

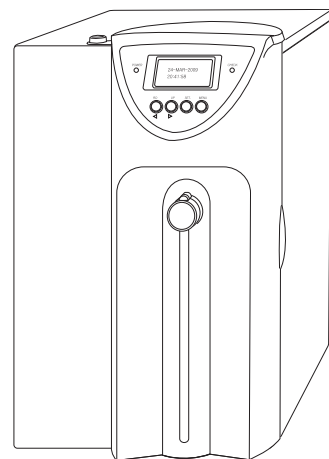
Puris[®]

Puris is a trademark of MIRAE ST Co. Ltd.

Puris, Expe-RO Water System

(Model : Expe-RO Series)

OPERATIONAL MANUAL

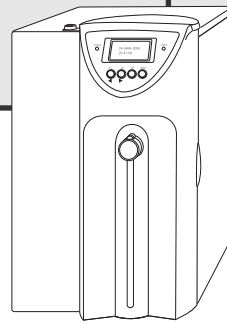


Foreword

This manual is provided to serve as the installation, operation and maintenance guide for the Expe Series LAB Water system models.

The manual should be read before attempting any cycle of installation, operation and maintenance. If the instructions in this manual are not followed, the performance of this product or the safety of the user may be compromised.

If the problem cannot be solved with using this manual, please call your distributor or the manufacture.



Special Features of Puris Expe-RO Ele Water System.

- **Easy Setting**

One-Touch Tubing system is installed for easy use.

- **Easy Filter Change:**

Introduced for the first time, using this cutting edge Quick Connector will make the Pack replacing easier and eliminates The leakage while replacing it from the instrument.

- **Low Operating Noise**

The Expe-RO Series's low level noise pump provides the user with a comfortable and quiet environment.

- **Microprocessor Control System**






Microprocessor Control System program checks condition of all systems, including the filter changing, water quality, sterilization, etc.

- **Diplay**

The wide Graphic LCD is designed to be user friendly providing all required information by clicking control buttons.

Symbol Explanation

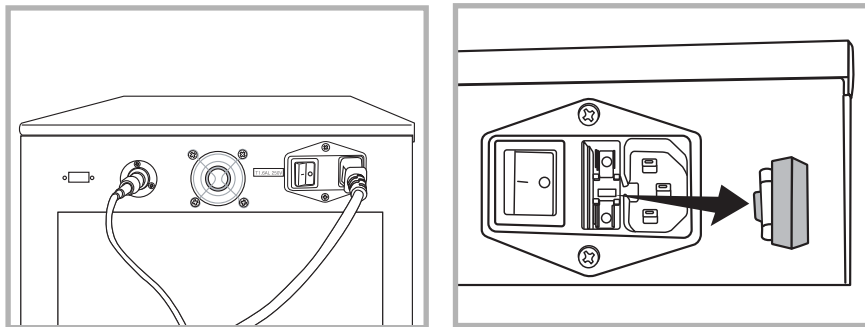
The following symbols are used for the product:

	AC(Analternating Current)
	An Earth
	On
	Off
	FUSE

Maintenance

● Changing Fuse

- Turn off the main power, then pull out the power cord.
- Check the power cord unit on the back of the instrument.
- Unscrew the area where fuse sign is indicated at the middle of the instrument.
- Pull out the Fuse Box which contains two fuses. One is a spare.
- 200-240V or 110-120V areas: T1.6A(T : Time lag fuse)



● Cleaning

Follow the following procedures to remove the dust and foreign substances:

- Turn off the main power and pull out the power cord.
- Remove the dust and other objects with a soft wet cloth.
 - Be extra careful when cleaning a Microprocessor Control Panel (upper part of the instrument).
 - It is highly recommended that you use a soft dry cloth.
 - Do not use a substance such as alcohol, benzene, benzol etc. which could cause damage to the instrument.
- Use a dry cloth to remove the vapor, water, steam.



Turn off the power before cleaning.

Caution

● Power Supply

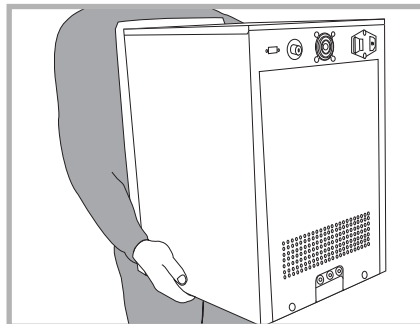
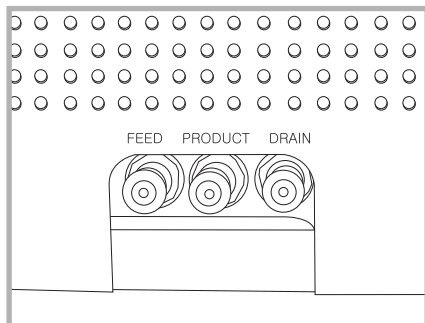
- Make sure to connect the power cord to the instrument properly.
- Make sure that the power conditions are correct.
- Do not open the PCB box and disconnect anything from the main PCB.
- Never touch the lines connected to Main PCB and Sensor.
- It can cause damage to the program and the sensor.

● Location

- Set the instrument on a table or strong flat surface.
- Always keep the instrument at the clean area otherwise it could affect the system's operation.

● Moving

- Be sure to turn off the water tap before moving the instrument.
- Disconnect the tubing connected to the water faucet and all other tubing connected at the back of the instrument.
- Move the instrument after detaching the Expe-PC pack from the instrument.
- Failing to do this can cause damage to the Quick Connector.



● Normal Cautions

- Do not leave the alcohol or inflammable liquids near the instrument.
(Any contact between electrical units and inflammable liquids could create an electric shock or flame)
- Do not leave anything on the top of the instrument, for this is the area where sensitive electrical units located.
- It is also recommended that both the instrument and RO Tank be kept away from the direct sunlight.
- The instrument must be kept at the normal indoor temperature.
- Especially during the cold winter and hot summer, the filter and PCB can be affected.

System requirement and technical specification

● Inlet water condition

- Feed Water : < 250 $\mu\text{S}/\text{cm}$
- Temperature : 5-40 °C
- Pressure : 0.07-6Bar
- Free Chlorine : \leq 3ppm
- Fouling Index(SDI) : \leq 12
- Inlet water capacity : 20L/Hr or 40L/Hr

● Dimension

- width : 330mm / length : 490mm / height : 510mm

● Weight

- RO Ele10 : 18kg
- RO Ele20 : 18.5 kg

● Connecting

- Inlet connection : 1/4 inch
- Drain connection : 1/4 inch
- Connection of producing water : 1/4 inch
- Connection of overflow tank : 3/8 inch

● Environment

- Indoor USE Only
- Altitude UP to 2000M
- OVERVOLTAGE CATEGORY II
- POLLUTION DEGREE2

● Power

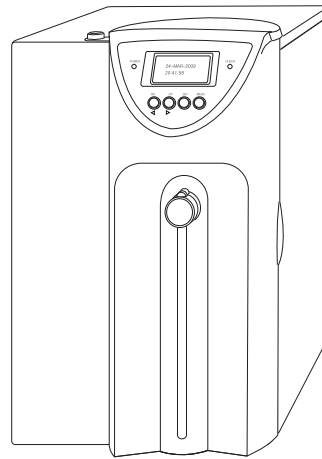
- Power : 220-240V, 50-60Hz or 110-120V, 50-60Hz
- Fuse : T1.6A \times 2

● Display

- Wide Graphic LCD
- 128 x 64 Digits

● **System function**

- Setting conductivity
- Setting inlet water conductivity
- Setting inlet water temperature
- Inlet overflow tank sensor
- Circulating function at Stand By
- Indicating Service Life for PC Pack
- Indicating Service Life for RO Membrane
- Setting the key button alarm
- Data Printing function
- Password setup
- Indicating removal efficiency



● **Specification of Water quality**

	Expe-RO Ele10	Expe-RO Ele20
Flow Rate	10L/Hr	20L/Hr
Conductivity	1-25 μ s/cm	1-25 μ s/cm
Inorganics	95-99%	95-99%
Organics	99%	99%
Paticles	99%	99%
Bacteria	99%	99%

Puris, Expe-RO Ele Water System

INSTALLATION INSTRUCTIONS

- **After unpacking the instrument, please don't connect the tubing kit to the system as yet.**
- **First, check all the contents and then attach the Pack.**
- **Use the instrument in a good condition. Leave the instrument at a safe location.**

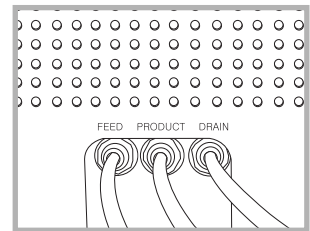
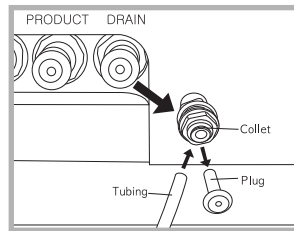
Contents checking

- **Puris, Expe-RO Ele Water System Unit : 1 SET**
- **Filter Cartridge**
 - Attached filter : Expe RO Membranne (RO Ele10 Model) : 1ea
(RO Ele20 Model) : 2ea
 - Detached filter : Expe-PC Pack | : 1pk
- **Electric cord : 1ea**
- **Tubing**
 - 1/4" Tubing : 1 Line (Feed)
 - 1/4" Tubing : 1 Line (Product)
 - 1/4" Tubing : 1 Line (Drain)
 - 3/8" Tubing : 1 Line (Tank Over Flow)
- **Cable Tie : 1kit**
- **Operation manual : 1ea**

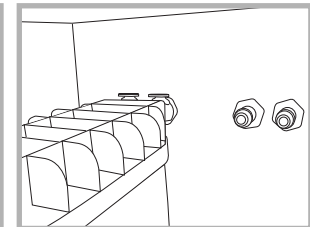
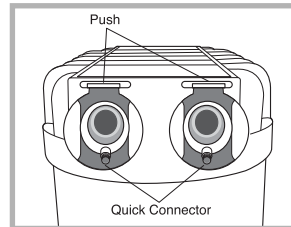
Installing instrument


- After all the contents have been checked, take the instrument to the location where you want to have it set up then follow the following instructions :
- The instrument should be set up where the water faucet and the drainage are available.

- To connect the tubing on the back of instrument, first remove the plug.
- To remove the plug press the "collect" area hard with your hand and then pull the plug.
- After the plug has been pull out, connect all the 1/4" tubing, and then connect the FEED line to the water faucet.
- Put the DRAIN line in the drainage hole.
- Connect the PRODUCT line to the Tank. Link the 3/8" line to the Tank then leave it at the drainage hole (overflow)



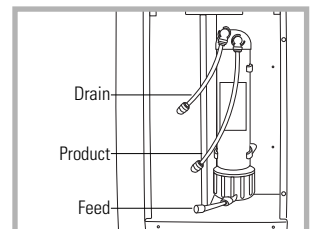
- Open the instrument door and connect the Expe-PC Pack to the Quick Connector. (Press the button on the Quick Connector before attaching the pack)



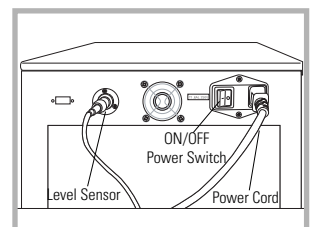


WARNING
If a part of the Quick Connector is to stick out above the instrument, a connected part of the O-Ring can be damaged.

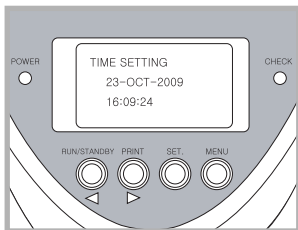
- You can see the Expe-RO Membrane when you open the left side of the door with a screwdriver. (Replacing the RO Membrane should be done by an engineer)



- Connect the power cord and level sensor to the socket located on the back of instrument.



Setting Functions



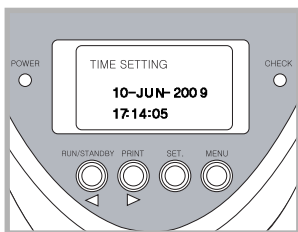
● Turn on the Main Power on the back of the instrument.

Please check the process through the display below.

TIME SETTING
23-OCT-2009
16:09:24

Setting-screen for the time and the date.

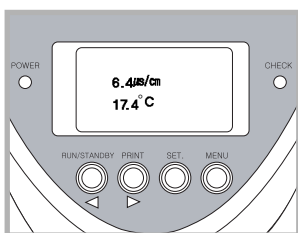
- Set the correct time and date by pressing the ◀(Increase)or ▶(Decrease) key when the number blinks.
- Moving on to the next can be done by pressing the SET key .
- Finish the set up by pressing the MENU key.



● Initial screen

10-JUN-2009
17:14:05

- The time and date will be displayed on the screen.



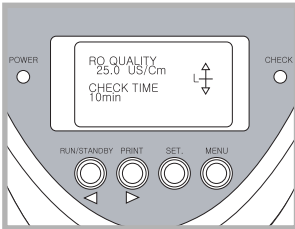
● Operating screen for RUN

6.4 $\mu\text{S}/\text{cm}$
17.4°C

- Press the RO key to produce pure water.
- Here the temperature and conductivity can be seen.
(safety standards:1~25 $\mu\text{S}/\text{cm}$)

Menu Setting

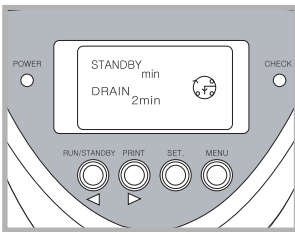
- Press the MENU to proceed setting.



● Conductivity setting

RO QUALITY
25.0 $\mu\text{S/cm}$
CHECK TIME
10 min

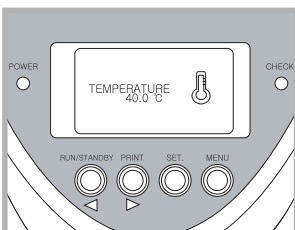
- Press the SET key and set up the RO quality and check time.
- Adjusting the numerical value can be set up by pressing the ◀(Increase) or ▶(Decrease)key. (safety standards : 25 $\mu\text{S/cm}$)



● RO Membrane automatic washing time

STANDBY
120 min
DRAIN
2 min

- This shows that a RO Membrane is washing regularly.
- To set up the RO Standby and Drain, press the SET key.
- Adjusting the numerical value can be set up by pressing the ◀(Increase)or ▶(Decrease)key. (safety standards: RO Standby 120 min, Drain 2 min)

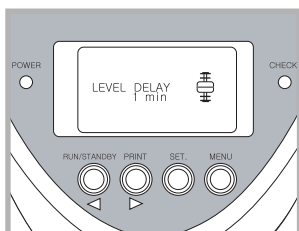


● Inlet water temperature setting

TEMPERATURE
40.0°C

- When the inlet water temperature exceeds safety standards, operation stops automatically.
- Adjusting the temperature can be set up by pressing the ◀(Increase)or ▶(Decrease)key.
- (safety standards: 40°C)

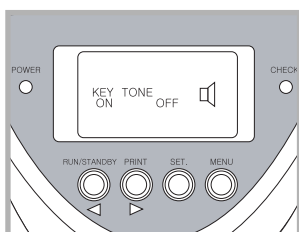
Menu Setting



● The water level sensor setting

LEVEL DELAY
1 min

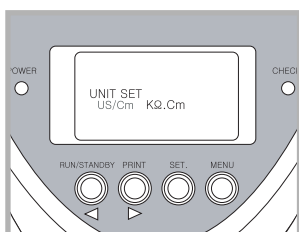
- The operating system can be set up again at a full tank level.
- Adjusting the level delay can be set up by pressing the ◀(Increase) or ▶(Decrease)key.



● Key tone setting

KEY TONE
ON OFF

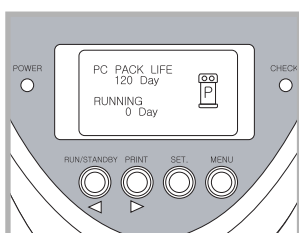
- Select the key tone by pressing the button.
- Leaving the in Key tone ON or OFF mode can be set up by pressing the ◀(Increase) or ▶(Decrease)key.



● Setting the purity level

UNIT SET
μs / cm KΩ. cm

- Select the symbol of purity.
- Selecting the symbol of RO Purity Unit Set by pressing the ◀(Increase) or ▶(Decrease)key if needed.

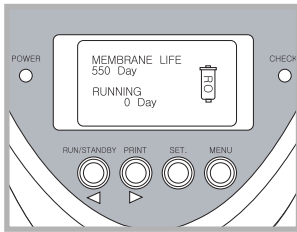


● PC PACK Normal Service Life

PC PACK LIFE
120 Day
RUNNING
0 Day

- Safety standards: 120 Day

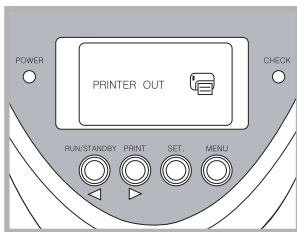
Menu Setting



● RO Membrane Normal Service Life

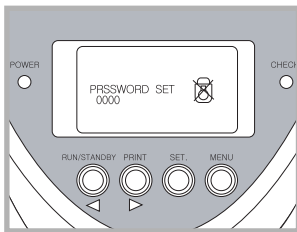
MEMBRANE LIFE
550 Day
RUNNING
0 Day

- Safety standards: 550 Day



● Printing function(Optional)

PRINT OUT

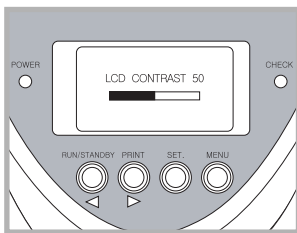


● Setting the password

PRSSWORD SET
0000

- Showing the Password for the security of the unit.

- Change the password by pressing the ◀(Increase) or ▶(Decrease)key if needed.

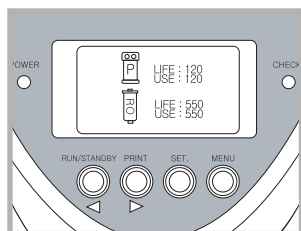


● LCD brightness setting

LCD CONTRAST 50

- Adjust the LCD Contrast figure by pressing the ◀(Increase) or ▶(Decrease)key if needed.

FILTER Normal Service Life



● Check with the Set Key

- ① LIFE : 120
USE : 120
- ② LIFE : 550
USE : 550

- PC Pack Normal Service Life
- RO Membrane Normal Service Life
- Press the SET key to display

Guideline

● Date Input

- Press the MENU.
- Move to the "Print Out"
- Press the button to following order
(SET) - (RUN/STAND BY) - (CLEAN)
- Input the new date.

● Cancel the Password

- Press the MENU key.
- The display will show the number "5000"
- Reset the old password to "0000" by pressing the SET key.
- Press the ◀(Increase) key to reset the number to "0001".
- Look at the Password section by pressing the MENU key.
- Change the password that is already entered to "0000" by pressing the ◀(Increase) or ▶(Decrease)key.
(The symbol of a padlock is shown with unlocked)
- Back to the initial screen by pressing the MENU key.

● Setting the program after replacing the filter

- Move to the filter replaced section by pressing the MENU key. after replacing The filter.
- The replaced filter's service life and running time are displayed on the screen.
- Press the MENU and SET keys simultaneously.
- The running day and life day are being indicated.
- Press the SET key that will display the Running day to "0"
- Press the MENU key to move to the initial screen.



Changing the figure of an estimated life day will affect the quality of water and could not be guaranteed the best quality of water.

Replacing the Filter

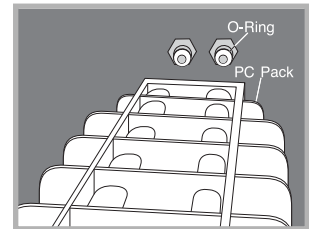
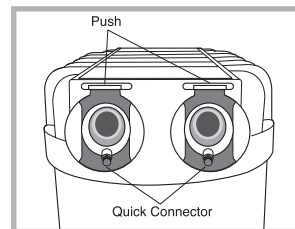
It is recommended that the work should be done after gaining the full of understanding about this product. Otherwise the performance of this product may be compromised.



Always check that the Electrical power switch and Feed water supply are switched off before attempting to change any consumables

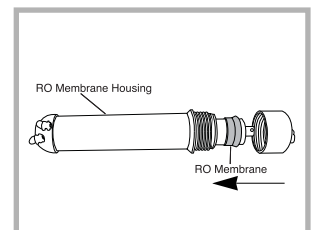
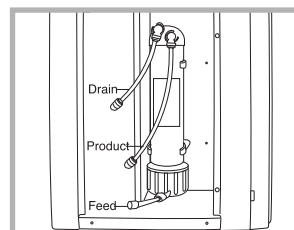
● Replacing the PC Pack

- Open the front door
- Remove the upper part of the quick connector which is a main connector to the PC Pack by pressing it.
- Press the button on the quick connector before attaching the PC Pack.



● Replacing the RO Membrane

- Open the left side of the door with a screwdriver.
- Remove the tubing connected around the RO Membrane.
- Detach the RO Membrane Housing from the unit.
- Rotate the Membrane Housing cover counterclockwise to open.
- Replace the old RO Membrane with the new one.
- Attach the new RO Membrane housing to where it has been.



Make sure the RO Membrane is inserted in a proper way is to stick out above the instrument, a connected part of the O-Ring can be damaged.

※ Set up the program after replacing it.

Consumables and Service Life

● Normal Service Life

Consumable	P/N	Service Life	Remark
Expe-PC Pack	FXPC265M	4 month	
Expe-RO Membrane	FXRM075M	18 months	RO Ele10
Expe-RO Membrane	FXRM275M	18 months	RO Ele20
Printer Kit	FXPD801M		
Validation Kit	FXVAK951M		
IQ/IQ Handbook	FXIOR910M		
Pre-Treatment System	PCPRTS15M		
Microfilter, 5 μ m	PCMF005SM		



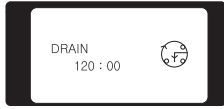





Service life is an estimate only, and will depend on the feed water quality.

Trouble Shooting

● Please observe the following process after confirming the Error Message.




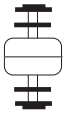






1. Confirm the Error Message.
2. Switch off the main power then unplug the power cord.
(Power Switch can be off regardless of Error Message displayed on the screen)
3. Confirm the inlet water temperature or change the filter according to the Error Message on screen.

Error Message	Trouble Shooting	
ERROR HIGH TEMP	Confirm the inlet Water temperature.	
TANK FULL	Adjust the Tank Level.	
DRAIN 120:00	Clean the RO Membrane after some periods of time.	
8.0 $\mu\text{s}/\text{cm}$ 00:00	The operation stops automatically if the conductivity rate is above 25 $\mu\text{s}/\text{cm}$	
REPLACE PC PACK	Replace the PC Pack.	
REPLACE RO MEMBRANE	Replace the RO Membrane.	



Please ask for the advice from our engineer if you can't solve the problem

ICONS

	<p>Limit</p>
	<p>Drain</p>
	<p>Temperature</p>
	<p>Level Delay</p>
	<p>Key Tone</p>
	<p>PC Pack</p>
	<p>RO Membrane</p>
	<p>Printer</p>
	<p>Password</p>
	<p>Level</p>

Puris[®]

We strive to guarantee our customers the complete satisfaction.

MIRAE ST CO. LTD not only makes high quality products but we do our best to provide the best after service to our customers.

We are always glad to receive feedbacks or any opinions from our customers. If you have any inconvenience or something that we can be of help, please don't hesitate to contact us.

Thank you!!



MIRAE ST CO. LTD

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