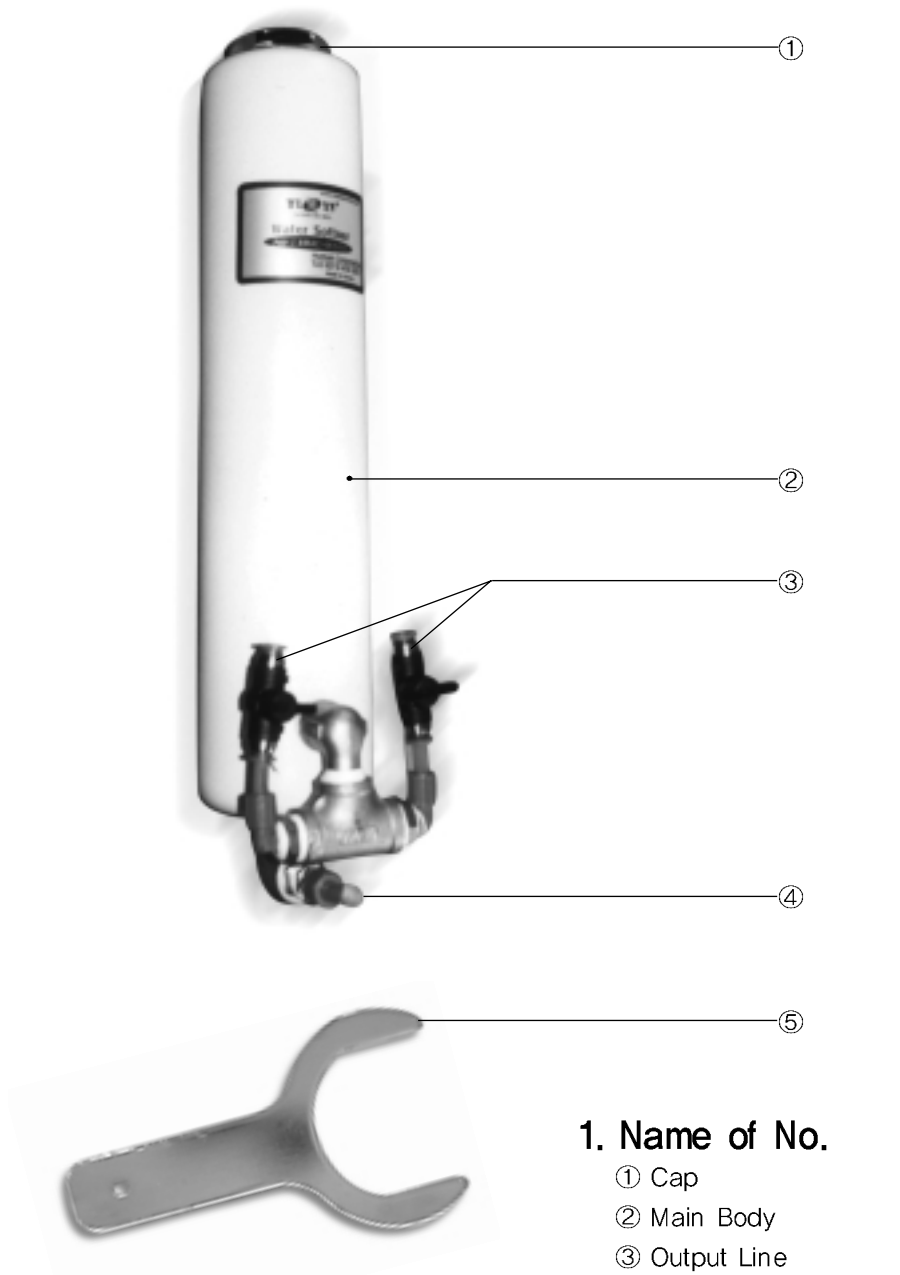
A Type Level Sensor



B Type Level Sensor



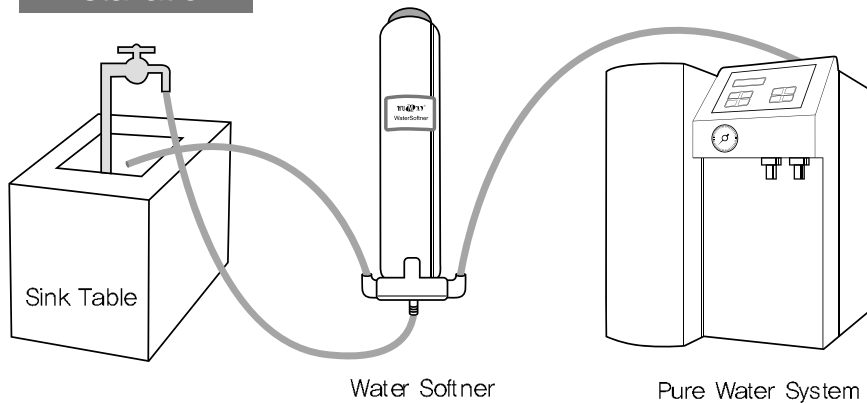
18 Water Softener for Pure Water System



1. Name of No.

- ① Cap
- ② Main Body
- ③ Output Line
- ④ Input Line (Tap Line)
- ⑤ Spanner

Installation



2. Installation

- ① Connect ④ Line to Tap water. (Φ10 mm Blue Line)
- ② Connect one of ③ Lines to Pure Water System and the other one to Sink table (Drain).

■ Example

- └─ ① The line connected to Pure Water System.
- └─ ② The line connected to Sink table.

- ③ Open the Tap water.

※ When using the softner, Open the valve of ① and Close the valve of ②

3. Method of Regeneration

- ① Close the Tap water.
- ② Close the valve of ①
- ③ Open the ① Cap with ⑤
- ④ Insert 600cc of NaCl and close the ① Cap.
- ⑤ Open the valve of ②
- ⑥ Open the tap water & Regenerate it for 30min with the flow rate of 1L/min.
(Drain approx. 30 L to sink table)
- ⑦ After the regeneration, close the valve of ② and open ①
- ⑧ It is ready to use.

4. Regeneration & Exchange Period

- ① Available volume of Water : Approx. 2000L (In case of the Hardness of tap water is 1000 ppm)
- ② Regeneration Period : 20 ~ 30 days.
- ③

Exchange period of Cation Resin in Water Softner	: Approx. 12months
Volume of Cation Resin	: Approx. 2 to 3L

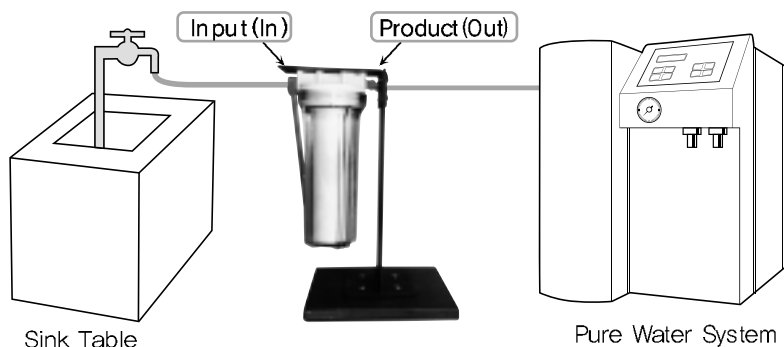
19 Water Pretreatment System for RO & Power Series



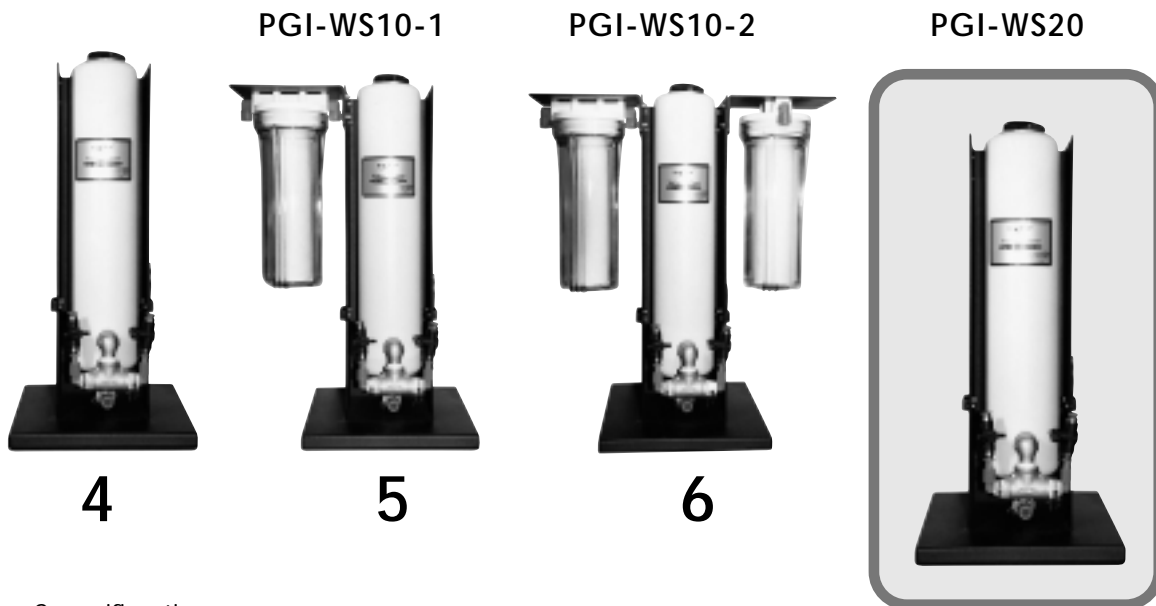
Specifications

Picture No.	Constitution	Part No.	Remark
1	1) 10" Prefilter : 1ea 2) 10" Housing : 1ea 3) Stand	PGI - PT - 1	In case of plenty of particles and rust in the feed water
2	1) 10" Prefilter : 2ea 2) 10" Housing : 2ea 3) Stand	PGI - PT - 2	In case of plenty of particles and rust in the feed water
3	1) 10" Prefilter : 1ea 2) 10" A/C filter : 1ea 3) 10" Housing : 2ea 4) Stand	PGI - PT - 3	① When the feed water is the Ground water. ② In case of plenty of particles, rust and organics in the feed water ③ When the conductivity of feed water is more than 300 ~ 400 $\mu\text{S}/\text{cm}$.

※ Installation Method



- IN : Connect to Tap Water (Input)
- OUT : Connect to Pure Water System (Product)



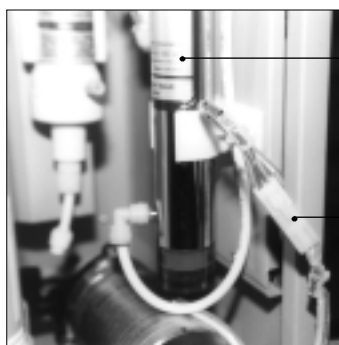
Specifications

Picture No.	Constitution	Part No.	Remark
4	1) Water Softner 2) Stand	PGI - WS10 (Volume : 2 L)	① When the feed water is the Ground water. ② In case of plenty of particles and organics and rust in the feed water.
		PGI - WS20 (Volume : 4 L)	③ In case of plenty of Hardness (Ca^{++} , Mg^{++}) in the feed water. ④ When the conductivity of feed water is more than $300 \sim 400 \mu\text{S}/\text{cm}$.
5	1) Water Softner : 1ea 2) 10" Prefilter : 1ea 3) Stand	PGI - WS10 - 1	① When the feed water is the Ground water. ② In case of plenty of particles and organics and rust in the feed water.
		PGI - WS20 - 1	③ In case of plenty of Hardness (Ca^{++} , Mg^{++}) in the feed water. ④ When the conductivity of Feed water is more than $300 \sim 400 \mu\text{S}/\text{cm}$.
6	1) Water Softner : 1ea 2) 10" Prefilter : 1ea 3) 10" A/C filter : 1ea 4) Stand	PGI - WS10 - 2	① When the feed water is the Ground water. ② In case of plenty of particles and organics and rust in the feed water.
		PGI - WS20 - 2	③ In case of plenty of Hardness (Ca^{++} , Mg^{++}) in the feed water. ④ When the conductivity of feed water is more than $300 \sim 400 \mu\text{S}/\text{cm}$.
Filters	10" Prefilter	PGI - 10PF	
	10" A/C filter	PGI - 10AC	

20 The Method to Equip the UV Lamp & Adapter

1) Back Side

- ① Place UV Lamp into Holder
- ② Connect UV Lamp and Connector

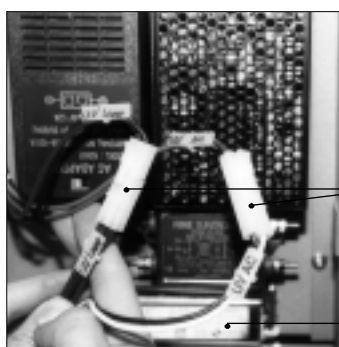


① UV Lamp

② UV Lamp Connector

2) Front Side

- ① Equip Adapter
- ② Connect each line of Adapter Line and Main Body (UV Lamp Line, UV AC Line)



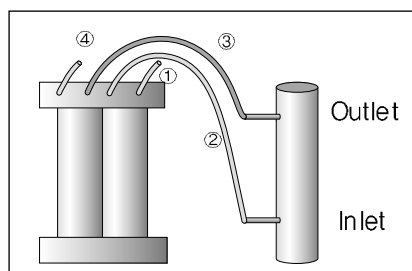
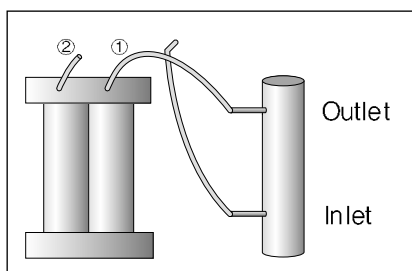
UV Lamp Adapter Connector

① UV Lamp Line

② UV AC Line

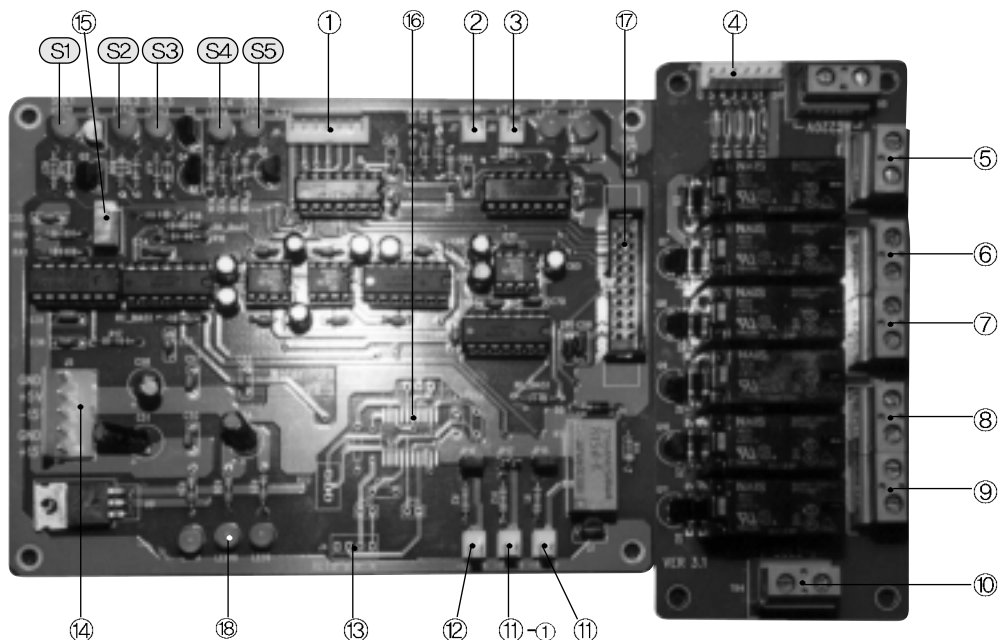
UV Lamp Adapter

3) The Method to Connect UP Pack and UV Lamp



- ① After cutting UP Pack Inlet Line ①, connect it to UV Lamp Inlet Line
- ② Connect the UV Lamp Outlet Line to UP Pack Inlet Line

1. Slave Board

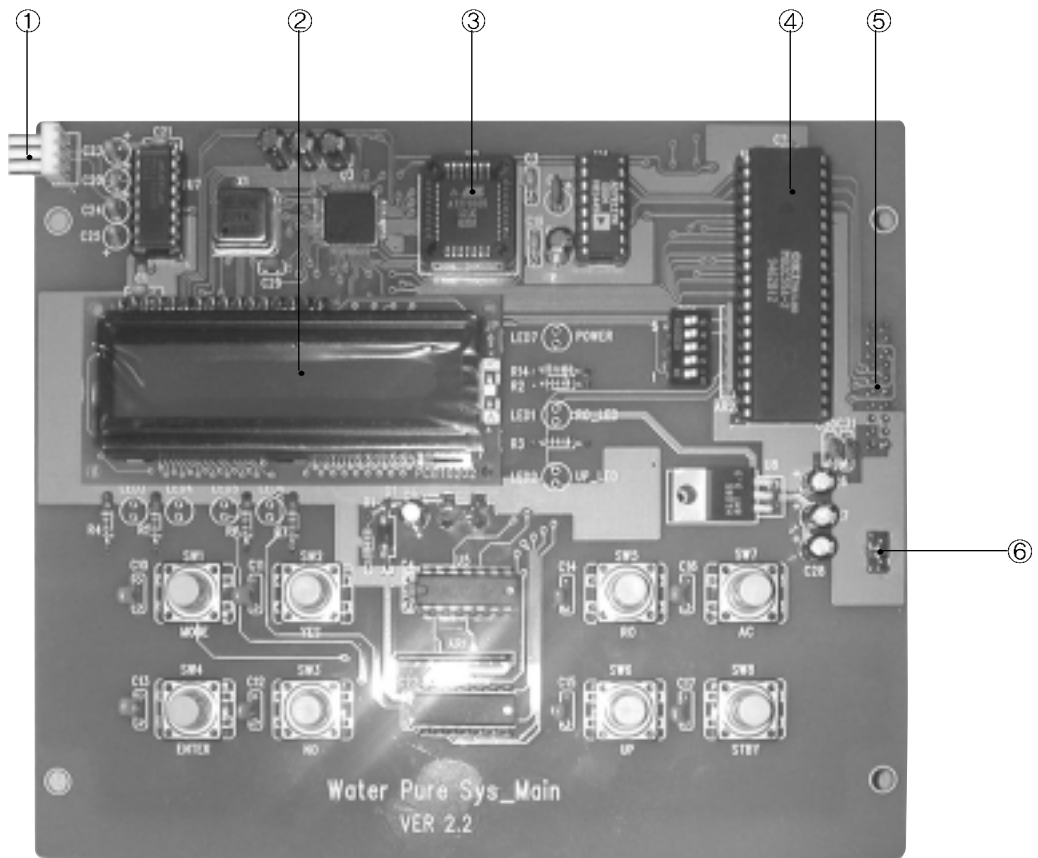


- ① 6 pin Connector (No. J 6) : Connect to ④ Connector (No. J 11)
- ② 2 pin Connector (No. J 7) : Connect to Pressure S/W
- ③ 2 pin Connector (No. J 8) : Connect to Level Sensor
- ④ 6 pin Connector (No. J 11) : Connect to ① Connector
- ⑤ 2 pin Terminal (No. TB1) : Connect to Pump Adapter
- ⑥ 2 pin Terminal (No. TB2 / Sol 1) : Connect to (S1)
- ⑦ 2 pin Terminal (No. TB2 / Sol 2) : Connect to (S2)
- ⑧ 2 pin Terminal (No. TB3 / Sol 3) : Connect to (S3)
- ⑨ 2 pin Terminal (No. TB3 / Sol 4) : Connect to (S4)
- ⑩ 2 pin Terminal (No. TB4 / Sol 5) : Connect to (S5)
- ⑪ 2 pin Connector (No. J 9) : Connect to UP Sensor
- ⑪-① 2 pin Connector : Connect to Feed water sensor
- ⑫ 2 pin Connector (No. J 10) : Connect to RO Sensor
- ⑬ 4 pin Connector (No. J 4) : Connect to Temp Sensor (Model : New Human RO /UP)
- ⑭ 5 pin Connector (No. J 5) : Connect to Power Supply
- ⑮ Variable Resistor (No. R 10) : RO,UP Sensor Calibration
- ⑯ Variable Resistor (No. R 19) : Temp Sensor Calibration
- ⑰ 20 pin Connector (No. J 3) : Connect to Display Board ⑤
- ⑱ LED Lamp (3 ea) (No. LED 8, 9, 10) ; 1) Check the condition of source of Electric Power Supply
- 2) The LED Lamp light off when ⑭ 5 pin connector (No. J 5) is supplied irregularly from the power supply
- 3) Management Method
 - Check the Main Power
 - Check the Power Supply

The lamp for checking the conditions of source of electricity for Solenoid Valve

- (S1) Check Sol 1 Valve
- (S2) Check Sol 2 Valve
- (S3) Check Sol 3 Valve
- (S4) Check Sol 4 Valve
- (S5) Check Sol 5 Valve

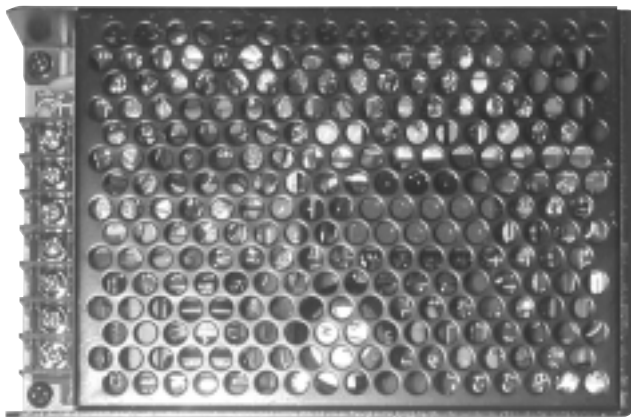
2. Display Board



- ① PC Connector (4 pin)
- ② LCD Display
- ③ EEP ROM
- ④ CPU
- ⑤ Connector (20 pin) – Connect to Slave Board (Back side)
- ⑥ Connector (2 pin) – Connect LCD Backlight (Back side)

22 Adapter

1. Power Supply



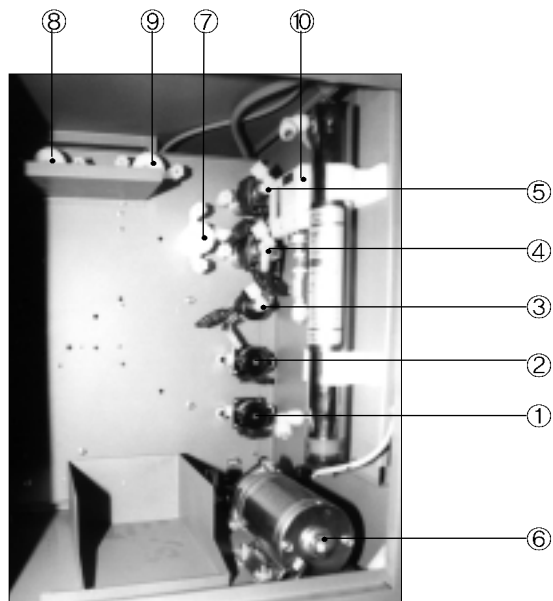
2. UV Lamp Adapter



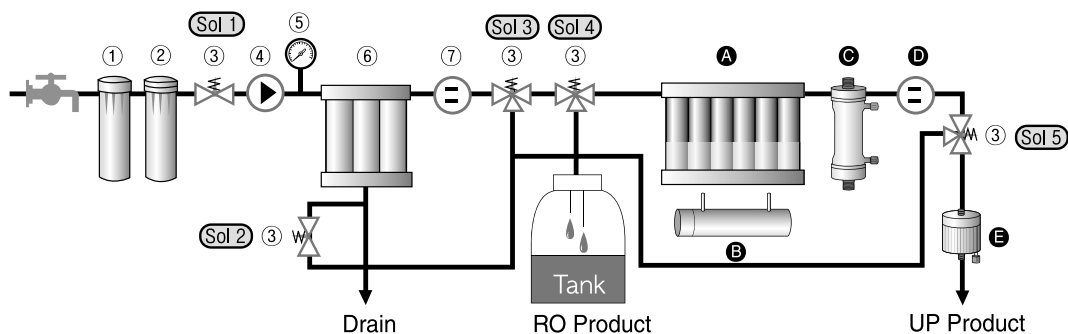
23 Trouble Shooting

1. Main Parts of PCB

- 1) Solenoid Valve No. 1 (2-way)
- 2) Solenoid Valve No. 2 (2-way)
- 3) Solenoid Valve No. 3 (3-way)
- 4) Solenoid Valve No. 4 (3-way)
- 5) Solenoid Valve No. 5 (3-way)
- 6) Pump
- 7) Feed Water Sensor (Optional)
- 8) RO Sensor
- 9) UP Sensor
- 10) Pressure Switch



2. System Flow Schematic



RO System	① Prefilter	② A/C Filter	③ Solenoid Valve	④ Pump	⑤ Pressure Gauge
	⑥ RO Pack	⑦ Conductivity Meter			
UP System	A Power UP Pack	B 254/185 UV Lamp	C MW5000 UF Filter		
	D Resistivity Meter	E 0.2μm Final Filter			

3. Sol Valve Running Status

- 1) Auto Cleaning : (Sol 1) , (Sol 3)
- 2) Auto Flushing : (Sol 1) , (Sol 4)
- 3) RO Running : (Sol 1)
- 4) UP Running : (Sol 1) , (Sol 4) , (Sol 5)
- 5) UP Recycling : (Sol 1) , (Sol 4)
- 6) Standby /Cleaning : (Sol 1) , (Sol 4)

4. Trouble Shooting Details

Trouble Parts	Problem / Possible Causes	Solution
Sol 1	<ul style="list-style-type: none"> When the system works, unknown noise occurs Unable to produce RO Water. 	<ul style="list-style-type: none"> Check the Slave Board (S1) Replace Sol 1
Sol 2	<ul style="list-style-type: none"> When the system works, unknown noise occurs After pressing M/F key, unknown noise occurs : 	<ul style="list-style-type: none"> Check the Slave Board (S2) Replace Sol 2
Sol 3	<ul style="list-style-type: none"> Over the process of Auto Drain, RO water droplets slowly without stopping the production. 	<ul style="list-style-type: none"> Check the Slave Board (S3) Replace Sol 3
Sol 4	<ul style="list-style-type: none"> Even by pressing UP key, unable to produce UP water. Over the process of UP Water production, RO water drips. 	<ul style="list-style-type: none"> Check the Slave Board (S4) Replace Sol 4
Sol 5	<ul style="list-style-type: none"> Even by pressing UP key, unable to produce UP water. Over the process of UP Recycling, UP water drips. Unable to execute recycling. 	<ul style="list-style-type: none"> Check the Slave Board (S5) Replace Sol 5
Pump	Unable to operate the system at all.	Replace Pump
Product/Drain Valve	Unable to adjust the product volume for RO product/drain.	Replace Product/Drain Valve
Pressure S/W	Even the system works properly but suddenly the system reboots/resets and initializes to Self Test mode.	Replace pressure S/W
	Unable to display	① Check the power cord ② Check the fuse ③ Check the power connector connectivity ④ Check the power supply
	UV lamp's light on error	① Check UV Lamp Adapter ② Check the power supply ③ Check the slave board
Tank Full	① Even there are no waters inside at water tank but Tank full message displays. ② When the water tank is full, unable to display Tank full message.	① Change the location of the floater at Level Sensor ② Check the slave board
Remarks	When the system is on following conditions ; <ul style="list-style-type: none"> Low Pressure Tank Full Check RO Pack 	The Sol 1 value should not works. It would be ordinary system condition.

5. Unable to produce RO Water

- 1) The feed water is not supplied properly from the tap water pipe – **Check**
- 2) Due to inferior pump or error, unable to supply the feed water sufficiently to the system.
 - **Check the operating status and replace the pump.**
- 3) Due to superannuated RO Pack, the filter membrane has been clogged. – **Replace the Filter**
- 4) When you exchange the RO Pack, you did not remove away the cutting parts.
 - **Check and remove the Cutting Parts**
- 5) In case the Solenoid valve NO. 1 (2-way) is on error condition. – **Check and Replace**
- 6) When the Prepack is clogged. – **Exchange the Filter**
- 7) When the Product/Drain valve has not been adjusted properly or on error condition.
 - **Check and adjust the pressure gauge at front door. If you unable to adjust, please replace to new one**

6. Unable to produce UP Water

- 1) In case unable to produce RO water properly.
- 2) In case the Solenoid valve NO. 4 (3-way) and Solenoid valve No. 5 (3-way) are on error conditions :
 - **Check Solenoid Valve NO. 4 (3-way) at first and replace and test again**
- 3) When the UP Pack has been clogged.– **Exchange the Filters**
 - Due to superannuated filter, the filter has been clogged by particles or dust
 - **Exchange the Filters**
 - If the cutting parts has not been removed properly. – **Check the removal of Cutting Parts**

7. LCD doesn't work after main power has been switched on.

- 1) Main Power Connector Error – Check and Replace.
- 2) Fuse has been disconnected. – Replace to spare Fuse.
- 3) Due to power supply error, unable to supply electricity to the controller. – Check and Replace.

8. When Low Pressure Message appears.

- 1) In case the feed water (tap water) has not been supplied sufficiently. – Check
- 2) In case the pressure switch is error. – When the feed water (tap water) pressure is low, check the water quality/status. If necessary, the pretreatment system attachment is recommendable.

9. Over ordinary system running, the system initializes by force. (Repeatedly execute self test and auto drain/System reset by force.)

- 1) Lack of feed water
- 2) Auto Pressure S/W – **Manual** Position
- 2) Pressure switch error – Pressure switch error can be occurred by lack of feed water pressure.
- 3) When the Level Sensor is on error or Sensor has been wrongly placed.