

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!!



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Puris[®]

Puris

RO 7.5 $\mu\text{S/cm}$
PO 15.0 $\text{H}_2\text{O/cm}$
TEMP 30.6 °C

RO DEL. SET MENU

Puris, Excel-RO Water System

Model : Excel-RO Series

User Manual



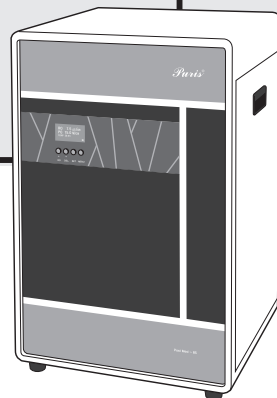
Foreword

This manual instructs you on how to prepare and operate the Excel-RO water purification system.

Please, read this manual carefully before attempting to operate the system.

The manual will give you important instructions that will help you avoid potential hazards and ensure the reliability of the Excel-RO system.

If the problem cannot be solved with this manual, please contact your regional agent or the manufacture.










Safety Operation

Excel-RO Water System functions as described in this manual.

Follow the instructions in this manual for correct usage and filter replacement. Failure to do so may result to the malfunction and breakdown of Excel-RO Water System. If any encountered problem persists, contact the Mirae ST customer center for professional assistance.

Safety Symbols

The following symbols are designed to guide you through Excel-RO Water System operation.

	AC(Analternating Current)
	An Earth
	On
	Off
	FUSE
	It indicates safety required item in this manual.
	It indicates caution required item in this manual.

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Section 1. User Manual Outline

1-1. General Outline

This manual guides you through the installation, operation, and maintenance of Mirae ST Excel-RO Water System. You will find that using Excel-RO Water system is very simple, if you take the time to read this manual beforehand. If you have any inquiries, feel free to contact Mirae ST.

1-2. Customer Center

Mirae ST Head Office

- Phone : +82-31-420-5753
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- Web site : www.miraest.co.kr
- E-mail : mrst@mrst.kr

Section 2. Product Details

2-1. Features of Excel-RO Water Systems

- Excel-RO Water Systems are designed to be a one-touch tubing and allow new users to easily install it.
- Easy filter replacement using the Quick Connector, and prevention of leaks by dual block during the removal and replacement of the filter
- Easy check of the operation status and the water quality using the Wide Graphic LCD (128 × 64 digits)

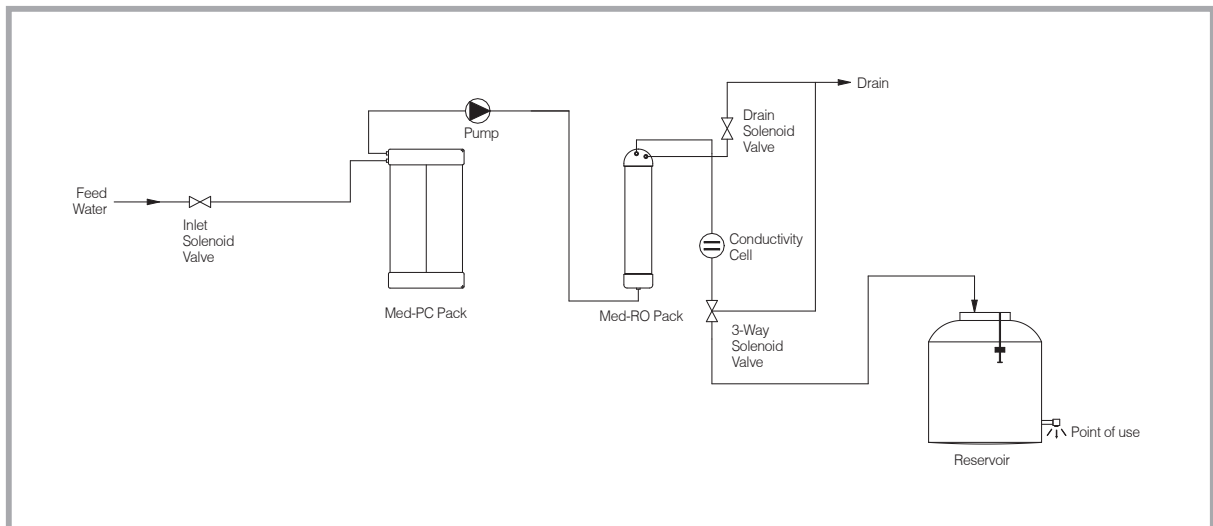
2-2. Product Quality

	Excel-RO Med55	Excel-RO Med85	Excel-RO Med150
Conductivity ¹⁾	1-25 μ s		
Flow Rate ²⁾ (up to)	55L/hr	85L/hr	150L/hr
Rejection Ratio			
Inorganics	95-99%		
Organics	up to 99%		
Particles	up to 99%		
Bacteria	up to 99%		

¹⁾Varies depending on the water inlet quality and temperature

²⁾Varies depending on the water inlet quality and temperature, and the amount of installed RO Pack.

2-3. Flow Chart



2-4. Specifications

	Excel-RO Med55	Excel-RO Med85	Excel-RO Med150
Dimension (W × D × H)	510 × 450 × 790 (mm)		510 × 450 × 1040 (mm)
Weight	42kg	44kg	68kg
Electric Power Supply Voltage	220v/3A/660w		220v/4A/880w
Display	Wide Graphic LCD(128 × 64 digits)		

2-5. Installation Environment

2-5.1 Feed water Condition

	Excel-RO Med55	Excel-RO Med85	Excel-RO Med150
Conductivity ¹⁾	up to 2000 μ s/cm		
Colloid Index or SDI	≤ 12		
Free Chlorine	<4ppm		
Temperature range	5-40°C		
Pressure	0.07~6bar		

2-5.2 Installation Environment

- Indoor use
- Ambient temperature
- Altitude : 2,000 m or less
- Pollution Degree : 2
- Humidity : 20~80% without condensation

¹⁾ The feed water may affect the product quality and the life-time of filters.

Section 3. System Installation

3-1. Cautions

3-1.1 Power Supply

- Check if the power supply is sufficient, and plug in the cord correctly.
- Do not open the top of the unit where the main board is installed.
Do not remove the main board from the system.
- Faulty connections of the cables and sensors of the main board may result to malfunction.

3-1.2 Position

- Install the system on a table in the laboratory or in a horizontal place.
- Installing the system on the floor or in a dusty or dirty place may affect system operation.
Make sure to install the system on a table or shelf.

3-1.3 Moving

- Before moving the system, turn off the faucet, and remove all tubing connected to the faucet and the unit.

3-1.4 General Cautions

- Do not place the system near alcohol or flammable liquids.
- If combustibles contact the inside of electrical parts, it may result in electric shock or fire.
- Do not put anything on top of the unit where the main board and electrical parts are.
- Do not place the unit and the pure water storage tank in a place exposed to direct sunlight to avoid microbial propagation.
- Extreme temperatures during winter and summer greatly affects the performance of the mainboard and the filter. Make sure to use the unit indoors at room temperature.

3-2. Preparation

- Take out the body of the system from the box, and check the components.
- Use it in a safe place.

3-2.1 Components

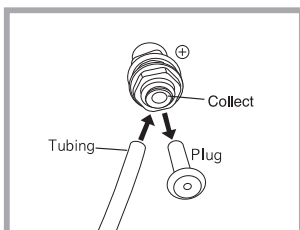
- Excel-RO Water System : 1SET
- Installed filter
 - Med RO Pack ¹⁾
- Detached filter
 - Med PC Pack ¹⁾
- Power cord : 1SET
- Tubing
 - 3/8" : 3EA (1EA for Tank overflow)
 - 1/4" : 1EA
 - Cable ties : 1SET
- User manual : 1EA

3-3. Installation

- Be sure to install the system in a place where a water inlet and a drainage are available.
- Place the system beside or below the pure water storage tank.
If the unit is placed above the tank, water inlet supply may become insufficient.

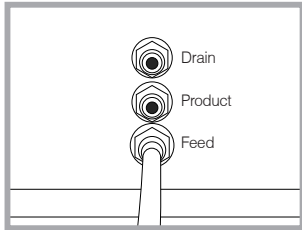
3-4. Tubing Connection

- Remove the plug before connecting the tube for leakage protection.
- Press the "Collect" part shown below by hand, and pull the plug.



¹⁾ The number of filter varies depending on the model. Check section 4-4 for further details.

- Connect 3/8" and 1/4" tubes to the part where the plug was pulled out.

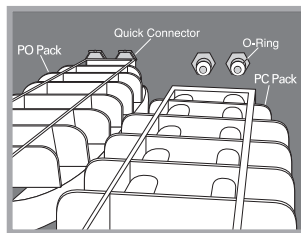
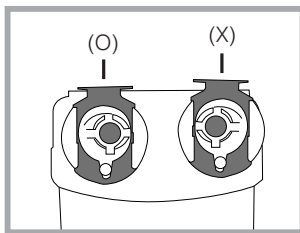
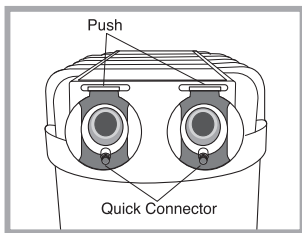


- Feed : Connect a 3/8" tube to the water supply.
- Product : Connect a 3/8" tube to the "IN" part of the tank.
- Drain : Connect a 1/4" tube to the drain.



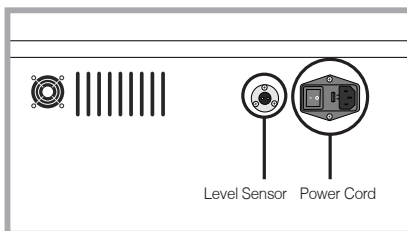
Caution : If the feed line is not directly connected to the water supply, it may cause damage to the pump. We will not be responsible for any product damage resulting from this.

- Open the cover on the right of the unit using a screwdriver, and connect the Med-PC pack.



Caution : It may damaged the O-ring, if you equip the filter while the top of the Quick Connector rises.

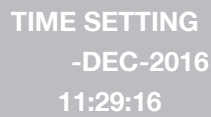
- Connect the level sensor and the power cord to the back of the unit.



Section 4. System Operation

4-1. Date and Time Setting

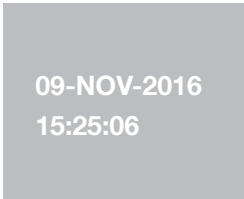
- Time Setting will be displayed when the system start-up.
Set the date and time using Δ ∇ buttons, and save settings by pressing the MENU button.



TIME SETTING
-DEC-2016
11:29:16

(before inputting time)

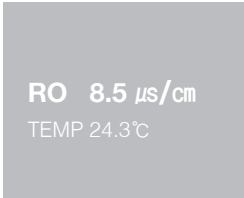
4-2. Initial Screen



09-NOV-2016
15:25:06

- The saved date and time will be displayed.

4-3. Production Screen



RO 8.5 μ s/cm
TEMP 24.3°C

- Press the RO button to run reverse osmosis.
When production begins, the water quality (conductivity and resistivity) and the water inlet temperature are displayed.

Section 5. Setting

- ※ Go to MENU.
- ※ It is already set when it shipped. Do not need to change.

5-1. Quality

5-1.1 RO Quality

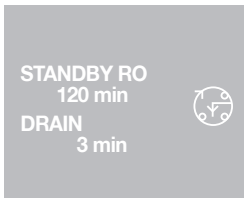


- When the water quality exceeds the setting for 15mins, it stops producing and displays an error message.
- Change the value using the Δ ∇ buttons, and press the SET button to move down. Press the MENU button to save changes and move to the next setting.
- The basic setting is 25 μ S/cm.



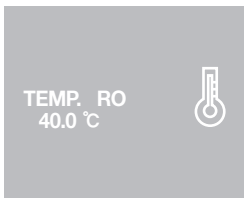
Caution : If it is set over 25 μ S/cm, it may affect the product quality.

5-2. RO Standby



- Clean the RO Membrane to maintain the water quality. When the standby mode continues for 120 min, it will automatically be cleaned for 3 min.
- Change the value using the Δ ∇ buttons, and press the SET button to move down. Press the MENU button to save changes and move to the next setting.

5-3. Temperature



- When the temperature of feed water exceeds the setting, it stops producing and displays an error message.
- Change the value using the Δ ∇ buttons, and press the SET button to move down. Press the MENU button to save changes and move to the next setting.



Caution : If the temperature of feed water is higher than the setting, it may damage the RO membrane.

Section 5. Setting

- ※ Go to MENU.
- ※ It is already set when it shipped. Do not need to change.

5-4. Level delay



- When the tank is full and the surface of the water waves when the tank moves, it delays the operation of the level sensor for the set time and restarts it.
- Change the value using the Δ ∇ buttons, and press the SET button to move down. Press the MENU button to save changes and move to the next setting.

5-5. LCD Contrast



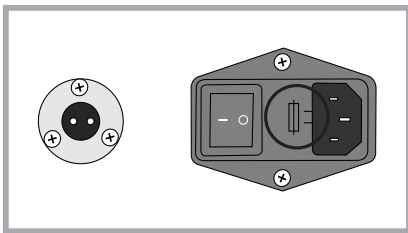
- Adjust the brightness of the monitor.
- Change the value using the Δ ∇ buttons, and press the SET button to move down. Press the MENU button to save changes and move to the next setting.

Section 6. Maintenance

6-1. Cleaning

- ※ Clean the exterior and interior (inside the door) of Excel-RO System as follows.
- Turn off the unit, and disconnect the cord.
- When you clean the top of the unit, where the main board is installed, please using a soft and dry cloth and wipe carefully.
- Wipe the exterior of the unit with a dampcloth and then with a dry cloth.
- Using substances like alcohol, benzene, and thinner may cause deformation or discoloration on the surface of the unit.

6-2. Fuse Replacement

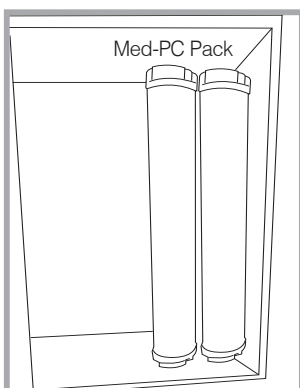


- Turn off the unit, and disconnect the power cord.
- Pull the FUSE in the center of the Power Cord Unit using a screwdriver.
- Replace an old fuse with an extra fuse in the fuse box.

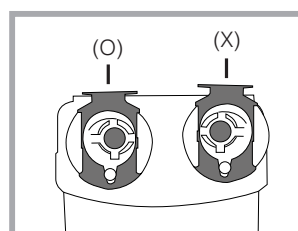
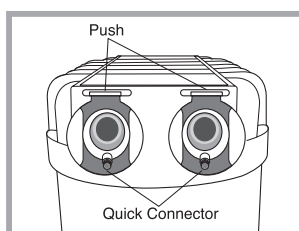
6-3. Filter Replacement

- ※ Read the user manual carefully before replacing the filter.
- ※ Incorrect replacement may lead to the damage or malfunction of the unit.
- ※ The number of installed filter varies depending on the model. Refer to section 6-4.
- ※ A notification will be displayed 10 days before the replacement day.
- ※ Be sure to reset the program in reference to section 6-3.3 after replacing the filter.
- ※ Filter's life is directly related to feed water quality and water consumption. Filters need to be replaced when the product quality drops below the setting.

6-3.1 Med PC Pack Replacement

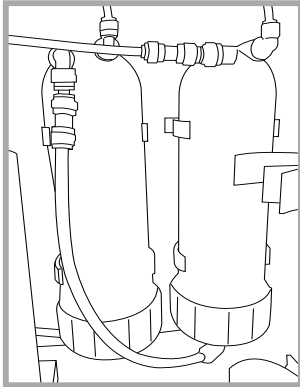


- Open the cover on the right using a screwdriver.
- Remove or replace the filter after pushing the top of the Quick Connector as shown below.



Section 6. Maintenance

6-3.2 Med-RO Pack Replacement



- Open the cover on the left of the unit using a screwdriver.
- Disconnect the tube, and detach the membrane.
- After installing a new membrane, reconnect the tube.

6-3.3 Program Resetting after Filter Replacement

- Press the MENU button to go to the replaced filter settings.
- Press the SET and MENU buttons at the same time.
- When the LIFE lights up then press SET button. RUNNING will be changed to '0'.



Caution : We cannot guarantee the product quality, if you modify the LIFEDAY arbitrary.

6-4. Recommended replacement cycle

※ Press the SET button to check the recommended replacement cycle and service life for all filters.

	Excel-RO Med55	Excel-RO Med85	Excel-RO Med150
Med-PC Pack (Lifespan)	1PK	1PK	2PK
	120 days (about 4 months) ¹⁾		
Med-RO Pack (Lifespan)	1PK	2PK	2PK
	550 days (about 18 months) ¹⁾		

¹⁾ The service life of the filter varies depending on the water inlet quality and the temperature.