VWR® E Water System

INSTRUCTION MANUAL

European Catalogue Numbers:

171-1251	VWR E5 Water System
171-1252	VWR E10 Water System
171-1253	VWR E15 Water System

Legal Address of Manufacturer

Europe
VWR International bv
Researchpark Haasrode 2020
Geldenaaksebaan 464
B-3001 Leuven
+ 32 16 385011
be.vwr.com

UK Importer:
VWR International Ltd
Hunter Boulevard, Magna Park
Lutterworth, Leicestershire, LE17 4XN
uk.vwr.com

Country of origin China

Table of Contents

1 INTRODUCTION

The VWR E system is designed to produce EDI (Type II) water directly from tap water. Water quality produced meets or exceeds the corresponding ASTM, CAP, CLSI and ISO 3696 / BS 3997 water standards.

This manual describes in detail about system performance characteristics, installation, operation, and routine maintenance. Please read this manual thoroughly for its instructions on installation, use and maintenance. Proper installation, use and maintenance guarantee the continuous flow of high quality pure water.

Please contact us or your local distributor if you encounter any issues during installation and use. Professional engineers are fully trained to support you.

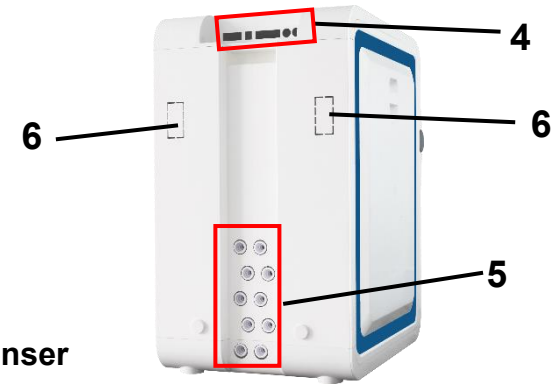
Safety Information

WARNING!

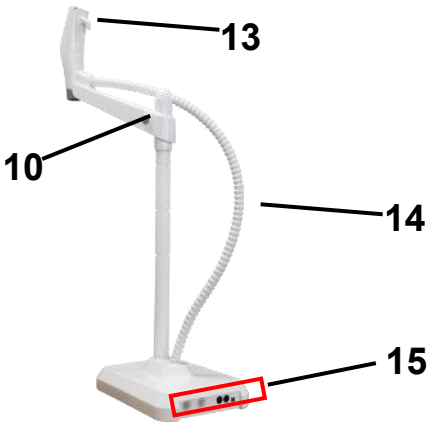
1) Always power down the system before plug or unplug any hardware. Never hot swap (hot plug) any hardware, including dispenser, monitor as it may damage control boards.
2) Disconnect the unit from the power supply prior to do service work. Refer service to qualified personnel.

1.1 System Exterior

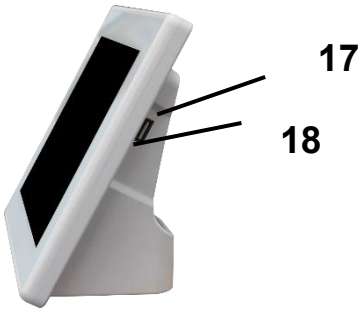
Main System



Dispenser



Control Console



1	Crossbar and dispenser rest (with optional accessories)	**2**	Side panel handle
3	Side panel	**4**	Electrical connections
5	Water outlets	**6**	Wall mount ports
7	Touchscreen	**8**	Final filter
9	Crossbar	**10**	Crossbar release button
11	Center post	**12**	Dispenser base
13	Finger rest hook	**14**	Corrugated tubing
15	Cable and water outlets	**16**	Outlets for cable or power adapter
17	USB Port	**18**	SD card slot

Description of the system

The VWR E manages the production and distribution of pure water from tap water. It consists of three main units:

- Main System: manages the production of pure water.
- Dispenser: integrates the touchscreen and manages the dispensing.
- Control Console: controls and monitors the water system and other components on the 8-inch touchscreen.

1.2 Product Features

The VWR E water system provides an integrated solution for lab water supply. This system is easy to install, easy to operate and easy to maintain.

This system has the following features:

- EDI (Type II) water is produced directly from tap water.
- The system can be link to multiple dispensers via cable or wireless.
- Internal P Pack cartridge removes oxidants, organics, particles and scaling ions to prevent them from fouling the RO membranes and the EDI module.
- Alarm will lit if RO permeate does not meet preset quality standard (SP) to protect the EDI module.
- The RO drain water is reused to increase the water yield. It is more environmentally friendly.
- Internal Ion-Pure EDI module removes most of ions and organics from RO water.
- Built-in 254 nm lamp kills bacteria.
- Various final filters (optional) can remove particles and bacteria in pure water.
- Tank recirculation mode (optional) from a touch on the monitor guarantees high water quality in storage.
- RFID tags ensure perfect placement of consumables and trace their performance.
- The control console is an 8 inch touchscreen. The console controls system and peripheral devices (Such as dispensers and UV sanitization module). All operations can be done on the console.
- Water quality, operation parameters, the status of the system, dispensers, components, and peripheral devices are stored and displayed on the large colorful touchscreen monitor.
- The console screen and dispenser screens are water-proof. You may operate the console and dispenser with wet latex gloves on.
- Signature verification is required for maintenance and service.
- VWR provides full documents support to meet user's GMP, GSP, GAP, GCP, GLP requirements.

1.3 Main Applications

EDI pure water can be used in many areas. Here are some typical applications.

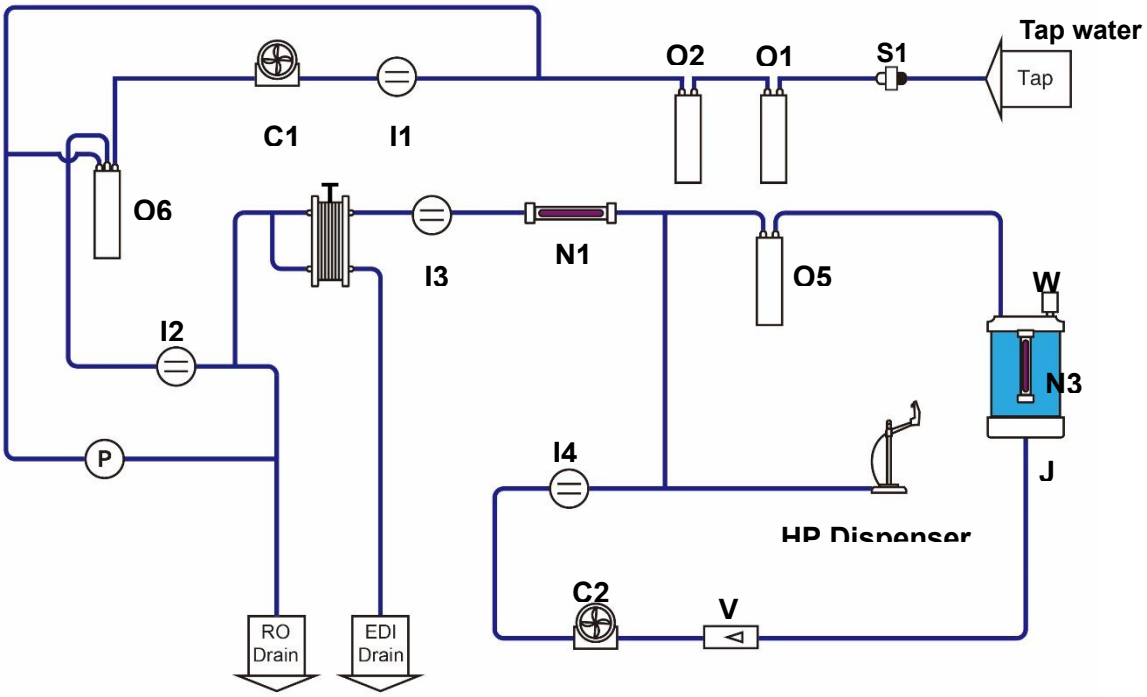
- Preparation of chemical bio-reagents
- Preparation of culture media
- Preparation of solution for chemical analysis such as HPLC and ICP
- Feed water to ultrapure water systems
- Feed water to medical device and equipment (clinical analyzers, Aging testers etc.)
- For serum and blood fractionation
- For ophthalmic

1.4 Specifications

EDI Water (Type II)	
Water Production Rate	5/10/15 L/h at 25 ℃
Dispensing Rate	Variable speed dispensing up to 2 L/min
Resistivity	> 5 MΩ.cm (at 25 ℃)
TOC	< 30 ppb
Electrical Connections and Specifications	
Operating Voltage	24 VDC
Input Voltage	100 – 240 VAC
Main System Power	< 200 W
Dimensions and Weights	
Main System Width × depth x height	32 × 44 × 54 cm (12.6 × 17.3 × 21.3 in)
System Weight	20 kg
Control Console Length x width	22 × 17 cm (8.7 × 6.7 in)
Control Console Weight	0.75 kg
Dispenser Width × depth x height	21× 29 × 61 cm (8.3 × 11.4 × 24.0 in)
Dispenser Weight	5 kg
30 L Tank (Diameter x height)	39×65 cm (15.3 × 25.6 in)
60 L Tank (Diameter x height)	39×100 cm (15.3 × 39.4 in)

1.5 Operation Principles

VWR E water system produces pure water directly from tap water. Most particles, ions and organic compounds are removed through the pre-filtration, RO membrane, EDI module, then the EDI water flows through a UV chamber to be sanitized before going to the storage tank. When in need, EDI water can be dispensed from the tank or from the dispenser.



No.	Description	No.	Description
C1	RO Booster Pump	C2	Distribution Pump
I1	Feed Conductivity Sensor	I2	RO Conductivity Sensor
I3	EDI Resistivity Sensor	I4	Tank water Resistivity Sensor (optional)
J	Pure Water Tank	N1	254 nm UV Lamp
N3	Tank UV Lamp	O1	AC Pack
O2	P Pack	O5	T Pack (optional)
O6	RO Pack(s)	P	Pressure Sensor
S1	Inlet filter	T	EDI Module

1.6 Technical Specifications

Measurement Range	Channel A (Feed Water): 1 – 1999 µS/cm Channel B (RO): 1 – 199 µS/cm Channel C (EDI): 1 – 18.2 MΩ·cm Channel D (HP): 1 – 18.2 MΩ·cm
Pressure Range	0 – 1.6 MPa
Flow Meter Range	1 – 30 L/min
Temperature Range	0 – 100 ℃
Tank Level	0 – 2 m Continuous display
Temperature Compensation Range	Automatic temperature compensation of readings Temperature compensation range: 5 – 45 ℃ to 25 ℃

2 INSTALLATION

2.1 Installation Site Requirements

Item	Requirements
Installation space	≥ 90 cm × 50 cm total
Feed water	Municipal water, outlet diameter > DN 20, ball valve，NPT thread
Drain water tubing	> DN 50
Working Temperature	5 – 45 °C
Power	100 – 240 VAC ± 10%，1 KW (5 A)
Humidity	20 – 80%

2.2 Feed Water Requirements

Parameter	Value or Range
Pressure	15 – 90 psi (1.0 - 6.0 bar) If the pressure is above 6.0 bar, need to install an external pressure regulator.
Conductivity at 25 °C	< 2000 µS/cm
pH	4 – 10
Water temperature	5 – 45 ℃
Total dissolved solids (TDS)	< 1000 ppm
Total Organic Carbon (TOC)	< 2000 ppb
Hardness (as CaCO3)	< 120 mg/L (< 120 ppm): use 171-1255 120 – 180 ppm: use 171-1256 > 180 ppm: softener recommended
Free or total chlorine	< 1.5 ppm

2.3 Feed Water Quality Measurements

Parameter	Test Method
Pressure	Use a pressure gauge
Conductivity at 25 °C	Use a conductivity meter
pH	Use a pH test strip
Hardness and chlorine	Use a reputable brand test strip
Total dissolved solids (TDS)	Use a TDS meter
Total Organic Carbon (TOC)	Use a TOC analyzer

2.4 Installation

2.4.1 Items Included

No.	Name	Quantity	Note
1	VWR E Main System	1	
2	Control Console	1	Including a cable connected to main system
3	Accessories Bag	1	Including 8 mm PE tubing (8 meter), one roll of Teflon tape, a male connector, and a power adapter (with power cords)
4	Instruction Manual	1	On USB
5	Quick Installation Guide	1	

2.4.2 System Structure and Flow Diagrams

2.4.2.1 Main System Back Side View

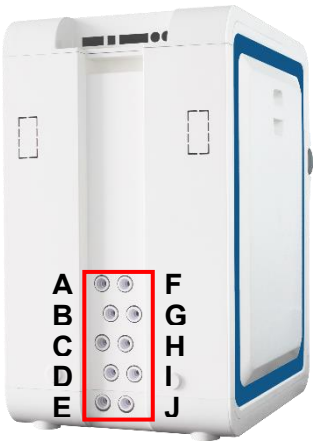
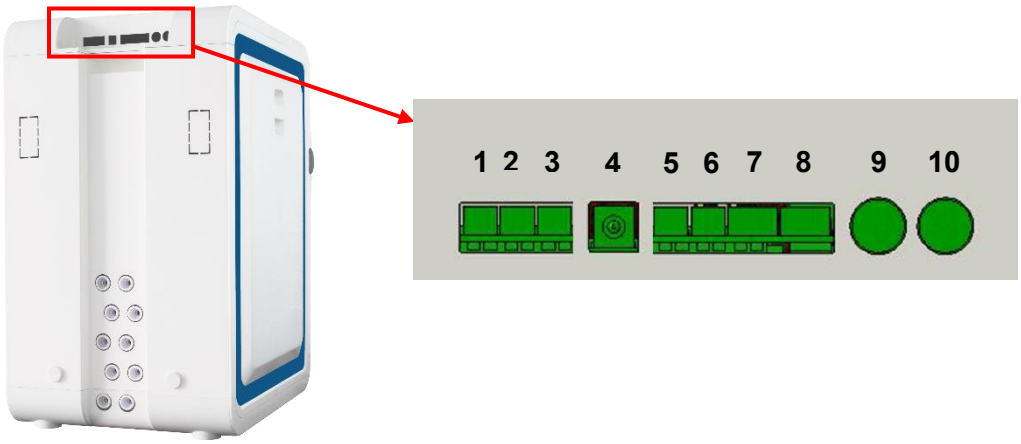


Illustration of water inlets and outlets

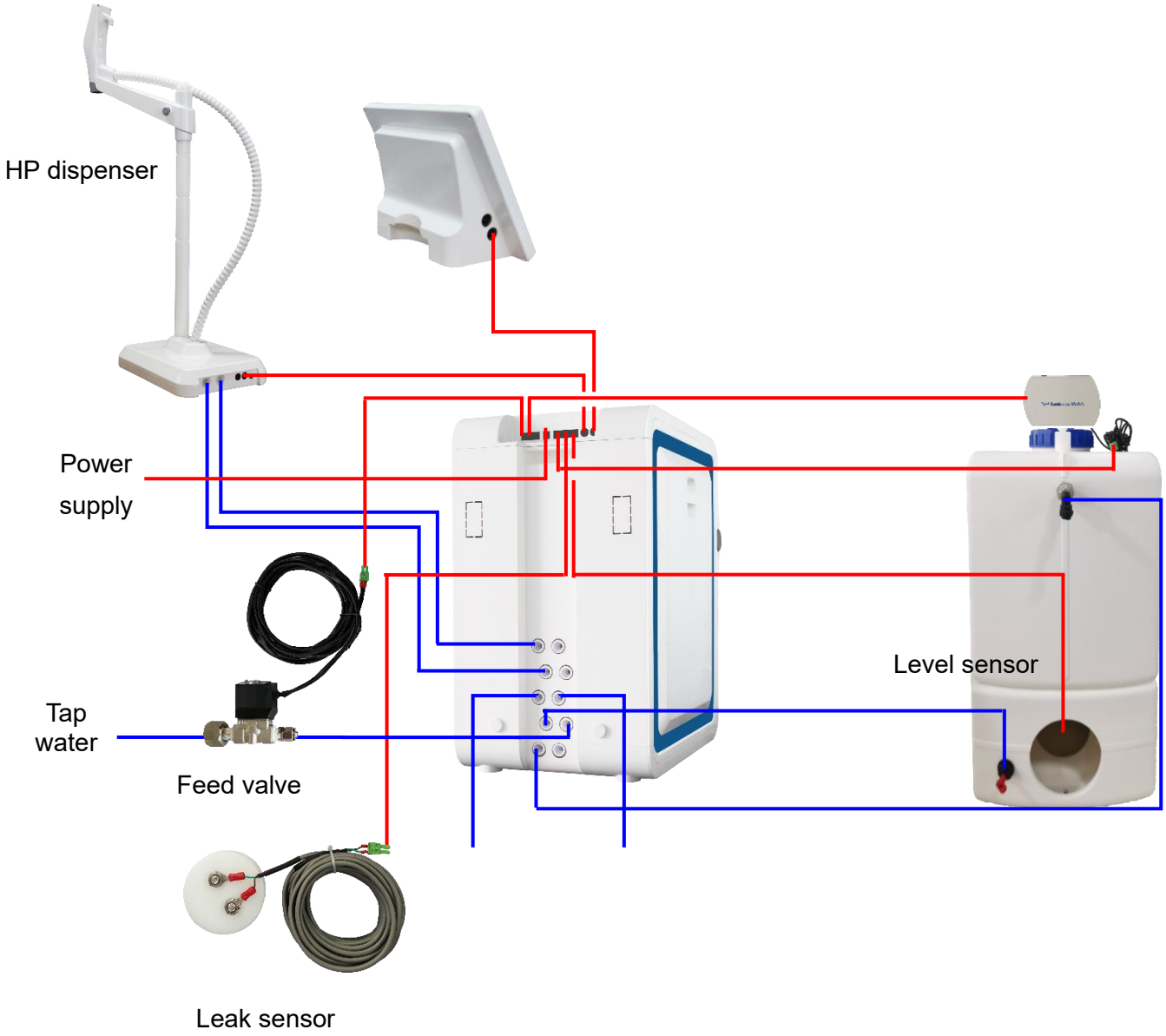
No.	Label	Description	Tubing Diameter	Connect to
A	HP Dispenser A	For pure water	8 mm	Dispenser
B	HP Dispenser B	For pure water	8 mm	Dispenser
C	EDI Drain	EDI drain	8 mm	Drain
D	Pure Water In	From the tank	8 mm	Pure water tank
E	Product To Tank	EDI product	8 mm	Pure water tank
F	UP Dispenser A	For ultrapure water	8 mm	
G	UP Dispenser B	For ultrapure water	8 mm	
H	RO Drain	RO drain	8 mm	Drain
I	Tap Water In	Tap water inlet	8 mm	Tap water
J	Spare	Spare port	8 mm	



Description of electrical outlets

No.	Label	Description	Connect to
1	Feed Valve	For the feed solenoid valve control line	Feed solenoid valve (Optional)
2	Tank UV	For the sanitization module control line	Automatic sanitization module
3	Feed Pump	For the booster pump control line	Booster pump (Optional)
4	Power	Power cord port	Power adapter
5	Prefilter Sensor	For backwash signal line	Prefiltration (Optional)
6	Overflow Sensor	For overflow sensor signal line	Overflow sensor
7	Leak Sensor	For leak sensor signal line	Leak sensor (Optional)
8	Level Sensor	For the pure water tank level sensor control line	Pure water tank level sensor
9	CAN A	Data cable port	Dispenser or control console
10	CAN B	Data cable port	Dispenser or control console

2.4.2.2 VWR E External Connection Diagram



Red Line: Electrical loop

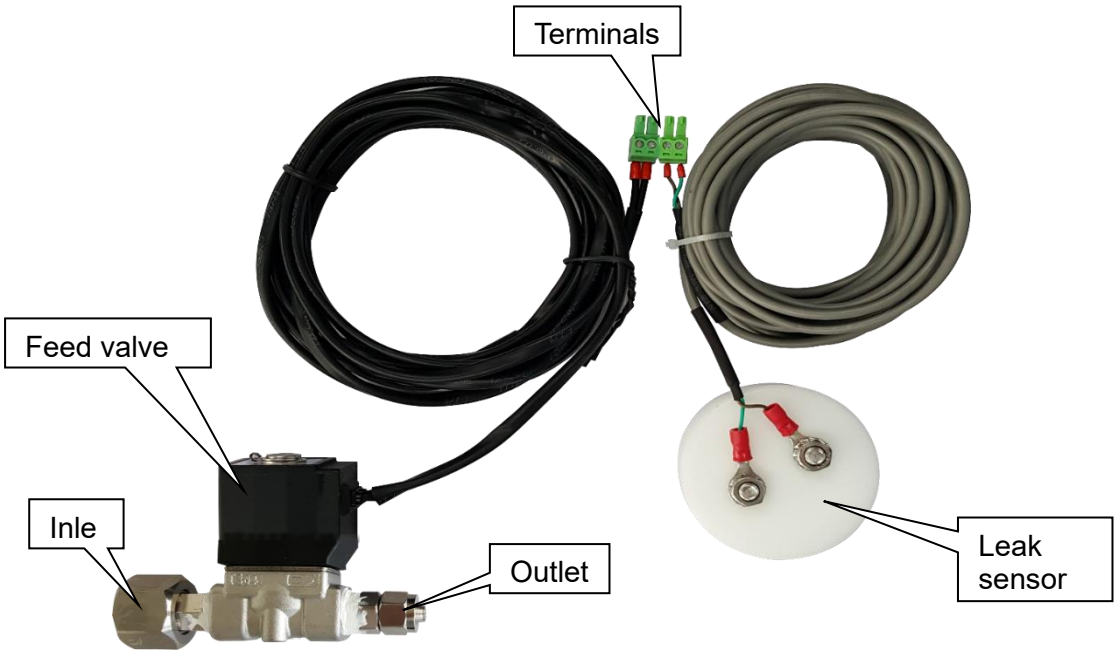
Blue Line: Water loop

2.4.3 Installing the Leak Protector

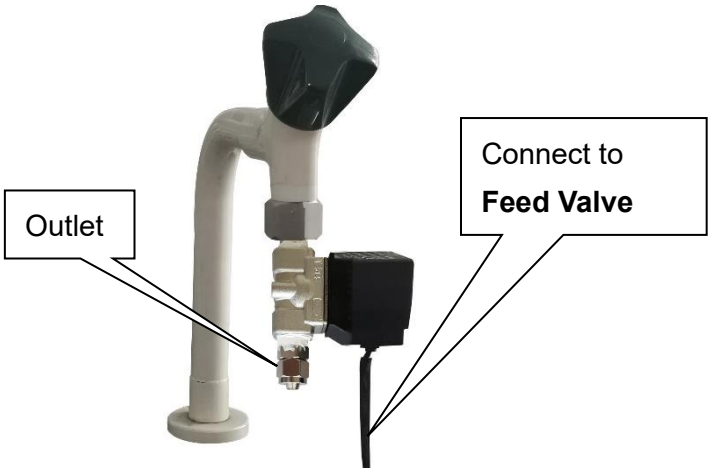
2.4.3.1 Leak Protector Specifications

Catalog No.	171-1476
Operating voltage	24 V DC
Cable length	3 m to solenoid valve
Fitting	1/2 ″ female BSP (Inlet)-8 mm quick connector (Outlet)
Method of water leak detection	Conductivity. Put the sensor near the water system
Operating temperature	5 – 45 ℃
Maximum inlet pressure	6 bar (90 psi)

2.4.3.2 Illustration of Installation



2.4.3.3 Installation



Follow the steps below if the diameter of the faucet is 1/2 inch male thread.

a) As the picture shown above, connect the inlet of the feed valve to the faucet.
b) Cut an appropriate length of 8 mm PE tubing. Insert one end of the tubing into the port **Tap Water In** on the main system and the other end into the outlet of the feed valve.
c) Place the sensor metal probes side down at a lower point on the floor or near the water system.
d) Plug the terminal of feed valve into the port **Feed Valve** on the back of the main system, and plug the terminal of leak sensor into the port **Leak Sensor**.

Follow the steps below if your system is equipped with a prefiltration device.

a) As the picture shown above, connect the inlet of feed valve to the faucet.
b) Cut an appropriate length of 8 mm PE tubing. Insert one end of the tubing into the inlet of prefiltration device and the other end into the outlet of the feed valve.
c) Similarly, cut another appropriate length of 8 mm PE tubing. Insert one end of the tubing into the port **Tap Water In** of the main system and the other end into the outlet of the prefiltration device.
d) Place the sensor metal probes side down on the floor or near the water system.
e) Plug the terminal of feed valve into the port **Feed Valve** on the back of the main system, and plug the terminal of leak sensor into the port **Leak Sensor**.

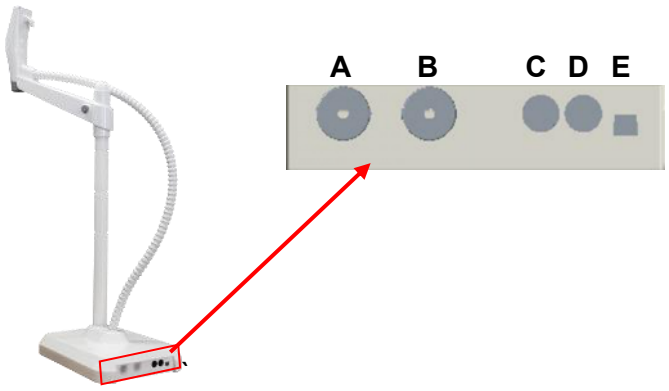
2.4.3.4 Instruction for use

The leak protector is activated automatically when the system powers up.
When it detects water, the system will shut the **Feed Valve** down, and switch to Standby mode automatically. A red icon ⚠ will appear on the screen and an alarm message box will pop up. The message "**Leak or Tank Overflow, all valves are closed, system could run after troubleshooting"** will disappear by tapping **Confirm** when the leak is resolved. Switch system from Standby to Ready mode manually so system will work again.

2.4.4 Installing the Dispenser

This water system offers two different dispensers: Dispenser 1 has an anchor base and stand, while Dispenser 3 is anchored on the system itself with no dispenser base.

2.4.4.1 Installing the Dispenser 1



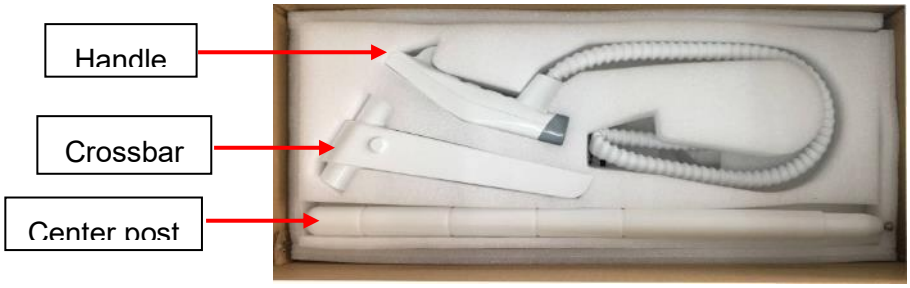
No.	Description	Connect to
A	8 mm tubing port	Main system
B	8 mm tubing port	Main system
C	Data cable port	Main system or power
D	Data cable port	Main system or power
E	Foot switch port	Foot switch (Optional)

2.4.4.1 Items included

Package			
No.	**Name**	**Quantity**	**Note**
1	Dispenser base	1	The handle is connected to the base with corrugated pipe.
2	Center post	1	With Screw
3	Crossbar	1	
4	Accessories bag	1	Including one roll of PE tubing, an 8 mm connector, a male barb connector and an Allen wrench.

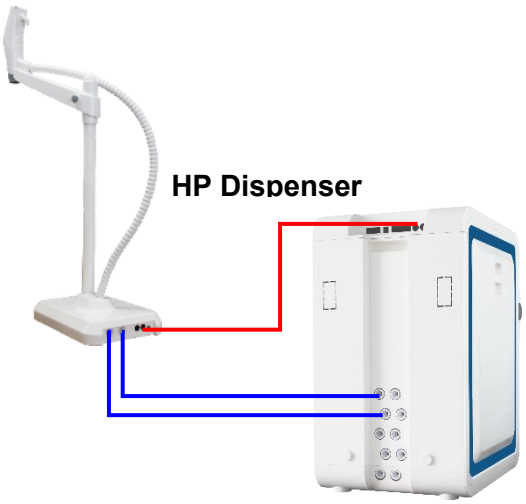
Installing the Dispenser 1 Kit (171-1273)

a) Open the package and take out the dispenser from the package. Set the dispenser base on a stable surface. This kit comes with a 3-meter link bundle.

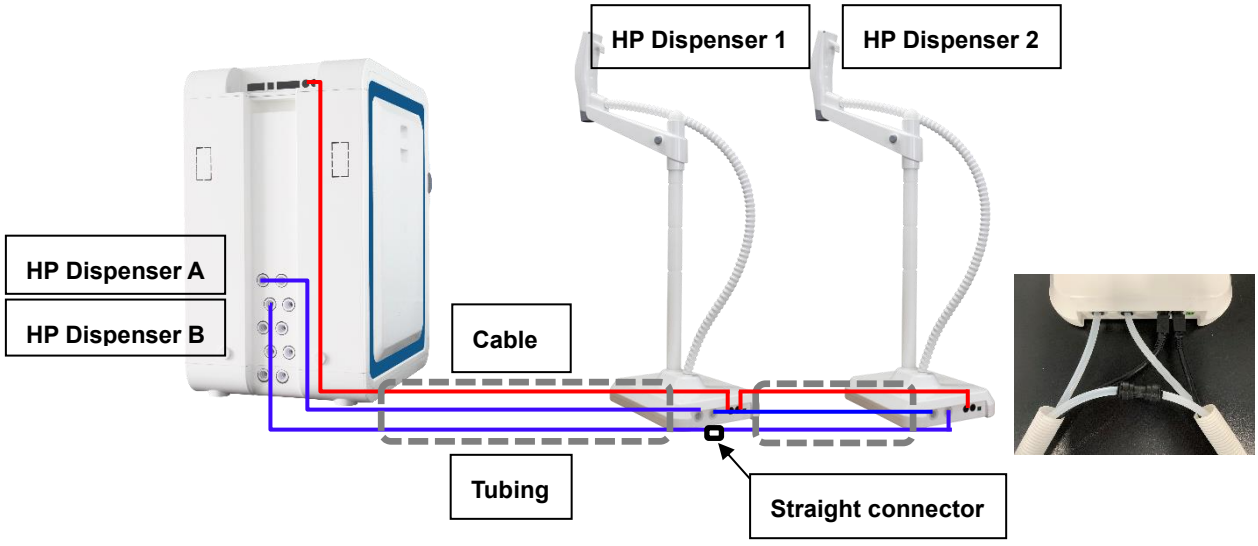


b) Install the dispenser center post to the base, then insert the crossbar on the center post, place the dispenser handle on the magnetic base of the dispenser arm.

c) Take the tubing bundle out from the package, including two pieces of tubing and a cable. Install the tubing and cable as shown in the pictures below.



System installed one dispenser for HP water



System installed more than one dispenser for HP water

2.4.4.2 Dispenser 3 (Optional)

No.	Description	Connect to
1	Touch screen	
2	Dispense button	
3	Dispenser tubing connector	Main system
4	Dispenser cable connector	Main system

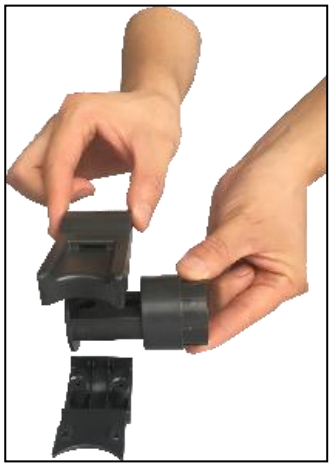
Package			
No.	**Name**	**Quantity**	**Note**
1	Dispenser	1	
2	Base kit	1	Including screws
3	Accessories bag	1	One dispenser adapter, two 8 mm tee connectors, two 8 mm quick connectors, eight 8 mm lock-clamps, two 6 mm lock-clamps, 1.5 m CAN cable

Installing the Dispenser 3 (171-1275)

a) Take out and assemble the base kit. The base is assembled differently on the left and right sides of the crossbar. Refer to the pictures below to install the base.

Install the base on the left side of the unit

Base kit



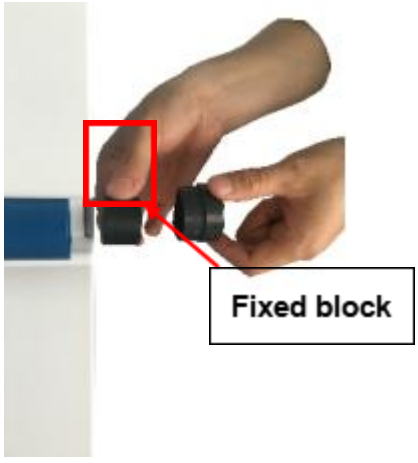
Install the base on the right side of the unit

b) Open the side panels of the main system on both sides. Remove the screws as shown below.

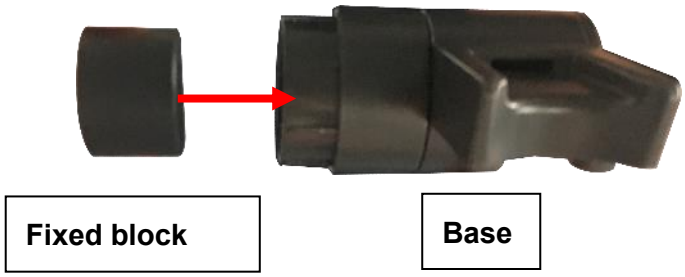
The left side of the VWR G

The right side of the VWR G

c) Remove the corresponding caps from the crossbar. Remove the fixed block from the cap.

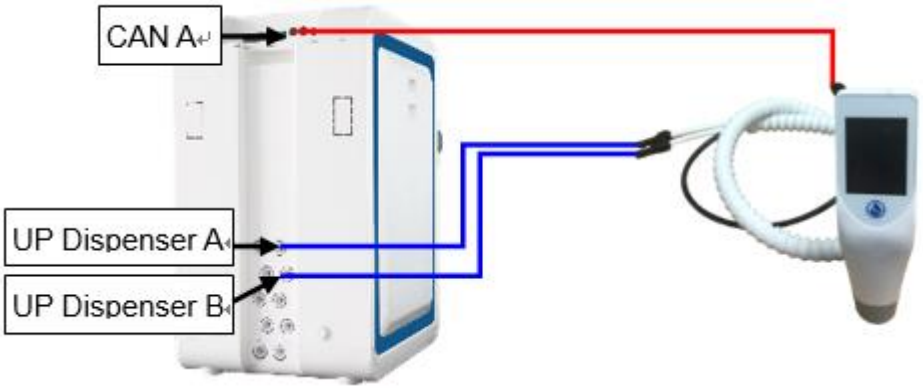


d) Insert the holding block into the base and then insert the base into the crossbar. Fix it with the screw.

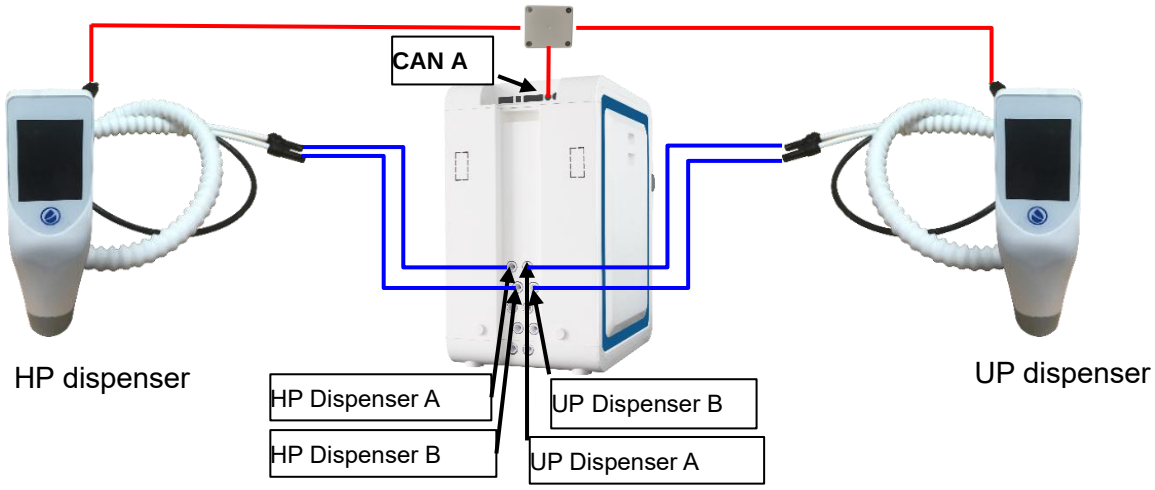


e) Install the tubing and cable.

Ultrapure dispenser: Insert the dispenser tubing connectors into the **UP Dispenser A** port and **UP Dispenser B** port on the back of the main system respectively. Then insert the dispenser cable connector into the **CAN A** or **CAN B** port on the back of the system.



Pure dispenser: Insert the dispenser tubing connectors into the **HP Dispenser A** port and **HP Dispenser B** port on the back of the main system respectively. Then insert the dispenser cable connector into the **CAN A** or **CAN B** port on the back of the system.



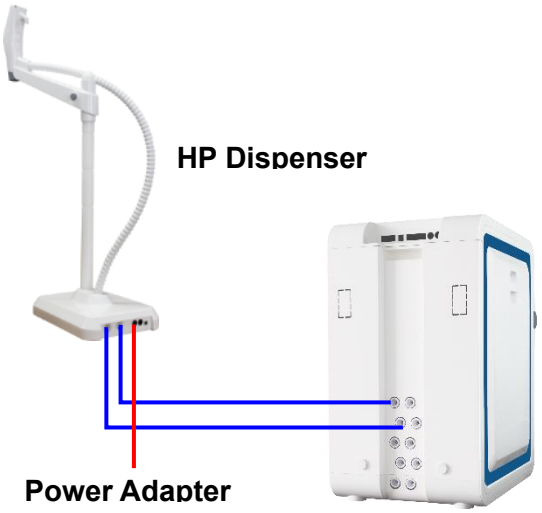
Pure and Ultrapure dispenser: Follow the picture above to connect the pure dispenser and the ultrapure dispenser using the dispenser adapter.

2.4.4.3 Installing the Wireless Dispenser Upgrade Kit

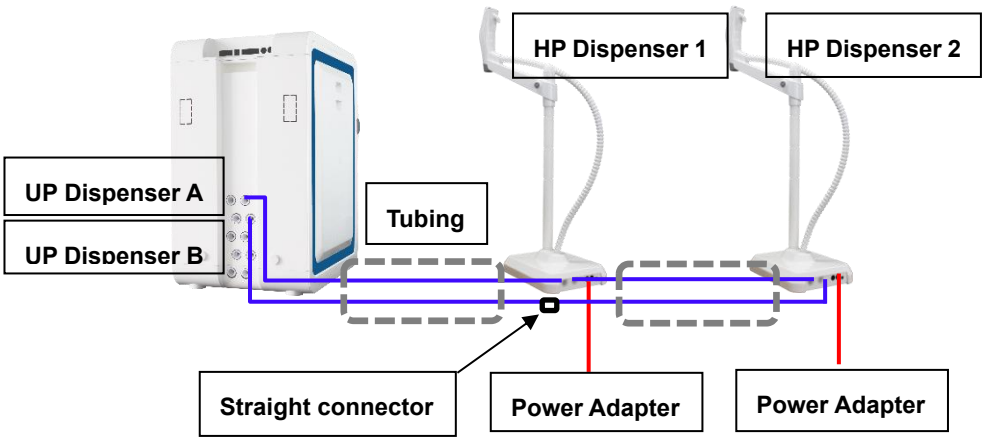
a) For dispenser connected using wireless, need to use the upgrade kit (**171-1274**) to install the dispenser. The kit comes with a 10 meter link bundle and a power adapter

b) Assemble the dispenser as that described above.

c) Connect the tubing and power adapter as shown in the pictures below. Take the tubing out from the package, cut two pieces in proper length and insert them to the system and dispenser base as shown below.



System installed one dispenser for HP water



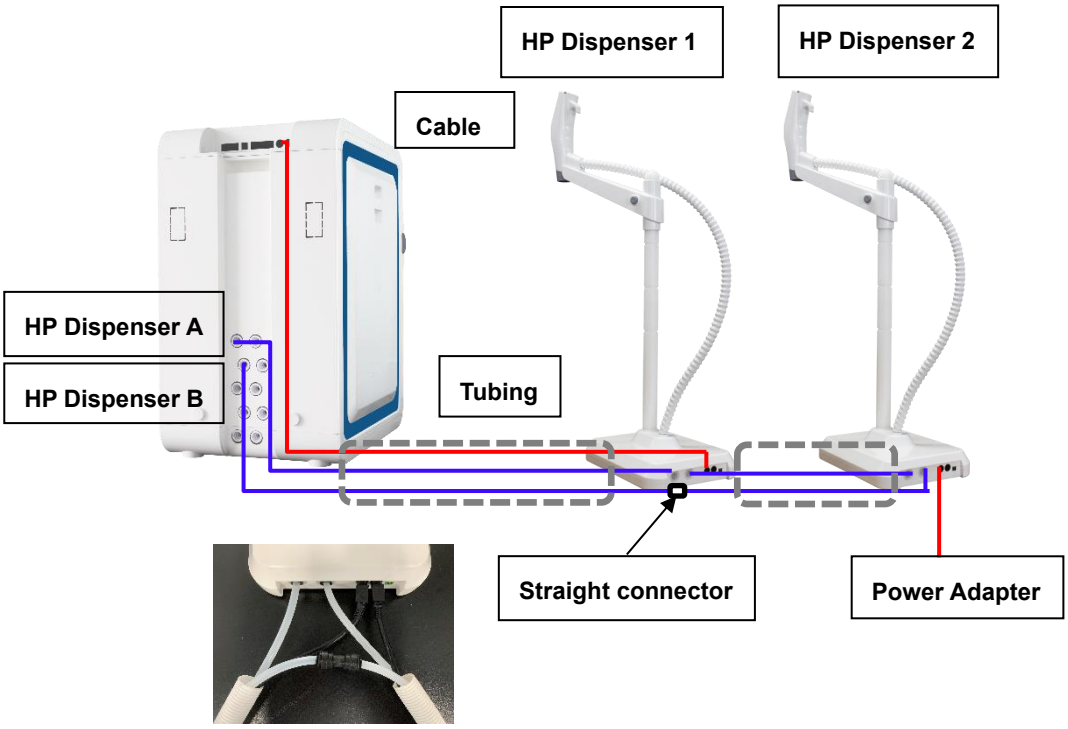
System installed more than one dispensers for HP water

2.4.4.4 Installing the Dispenser Kit (171-1273) and the Wireless Dispenser Upgrade Kit

a) For one dispenser connected via wire and another one dispenser connected using wireless, need to use the upgrade kit (**171-1274**) to install the dispenser. The kit comes with a 10 meter link bundle and a power adapter

b) Assemble the dispenser as that described above.

c) Connect the tubing and power adapter as shown in the pictures below. Take the tubing out from the package, cut three pieces in proper length and insert them to the system and dispenser base as shown below.



2.4.5 Installing the 30/60 L Pure Water Tank

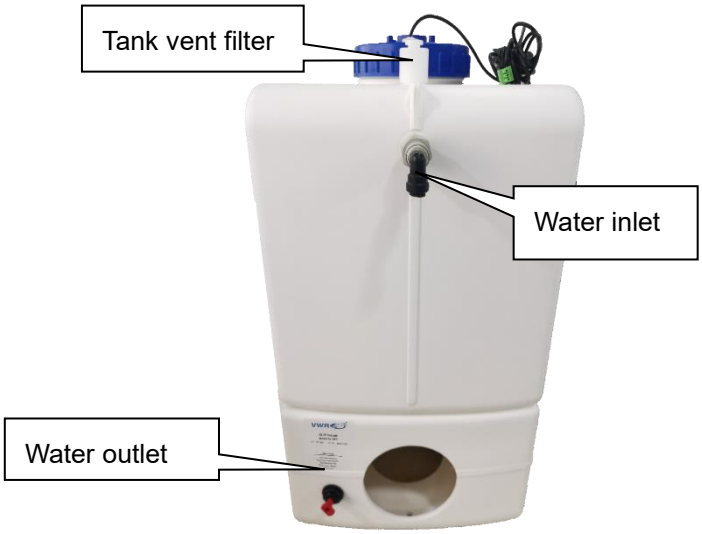


Illustration of the PE Water Tank Assembly

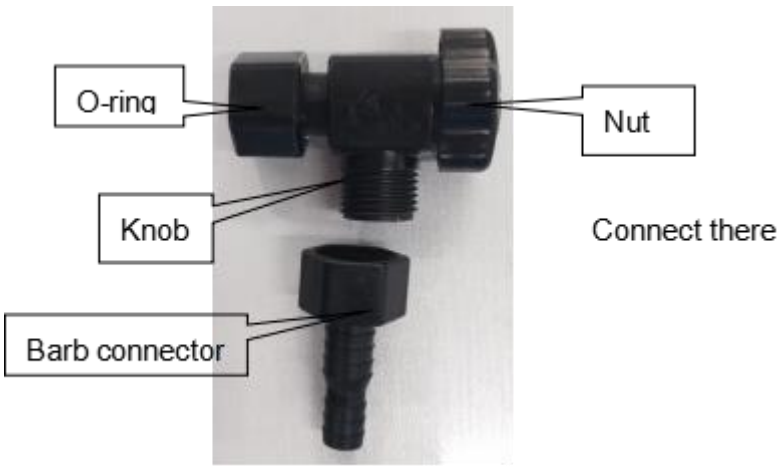
2.4.5.1 Items Included

Package		
Item.	Description	No.
1	Tank	1
2	Faucet accessories bag	1
3	8 mm elbow plug	3
4	quick connector	1
5	3 m PE tubing	1
6	UV sanitization module	1
7	Quick installation guide	1

2.4.5.2 Installation

a) Remove end caps on all ports

b) Install the faucet:



Step 1 Remove the knob and barb connector from the package. Twist on the barb connector to the knob, then remove the yellow tape from the O-ring.

Step 2 Screw on the assembled faucet to the tank until its finger tight.

c) Screw the quick connector into the tank water inlet. Insert the two 8 mm elbow plugs provided into the tank water inlet and outlet respectively. Take the 8 mm tubing out from the system accessories bag, cut two pieces in proper length of tubing to link the tank to the system.

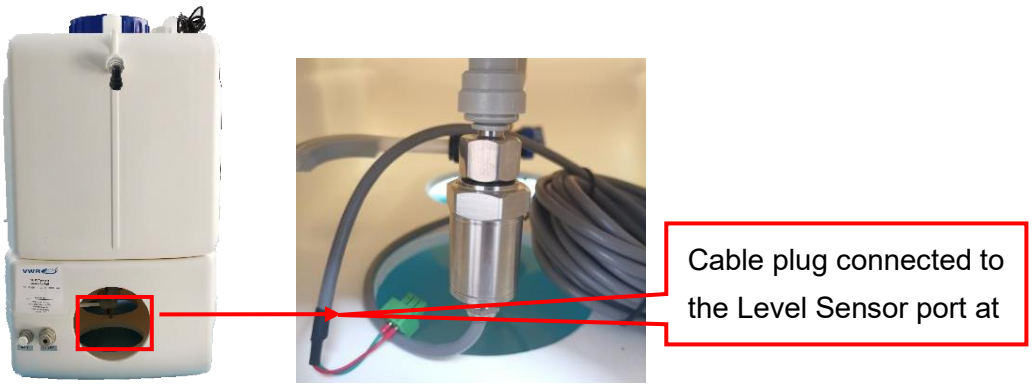
d) Insert one end of the 8 mm tubing into the **INLET** port at the top of the PE tank and the other end into the **Product To Tank** on the system.

e) Insert one end of the 8 mm tubing into the **OUTLET** at the base of the PE tank and the other end into the **Pure Water In** on the system.

f) Screw the Tank Vent Filter to the top of the PE tank (see picture Tank Top View)

g) Connect the cable plug from the tank level sensor to the **Level Sensor** port on the back of the water system

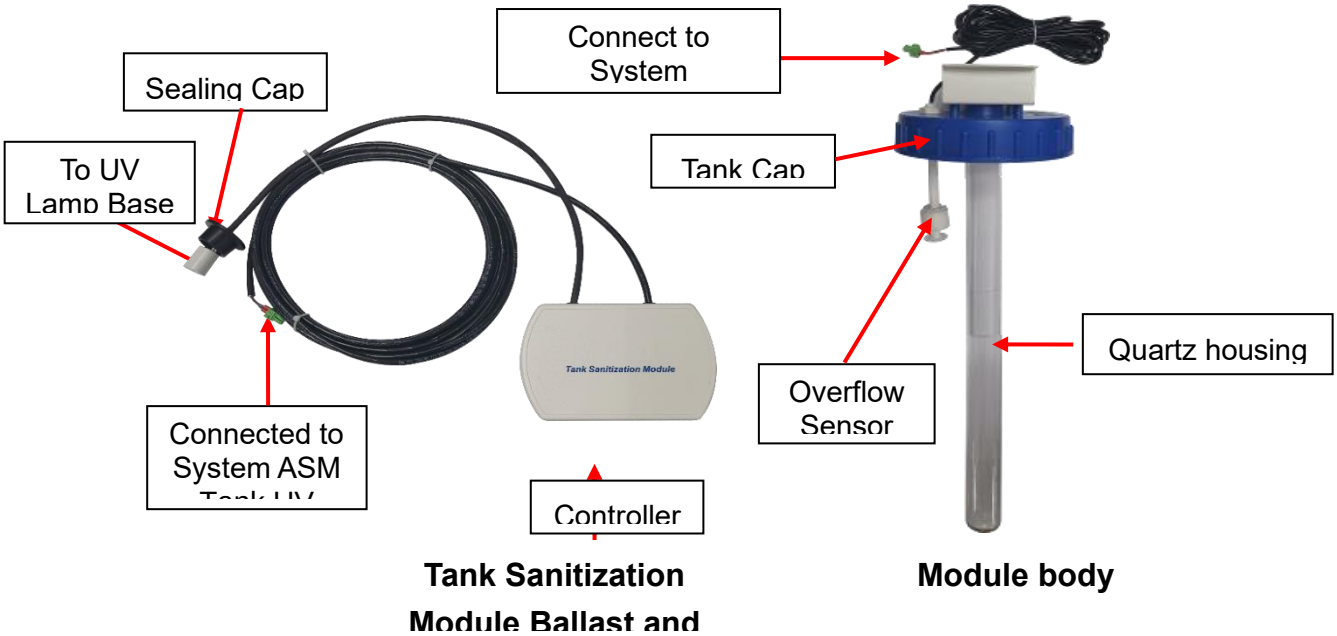
h) Connect the cable plug from the overflow sensor to the Overflow Sensor port on the back of the water system.



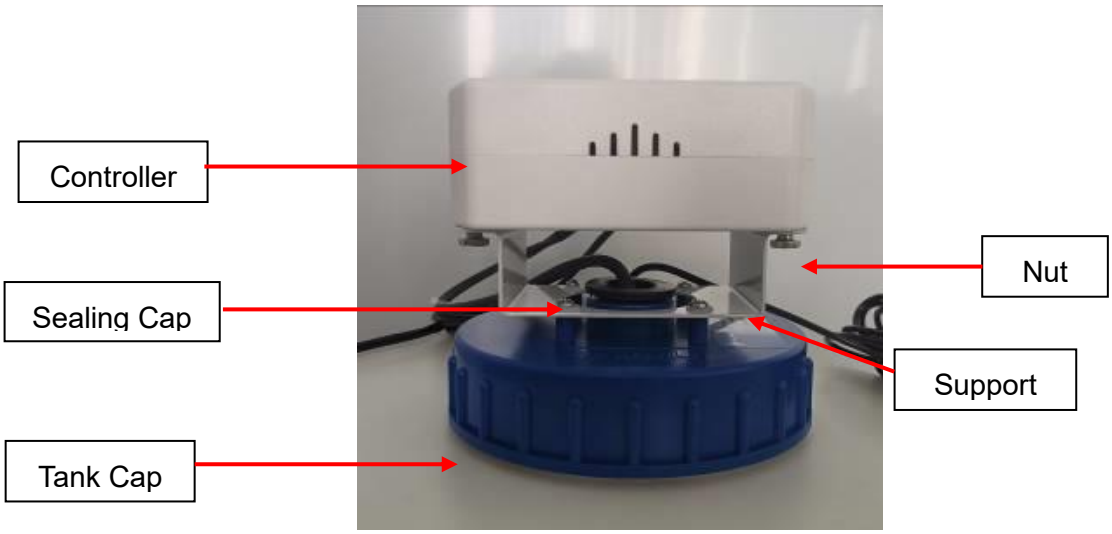
Note: If UV sanitization module is installed, skip the step **h**.

i)

j) Install the UV sanitization module.

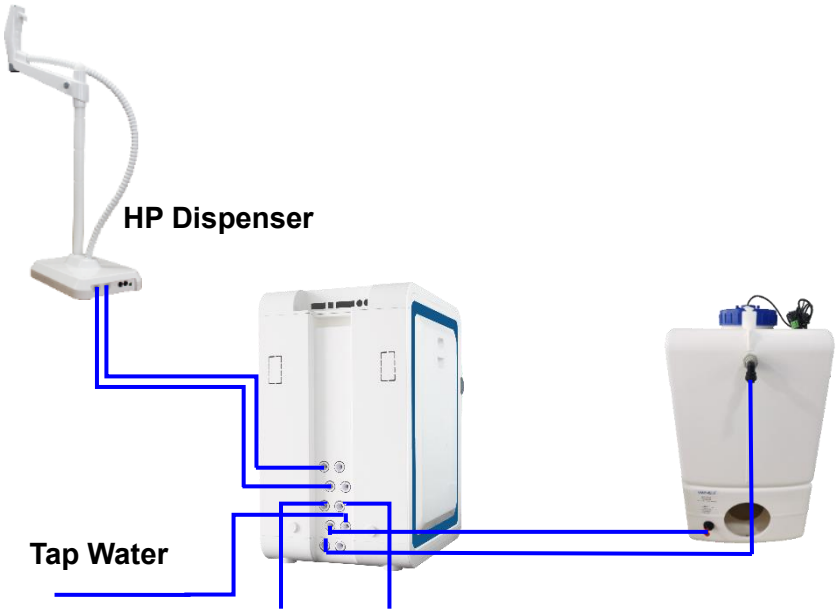


Step 1 Open the box, and take out the three parts of UV sanitization module: sanitization module controller, UV lamp, module body (including a cover, a quartz chamber and a bracket).
Step 2 Screw the tank cap to the tank top, and then screw off the hexagonal nut on the module body.
Step 3 Push the signal cable with the UV lamp base and the sealing cap through the hole in the middle of the controller. Then carefully insert the UV lamp completely into the chamber. Hold the UV lamp and connect it to the UV lamp base. Screw the sealing cap to the UV lamp mounting hole.
Step 4 Remove the nuts on the back of the controller. Then fix the controller to the support with the nuts.



Step 5 Connect the signal cables to ASM port and OVER FLOW port on the system respectively.

2.4.6 Installing the Water Tubing



2.4.6.1 Connecting the Feed and Drain Tubing

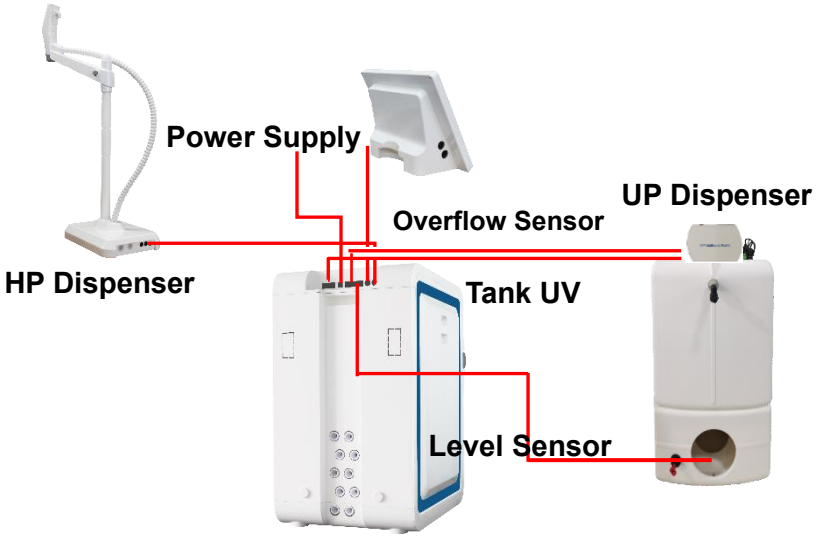
a) Remove the stopper on the tap water inlet on the system. Take the 8 mm PE tubing from the accessories bag and cut three pieces of the tubing at proper length for feed and drains.

b) Insert one end of the first 8 mm PE tubing into the water inlet on the system (Mark as **Tap Water In**). Connect the other end to the tap water outlet. Gently pull the tubing outwards to check if the connection is secure.

c) Insert one end of the second 8 mm PE tubing into the **RO Drain** on the system. Put the other end to the drain.

d) Insert one end of the third 8 mm PE tubing into the **EDI Drain** on the system. Put the other end to the drain.

2.4.7 Connecting External Cables



Make sure all power cords and signal cables are connected to their corresponding ports.
Connect the power adapter after all other signal cables are connected. Power up the system.

3 SYSTEM STARTUP AND OPERATION

3.1 Check List Prior to System Startup

Prior to system start up, use the table below to make sure all parts have been installed and connected, and quality of feed water meets minimal requirements.

Check List	
Feed water quality Municipal water: TDS < 1000 ppm, Conductivity < 2000 µS/cm (at 25 °C), Water temperature: 5 – 45 ℃, Pressure: 15 – 90 psi (1 – 6 bar)	
Feed water connected	
Leak protector installed	
Pure water tank installed	
Dispenser installed and connected	
Drain tubing connect	
Control console connected	
Power adapter plugged in	

Note: RO membranes and cartridges will be installed AFTER the system power-up. DO NOT install them now.

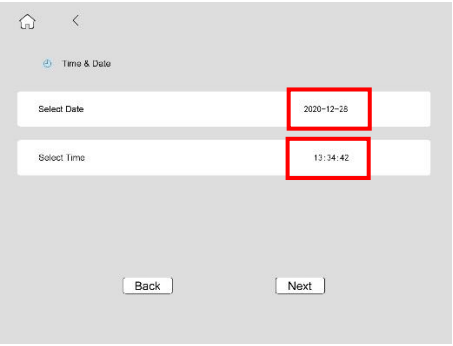
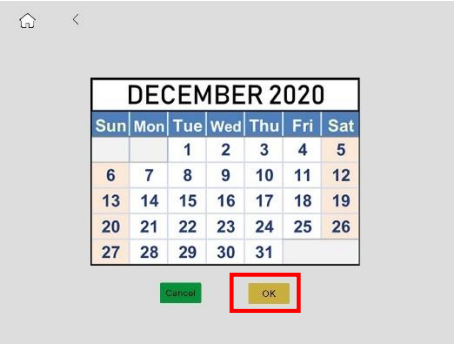
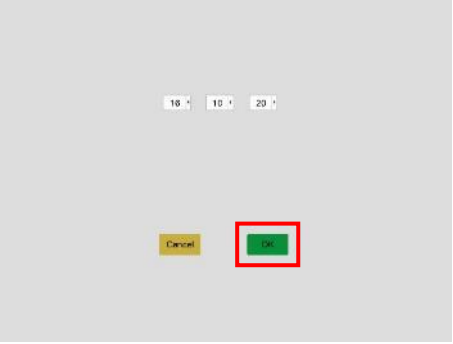
3.2 System Initial Startup

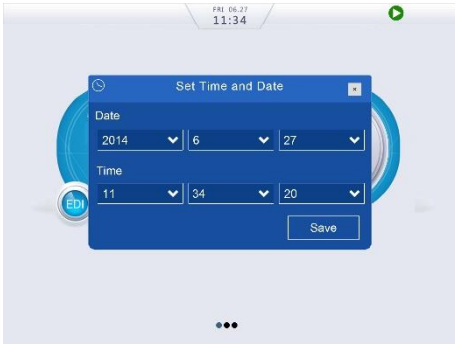
Connect the power adapter to the system to power on the system, set-up menus will show up in order at the initial power-up in a few seconds.

3.2.1 Language Setup

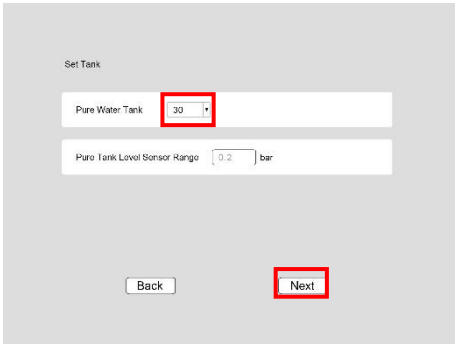
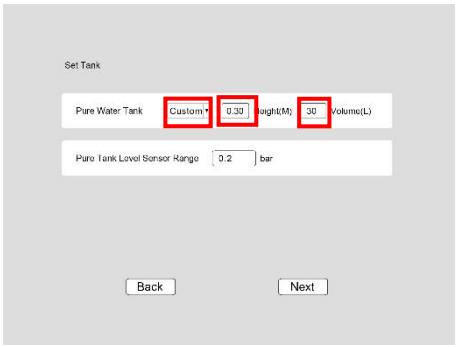
	The language set-up menu will show up in the first page. English is default. You may choose the language desired and then tap **Next** to set up **Time & Date**.

3.2.2 Time & Date Setup

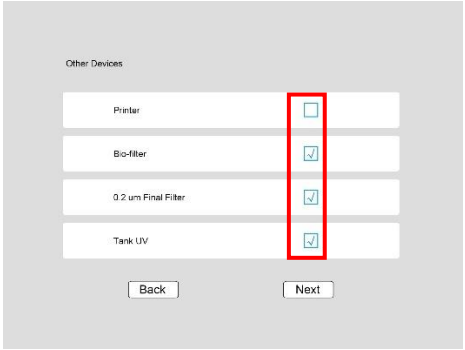
	Tap **red box** to enter setup menu.
	Select locate date and then tap **OK** to confirm setting.
	Select locate time and then tap **OK** to confirm setting. Tap “**Next**” to enter **Set Tank** menu.

	**Note**：If the power outage exceeds 3 days, a pop-up box will appear to reset the system Time & Date.

3.2.3 Tank Setup

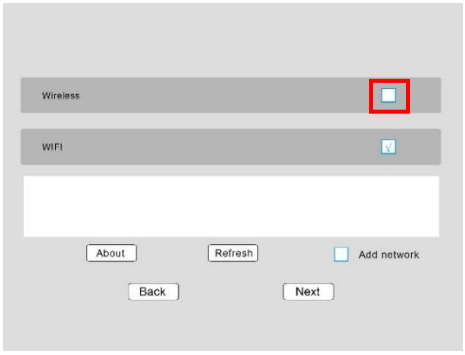
	Choose the actual volume of pure water tank. Tap **Next** to enter **Other Devices** setup menu.
	If the tank is not from VWR, choose **Custom**. Setup the height and volume of the pure water tank. Then enter the Tank Level Sensor Range as pressure. In Bar. Default sensor from VWR is 0.2 bar.

3.2.4 Other Devices Setup

	Put “ √ ” in the box of **Printer** if a printer is used. Put “ √ ” in the box of **Bio-filter** if a Bio-filter is installed. Put “ √ ” in the box of **0.2 µm Final Filter** if a 0.2 µm final filter is installed. Put “ √ ” in the box of **Tank UV** if a tank sanitization module is installed.

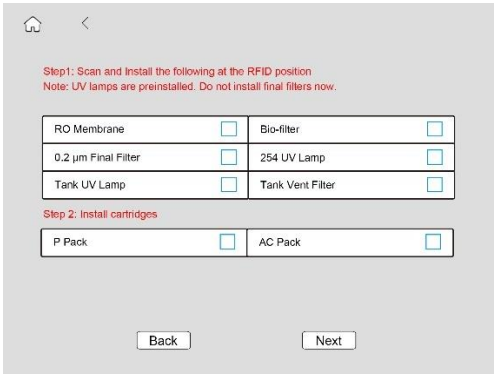
	Printers supported: Epson Dot matrix VWR recommends Epson's TM-U330D dot matrix printer. Other USB based dot matrix printers may not be supported. After each dispense, the printer will automatically print out dispense time, water quality and other displayed parameters.

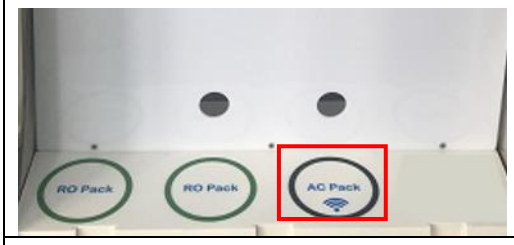
3.2.5 Connectivity Setup

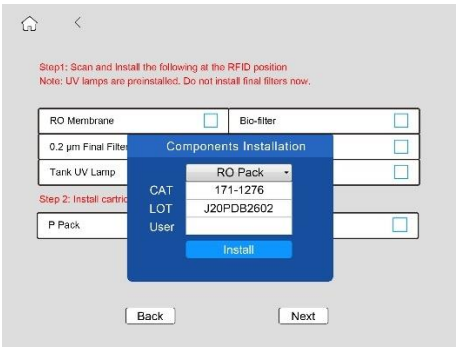
	Select Wireless if wireless dispenser is opted. Check "√" in the red box. Tap "**Next**" to enter consumables installation interface.

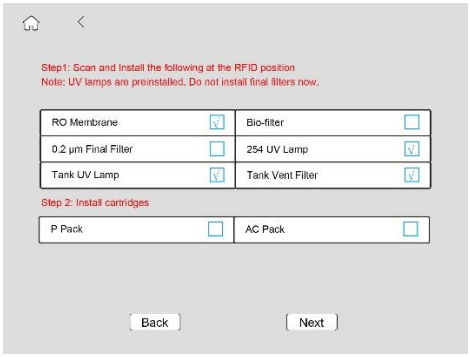
3.2.6 Install Consumables

3.2.6.1 Register Consumables (Not including cartridges)

<table>
<tr>
<td> 


</td>
<td>Follow instructions on the screen, scan RFID tags for the RO Pack, T Pack (optional), 254 nm UV lamp, tank UV lamp, tank vent filter and final filter at the AC pack position with an antenna sign (AC Pack) on the system. Details are shown below

Note:
1. RFID tags are either inside consumable packages, or for preinstalled UV lamps etc, inside USB key package.
2. For traceability, your User Name is required to install/register consumables. For a new installation, enter system manager’s User Name.</td>
</tr>
<tr>
<td> 
</td>
<td>Remove the right side panel to find the RFID reader position (AC Pack) as shown left.</td>
</tr>
<tr>
<td> 
</td>
<td>A pop-updialog will be shown as left after every scan, enter manager’s User Name and tap Install to register the consumables</td>
</tr>
</table>

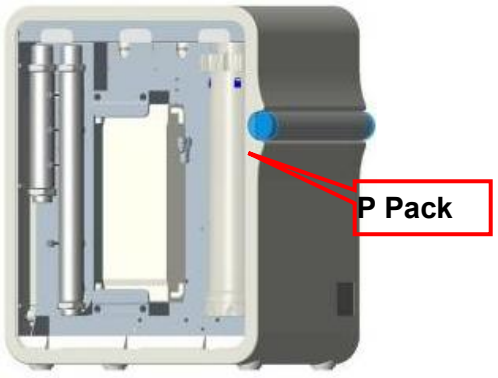


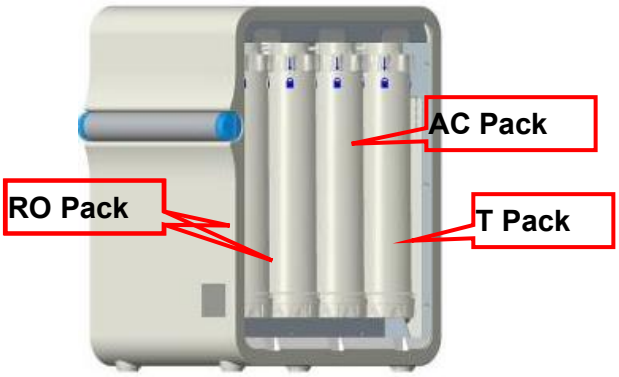
Follow steps below to install cartridges after finishing the scan.

3.2.6.2 Install and Register Cartridges

Tank recirculation is optional. If the tank recirculation function is added, then install the T Pack as described below. Otherwise, leave it open.

VWR E system has up to 5 packs, 1 or 2 RO packs, 1 T Pack (Optional), 1 AC Pack and 1 P Pack. Each cartridge's position is labelled on the system. Install a cartridge to its corresponding position.





Cartridge installation process is illustrated below.

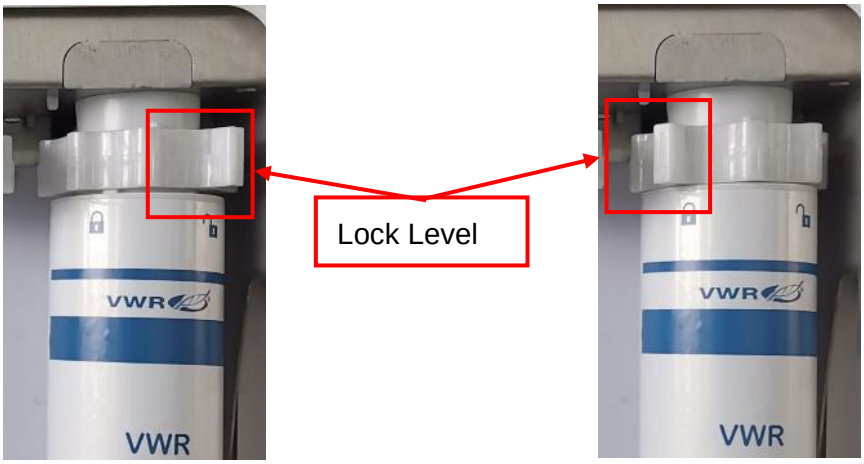
a) Remove the left side panel of the system as shown below.

b) Take out the cartridges from their packaging. Remove caps on the cartridge's inlet and outlet on the system.

c) Follow the instruction below to install P pack to its corresponding position.

d) Wet the O-rings on the P Pack cartridge with pure water.

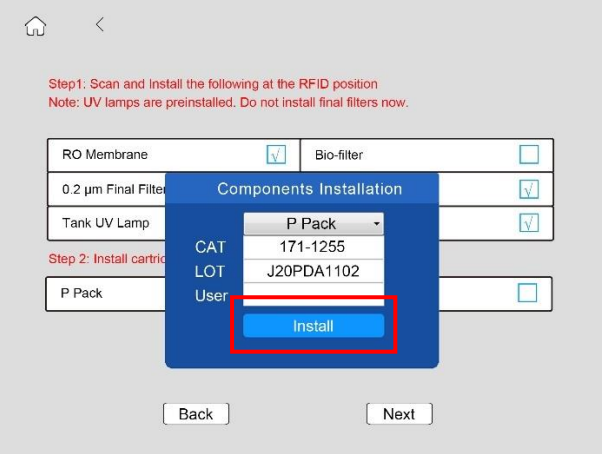
e) Turn the lever on the cartridge adapter to the right side at the unlock position as shown in the photo



Unlocked position **Locked position**

f) Align the cartridge label facing out. Insert the up end first into the opening on the cartridge adapter, then turn the lever handle to the left to lock the cartridge.

g) A pop-up dialog will be shown as below, enter Manager's User Name, tap **Install** to complete the installation.

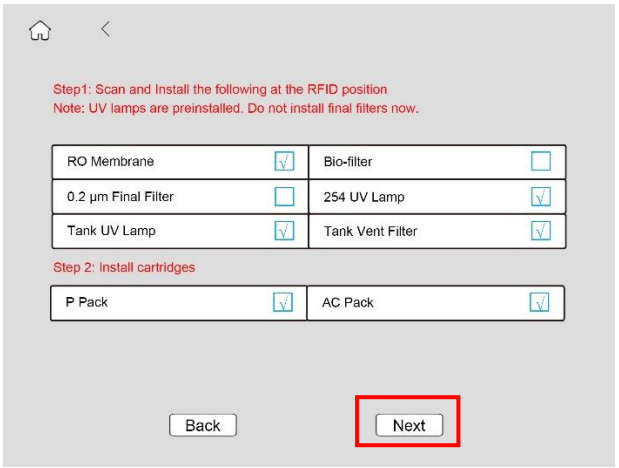


Follow the same procedure to install other cartridges. Install the RO Pack(s), the AC Pack and the T Pack (Optional) to the right side.

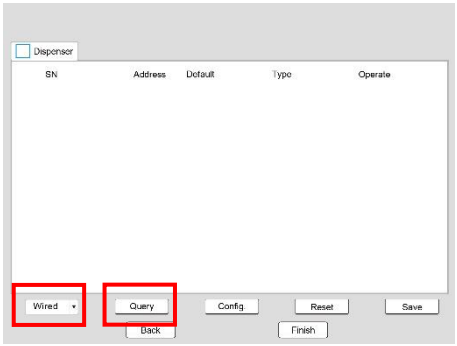
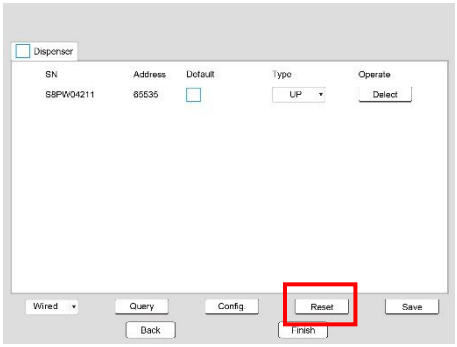
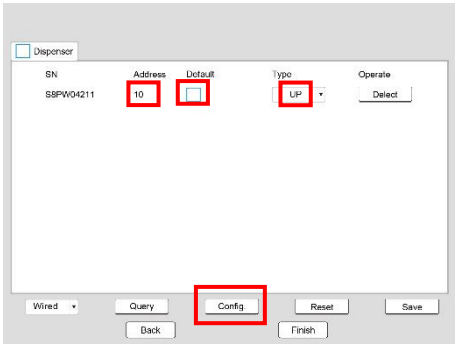
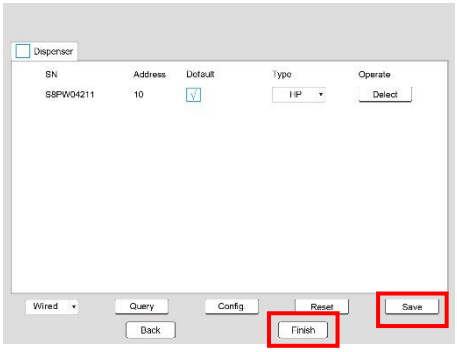
Note!

The control console will display "RFID Error!", and the alarm icon if a pack is installed incorrectly. Reinstall it to the correct position.

h) Make sure all consumables have been registered and tap **Next** to enter Dispenser setup menu.



3.2.7 Dispenser Setup

	Select connection mode for the dispenser from the pull-down menu at the left corner: Select **Wireless** for wireless connection. Select **Wired** for the wired connection. Tap **Query**, the system will automatically search for the dispensers that have been installed. **Note:** The dispensers may have prior registered to other systems, causing problems in installation if record in the dispenser is not cleared.
	Tap **Reset**, system will automatically reset the address.
	Tap **Config,** system will automatically configure the dispensers. You need to choose a dispenser as default for each type of water. Water will come out from the default dispenser when you tap dispense button on the control console. Choose the Type of the dispenser. **Note**: An Address shown between 10 and 20 means the dispenser setup is successful.
	Tap **Save** to save the configuration. Confirm the configuration by tap **Finish**.
	System will enter into the home screen automatically.

3.3 System Setting-up

Swipe a finger down the top section of the home screen to see the drop-down bar. Make sure the system is in Ready mode. If not, toggle between Standby and Ready modes using the drop-down bar to switch the system from Standby to Ready.

Drop-down bar

Note!

Alarms icon and / or alerts icon may present in the middle of the home screen when setting-up the system. It's normal and just follows the user manual to finish the rest of operations.

3.3.1 Flushing the RO Membrane and EDI Module

Newly installed system or the system with newly installed RO membrane needs to flush RO membrane to clean up preservatives in the RO membrane. System will initiate a 20- minute flush automatically after the system enters into Ready mode at the system start-up for the first time. System will enter into production mode after flush.

It may take several hours to one day for a newly installed EDI module to operate normally (EDI resistivity > 5 MΩ·cm). The water can be used to flush the tank before the system operates normally and then discharges it.

3.3.2 Flushing the PE Tank

Discard water when the tank is full at the first fill to ensure the quality of water in the tank.

Switch the system from Ready mode to Standby mode by click on top of the Home screen. Remove the tubing connected to the **Pure Water In** port on the system to let the tank drain. Then insert the tubing into the **Pure Water In** port on the system.

System will stop produce water automatically when the tank is full and the graph bar on the home screen reaches the top, shows 100%. System will automatically restart production when water level is below 80%.

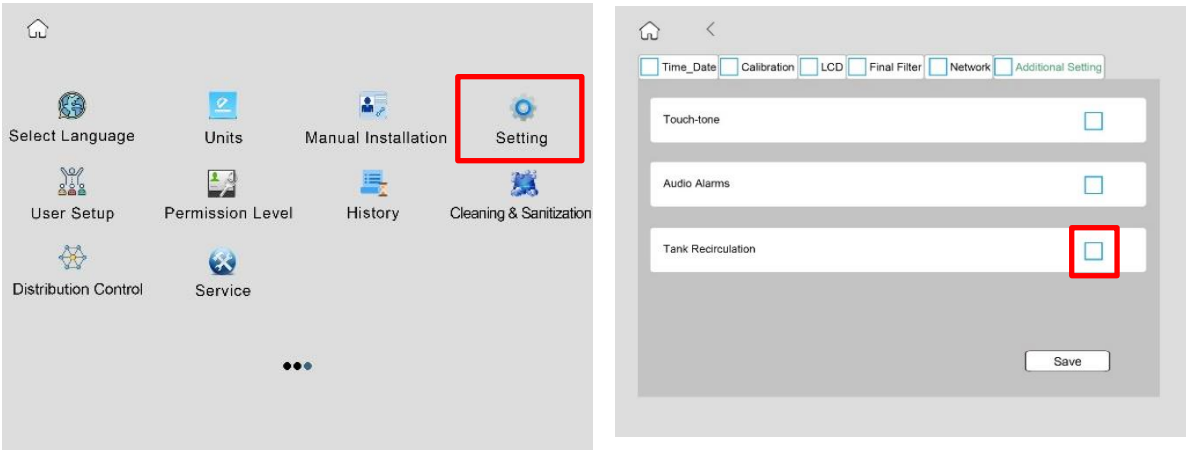
Water will stop dispensing automatically if tank water level falls below 10% (tank empty). Press dispense button to stop dispensing until the tank is refilled.

3.3.3 Installing the Final Filter

a) Open the attached final filter package.
b) Screw the final filter onto the remote dispenser until finger-tight (no leaking at dispensing). Do not over tighten it as it may damage threads.
c) Press the dispense button to flush out gas in the filter.
d) Press the dispense button again to stop dispensing.

3.3.4 Tank Recirculation Setup (Optional)

For tank recirculation model only, swipe the screen to page 3 in Standby mode. Page 3 is **Maintenance Menu**. Tap **Setting** to enter setup menu. For system with T Pack, check "√ in the red box before **Tank Recirculation.**

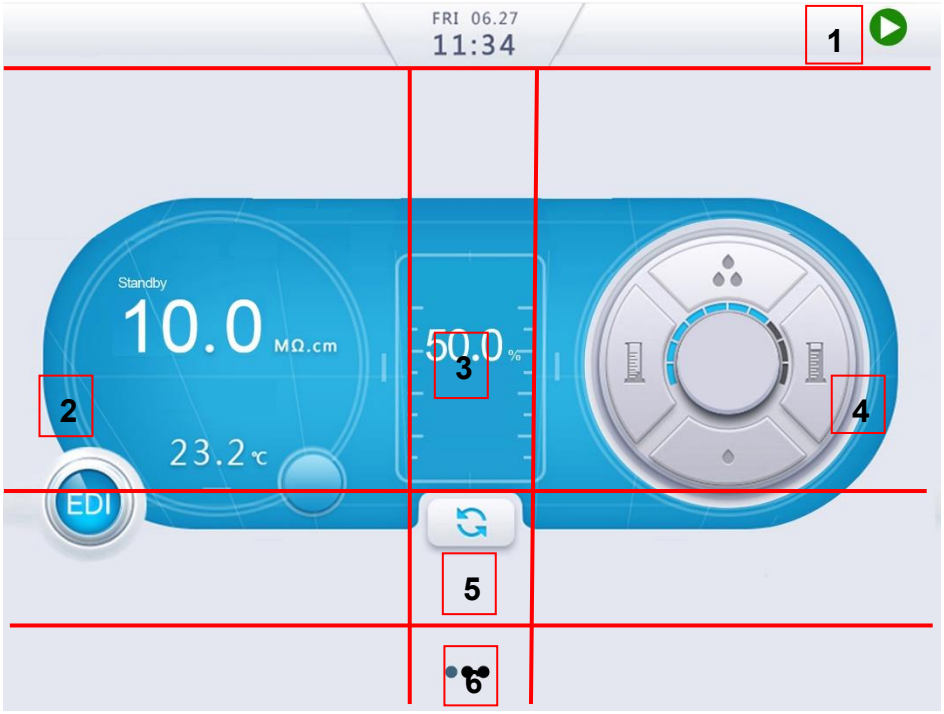


Notes: Maintenance menu is password protected for system administrators. The log-in information is in the USB stick shipped with the system.

This completes the system hardware installation.

3.4 Information Menu

Control Console Main Page



Section 1: Drop-down menu, including the located time and system operating status.

Standby

Ready

Section 2: Water quality, temperature and operation mode.

Section 3: Pure water tank level and tank water recirculation icon.

Section 4: EDI water dispensing set up

Volumetric dispensing button, decrease the volume, down to 0.1 L.

Volumetric dispensing button, increase the volume, up to 99.9 L.

Dispense rate down button, decrease the rate.

Dispense rate up button, increase the rate up to 2 L/min.

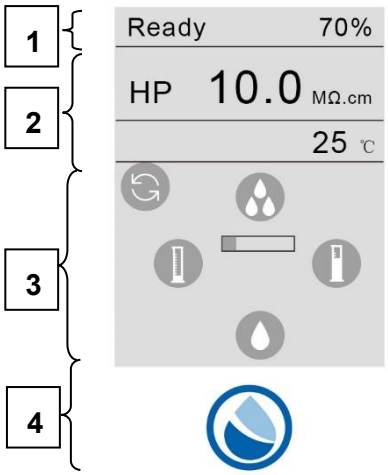
Bar graph shows the relative dispensing rate.

12.5 L Dispensing button, press the button to dispense water after setting up the volume. If it displays 0.0 L, it's non-volumetric dispensing.

Section 5: Alarms icon and alerts icon present in the middle to display current alarms or/and alerts.

Section 6: ••• Indicates multiple screens. Swipe left & right anywhere in the blank area on the screen to switch pages

Dispenser



Section 1: System operating status (including Ready, Dispense, Standby, Pressure Relief and Recirculation) and tank level.

Section 2: Water quality parameters, including water resistivity and temperature.

Section 3: Dispensing set up

Recirculation button

Volumetric dispensing button, decrease the volume, down to 0.1 L.

Volumetric dispensing button, increase the volume, up to 99.9 L.

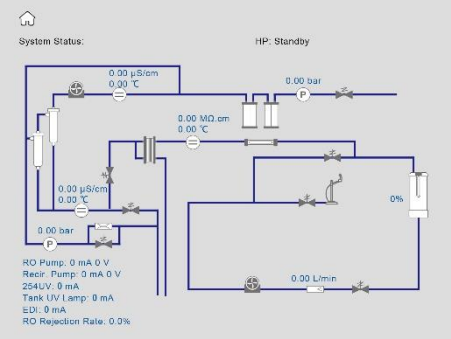
Dispense rate down button, decrease the rate.

Dispense rate up button, increase the rate up to 2 L/min.

Bar graph shows the relative dispensing rate.

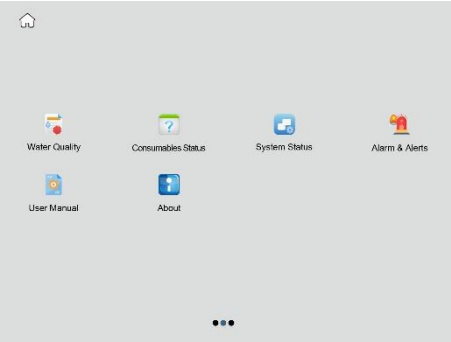
Section 4: Dispensing button

Control Console - More Pages



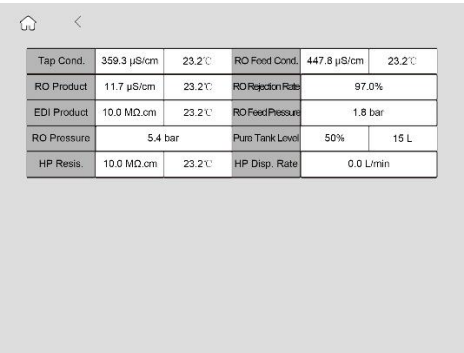
Information Menu Ⅰ

Swipe the screen to the right. This page shows system operation status and parameters in a flowchart format.



Information Menu Ⅱ

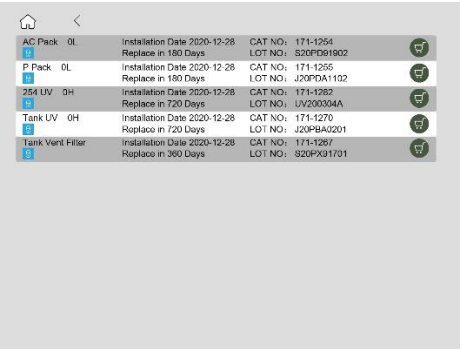
Swipe the screen to page 2 in Standby mode. Page 2 is Information Menu which contains information about system status and history.



Tap Cond.	359.3 µS/cm	23.2℃	RO Feed Cond.	447.8 µS/cm	23.2℃
RO Product	11.7 µS/cm	23.2℃	RO Rejection Rate	97.0%	
EDI Product	10.0 MΩ.cm	23.2℃	RO Feed Pressure	1.8 bar	
RO Pressure	5.4 bar		Pure Tank Level	50%	15 L
HP Resis.	10.0 MΩ.cm	23.2℃	HP Disp. Rate	0.0 L/min	

Water Quality displays measured values about water.

- **Tank level and Volume**: Pure water tank level and volume are monitored.
- **EDI and Temp.**: EDI resistivity and temperature are monitored.
- **Feed and Disp. Rate**: Feed water flow rate and EDI water dispense rate are monitored.

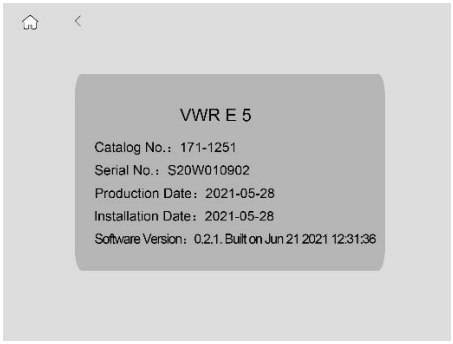


Consumables Status

Displays details of consumables installed, including processed volume/time, installation date, replacement days, catalog number and lot number. You can order consumables by clicking  on this page.

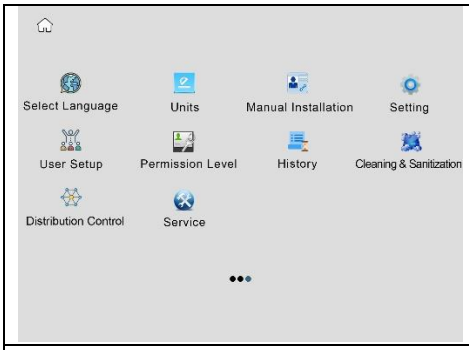
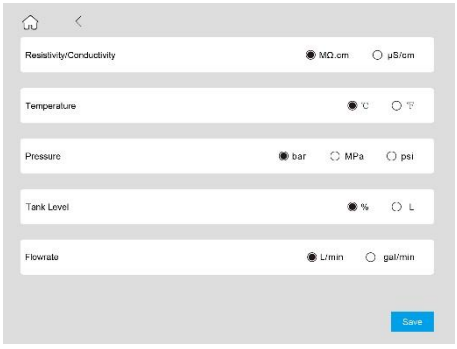
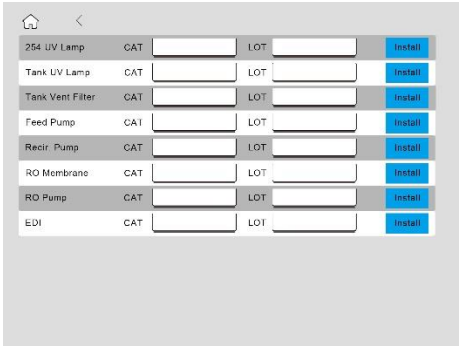
 Means the component working normally.

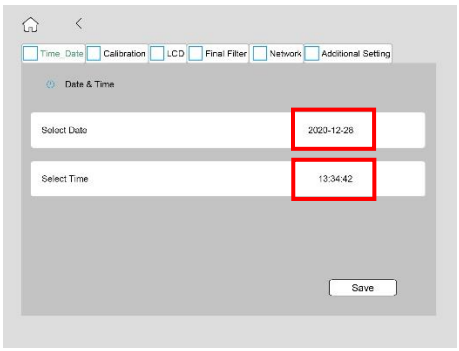
 Means the component needing to be replaced.

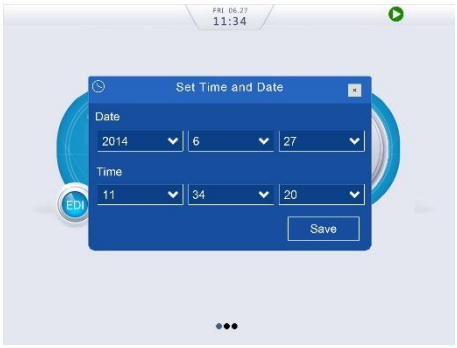
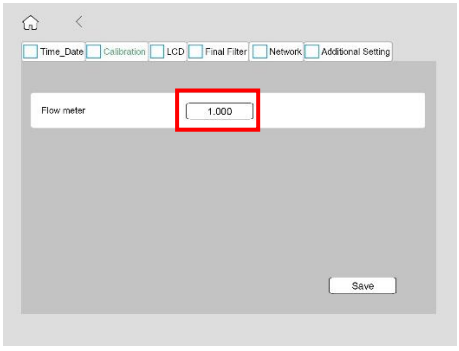
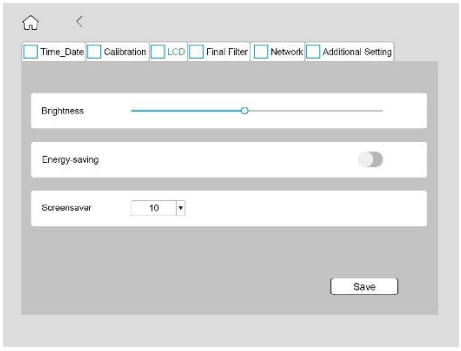
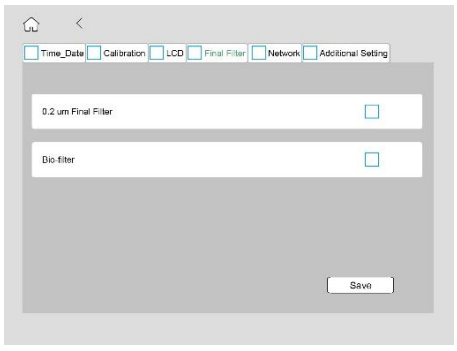
	**System Status** provides information about the components operation status. Means the component is functional. The screen displays operating current or voltage for UV lamp and pump. Means the component is off.
	**Alarms & Alerts**: Alarms sign appear when there is a technical issue. Some **red alarms** stop the system from operating to protect the system. Alerts appear when a consumable needs to be replaced or a non-critical event occurs.
	**About** Including: catalog number, serial number, production date, installation date and software version. You may need to provide some or all of these information when request service.

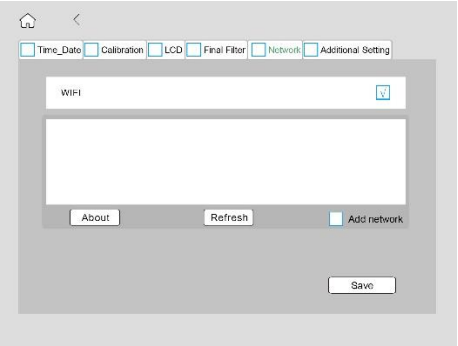
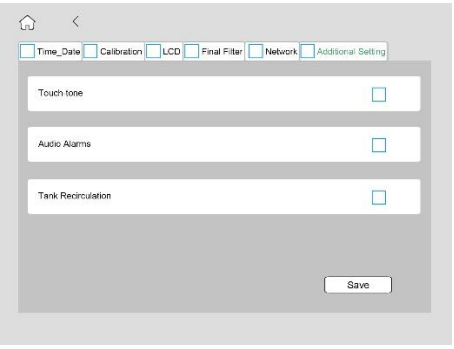
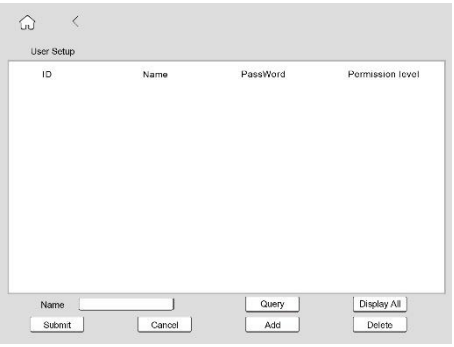
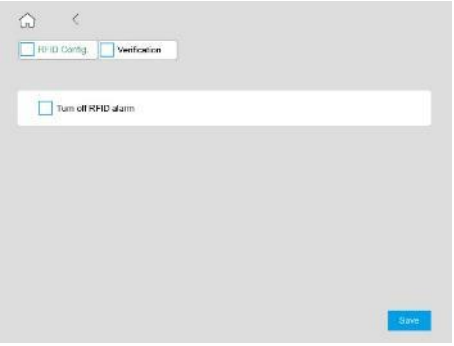
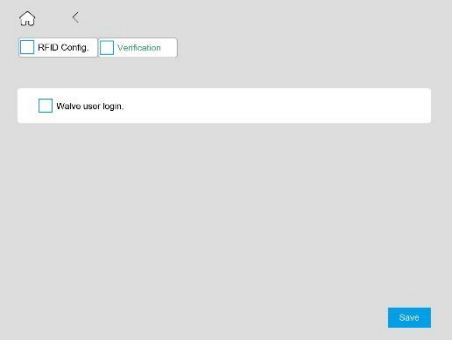
3.5 Maintenance Menu

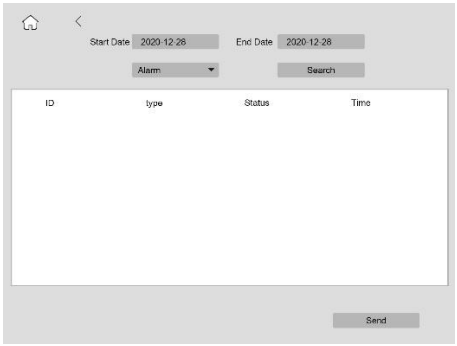
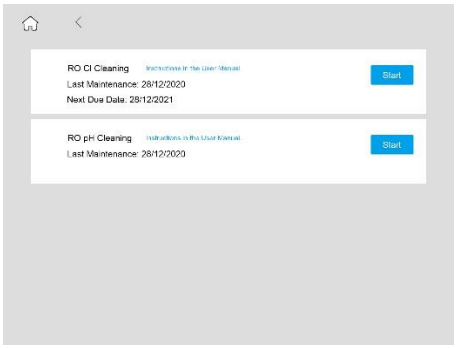
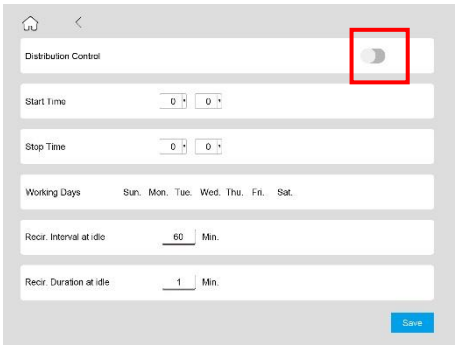
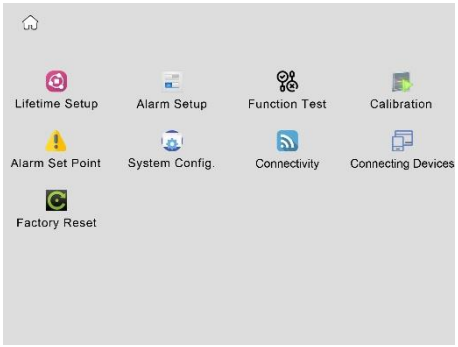
Notes: Maintenance menu is password protected for system administrators. The log-in information is in the USB stick shipped with the system.

	**Maintenance Menu** Swipe left on the Screen to page 3 in Standby mode. Page 3 is Maintenance Menu which contains parameter set-up, RO cleaning, etc. Page 3 is a manager authorized operation interface.
	**Select Language** Choose your working language desired.
	**Units** Change unit of display, including water quality, temperature, pressure and dispense rate.
	**Manual installation** Users can manually fill in the CAT number and LOT number of the corresponding consumables in the "manual installation" interface, and then click "installation" to manually input information without scanning the RFID. Pay attention to letter case when typing. **Note: The letters in the CAT number must be capitalized.**

<table>
<tr>
<td> 
</td>
<td>Setting
Including time & date, calibration, audio, LCD and additional setting.

Time & Date
Choose the locate time and date.</td>
</tr>
<tr>
<td> 
</td>
<td>Note：If the power outage exceeds 3 days, a pop-up box will appear to reset the system Time & Date.</td>
</tr>
<tr>
<td> 
</td>
<td>Calibration
The calibration menu is used to calibrate water dispense rate from the dispenser.</td>
</tr>
<tr>
<td> 
</td>
<td>LCD
Change screen brightness and choose energy-saving if needed. Set the time for screensaver.</td>
</tr>
<tr>
<td> 
</td>
<td>Final Filter
Put “ √ ” in the box of 0.2 μm Final Filter if a 0.2 μm final filter will be installed.
Put “ √ ” in the box of Bio-filter if a Bio-filter will be installed.
Note: In this interface, restarting the system is required after tapping Save, or the setting will not take effect prior to a Restart.</td>
</tr>
</table>

	**Network** In this interface, you can connect the system to WiFi network, make sure there is a "√" in the box， and then tap **Refresh** to search for your accessible network name (SSID), enter its password. Tap **Save** to complete the setting. System restart is required after tapping **Save**. A clip icon after network name (SSID) means the system is connected to this network at present. Tap **About** to view IP address for the network if needed.
	**Additional Setting** Activate **Touch-tone**, the control console will make a sound when you touch the screen. Also, if activate **Audio Alarms**, the control console will make beeping sounds when alarm(s) appear(s). Provide selections to open or close tank recirculation.
	**User Setup** Manager can add new account to operate the system. Tap **Add**, then enter a new username and password under **Name** and **Password** to add a new account. Select the user level under **Permission**. **User is for general user, dispense water only**. **Manager** means a user has the right to add new accounts. Then tap **Submit** to complete the setup.
	**Permission Level** Including RFID Config. and Verification. **RFID Config.** Turn on and off RFID alarm. System wouldn't show alarms about consumable status and type.
	**Verification** Turn on and off user verification. Users don't need to enter a name when replacing consumables if it is checked. It's off by default.

	**History** Provide historical information related to your system. The system data can be filtered by date and the selected data can be exported.
	**Cleaning & Sanitization** Shows information about the cleaning that is performed on the system. Including Cl cleaning and pH cleaning.
	**Distribution Control** For system equipped with a distribution pump, tap **Distribution Control** to setup the distribution pump. This function is for VWR large systems. Click **Off** to turn the function off.
	**Service** Service menu is an engineer authorized operation interface.
	After the maintenance operation, click the icon in the lower right corner to exit the login.

4 DISPENSING WATER

Water can be dispensed from the dispenser handle either by pressing the dispense button on the handle or from the main control console.

4.1 Dispensing EDI Water

4.1.1 Press the dispense button on the dispenser to dispense EDI water. Press the dispense button again to stop dispensing. Or

4.1.2

	Tap the left cylinder icon to decrease the volume to 0 L. Tap the dispense button to dispense EDI water. Tap it again to stop dispensing.

4.1.3 Open the water faucet to dispense EDI water directly from the pure water tank

4.2 Adjusting Dispense Rate

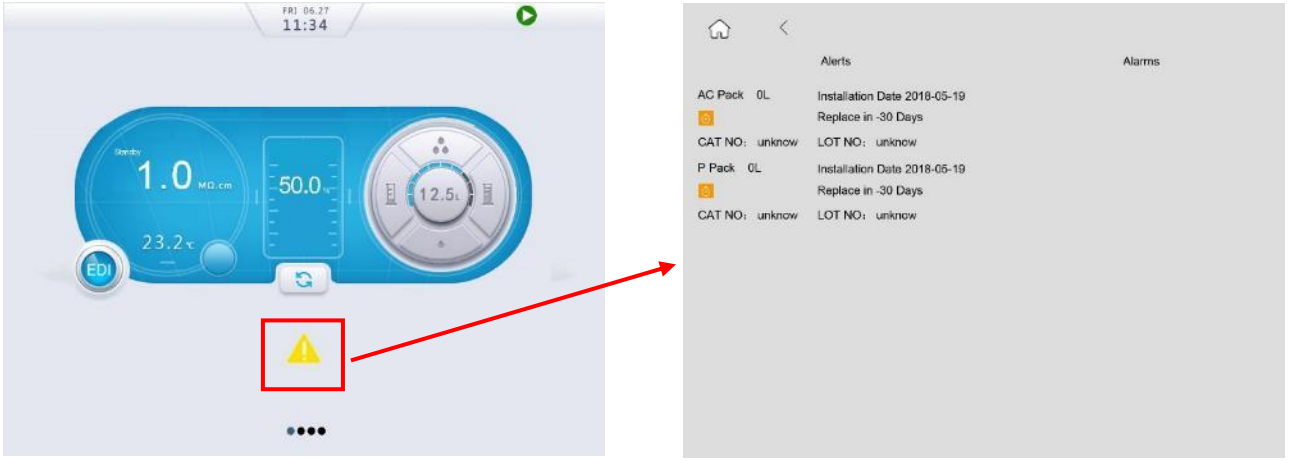
To change the dispense rate, tap the icon or on home screen or dispenser monitor.

4.3 Volumetric Dispensing

	Tap the right cylinder icon to increase or the left cylinder icon to decrease the volume. You can set the volume between 0.1 and 99.9 liters.
	Tap the middle dispensing icon to start dispensing. Volume dispensed is displayed at the start button position. Volumetric dispensing will stop automatically after completion.

5 MAINTENANCE

5.1 Basic Alerts



Message	Solution
RO Cl_2 Cleaning Last Maintenance XXXX-XX-XX	Perform RO Membrane Cl_2 Cleaning
AC-Pack 30000 L Installation Date: XXXX-XX-XX It is XX days overdue. Please replace it in time so as not to affect the performance of the system. CAT NO: 171-1254 LOT NO: S6PDC0101	Exchange the AC Pack and reset.
P-Pack 30000 L Installation Date: XXXX-XX-XX It is XX days overdue. Please replace it in time so as not to affect the performance of the system. CAT NO: 171-1255 LOT NO: S6PDC0101	Exchange the P Pack and reset.
254 UV 1500 H Installation Date: XXXX-XX-XX It is XX days overdue. Please replace it in time so as not to affect the performance of the system. CAT NO: 171-1282 LOT NO: S6PDC0101	Exchange the 254 nm UV lamp and reset.
Tank UV 1500 H Installation Date: XXXX-XX-XX It is XX days overdue. Please replace it in time so as not to affect the performance of the system. CAT NO: 171-1270 LOT NO: S6PDC0101	Exchange the tank UV lamp and reset.
Tank Vent Filter Installation Date: XXXX-XX-XX	Exchange the tank vent filter and reset.

It is XX days overdue. Please replace it in time so as not to affect the performance of the system. CAT NO: 171-1267 LOT NO: S6PDC0101	
Final Filter A 360 D Installation Date: XXXX-XX-XX It is XX days overdue. Please replace it in time so as not to affect the performance of the system. CAT NO: 171-1262 LOT NO: S6PDC0101	Exchange the final filter and reset.

5.2 Basic Alarms

If you encounter any electronic error**, restart the system first before doing any troubleshooting.**

Alarm	Solution
Low Feed Water Pressure	• The system detects the feed water pressure is below the lower limit. • Check the tap water faucet. • Replace prefilters in the prefiltration pack when check the prefilter is clogged. • Contact VWR's engineer to have an external booster pump or solenoid valve installed if there is still the problem.
Feed Water Conductivity > SP	• Feed water quality is too poor • Contact a VWR professional engineer.
RO Product Conductivity>SP	• RO product conductivity is above preset value. • Replace the RO membrane or contact a VWR professional engineer.
RO Rejection Rate<SP	• RO rejection is below preset value. • Replace the RO membrane or contact a VWR professional engineer.
EDI Product Resistivity<SP	• EDI product resistivity is below preset value. • Contact a VWR professional engineer.
Low Pure Water Tank Level	• Pure water tank level is below preset value (10%). • Stop dispensing until water tank is refilled.
Tank Water Resistivity<SP	• Pure tank water resistivity is below preset value. • Replace T Pack or contact a VWR professional engineer.
Pure Water Dispensing Resistivity < SP	• HP product resistivity is below preset value. • Exchange T Pack or contact a VWR professional engineer.
Check 254 UV Lamp	• The 254 nm UV lamp may be burnt. • Exchange the 254 nm UV lamp or contact a VWR professional engineer.
Check Tank UV Lamp	• The tank UV lamp may be burnt. • Exchange the tank UV lamp or contact a VWR professional engineer.
xx-Pack Error!, system does not start	• Incorrect cartridge is installed. Reinstall to the correct position • Turn RFID alarm off, so system can start

AC-Pack Not Detected	• Reinstall the AC Pack. • Check the RFID chip. • Contact a VWR professional engineer.
P-Pack Not Detected	• Reinstall the P Pack. • Check the RFID chip. • Contact a VWR professional engineer.
Feed Temperature>45℃	• Contact a VWR professional engineer.
Feed Temperature<5℃	• Contact a VWR professional engineer.
RO Product Temperature>45℃	• Contact a VWR professional engineer.
RO Product Temperature<5℃	• Contact a VWR professional engineer.
EDI Product Temperature>45℃	• Contact a VWR professional engineer.
EDI Product Temperature<5℃	• Contact a VWR professional engineer.
Cannot dispense water from dispenser. It shows “In Use”	• Another dispenser connected to the same systems is being used. System allows one dispenser working at a time. Wait till the other dispenser stopped dispensing.
System Leakage or Tank Overflow	• The system detects a leakage. • Shut off power and water supply. • Remove system side panels, turn on water supply and check leaking points. • Reconnect or replace leaking parts.

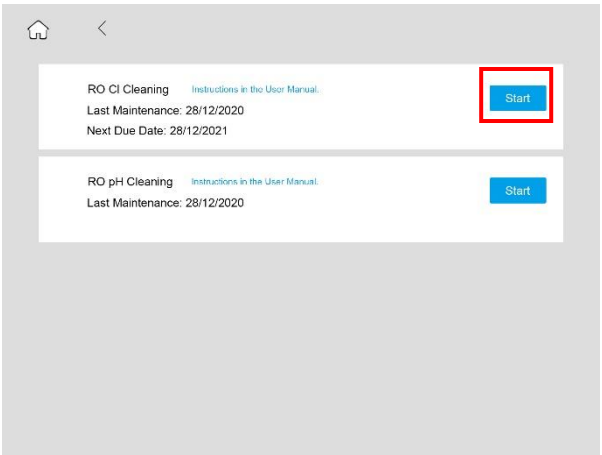
5.3 System Cleaning

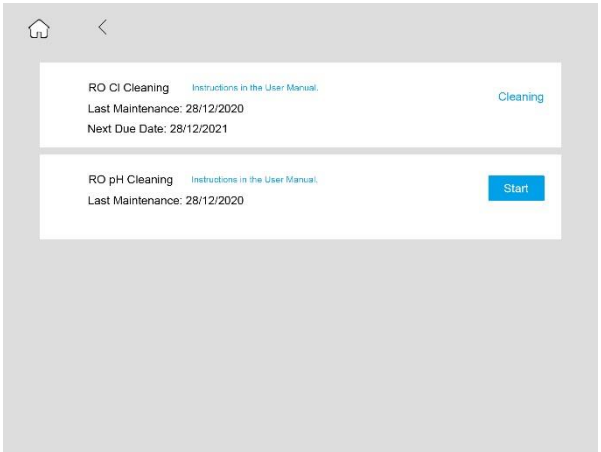
5.3.1 Cl Cleaning

Cl cleaning is recommended once a year and it takes 20 minutes to complete.

a) Switch the system to Standby mode and remove the left side panel.
b) Remove the P Pack cartridge.
c) Install the Cleaning Pack (come with each new system). Need to add one chlorine pill in to the Cleaning Pack.
d) Tap **Cleaning & Sanitization** on page 3 to enter setup menu.

e) Click **Start** to enter cleaning process. Choose **Yes** on the pop-up dialog.





f) System will be back to Standby mode after Cl cleaning stops.
g) Remove the Cleaning Pack and install P Pack back.
h) Switch the system to Ready mode.

5.3.2 pH Cleaning

pH cleaning is recommended for the following situations and it takes 90 minutes to complete.

1. RO water production rate decreased significantly;
2. RO rejection rate is significantly reduced.

pH cleaning are divided into acid cleaning and alkali cleaning. The acid cleaning is used to remove scale and other inorganic compounds attached to the RO membrane, and the alkali cleaning is used to remove adherent organic substances on the RO membrane.

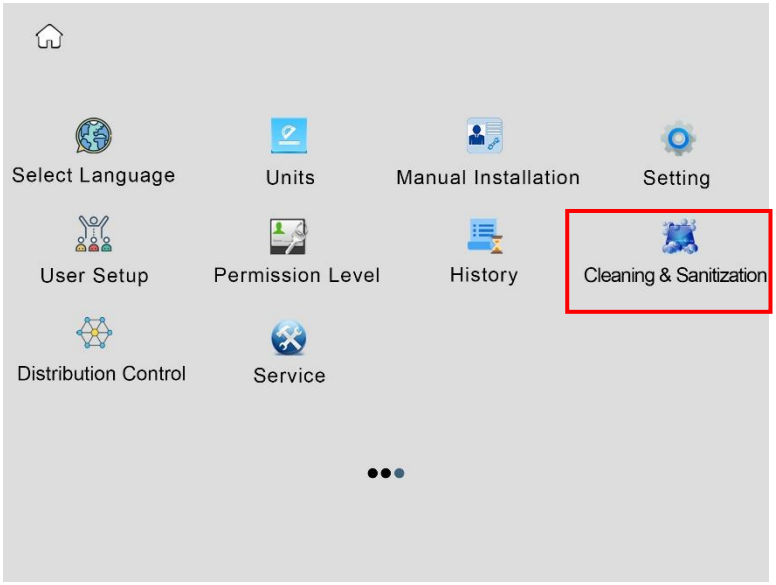
The Acid cleaning steps are as follows:

a) Switch the system to Standby mode and remove the left side panel.

b) Remove the P Pack cartridge.

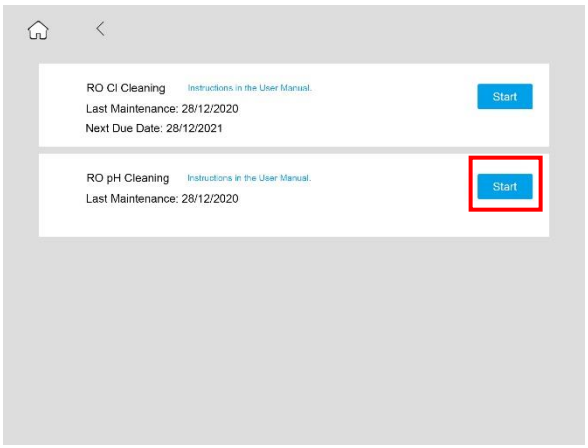
c) Add 5 g analytical grade citric acid into the Cleaning Pack.

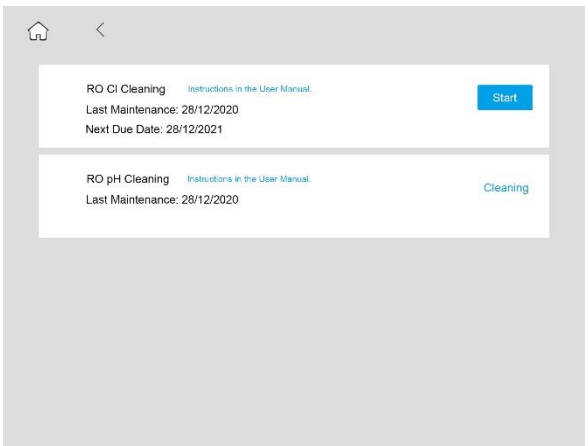
d) Install the Cleaning Pack to the position of P Pack.



e) Tap **Cleaning & Sanitization** on **Maintenance Menu** to enter setup menu.

f) Click **Start** to enter cleaning process. Choose **Yes** on the pop-up dialog.





g) System will be back to Standby mode after pH cleaning stops.

h) Remove the Cleaning Pack and install P Pack back.

i) Switch the system to Ready mode.

The Alkaline cleaning steps are as follows:

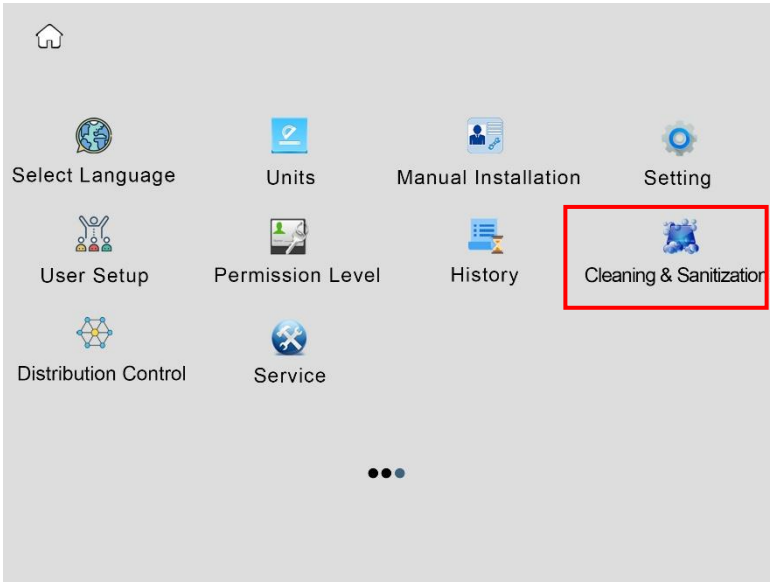
a) Switch the system to Standby mode and remove the left side panel.

b) Remove the P Pack cartridge.

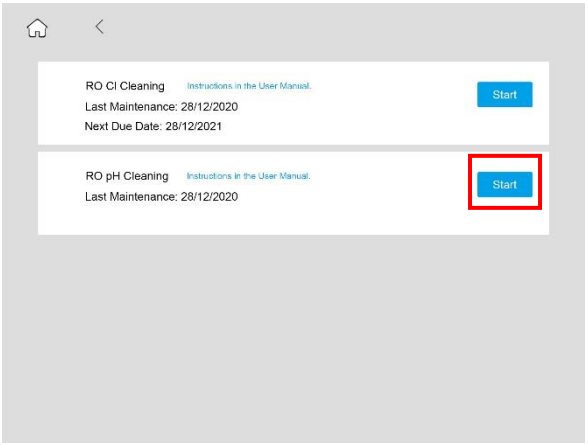
c) Add 5 g analytical grade NaOH into the Cleaning Pack.

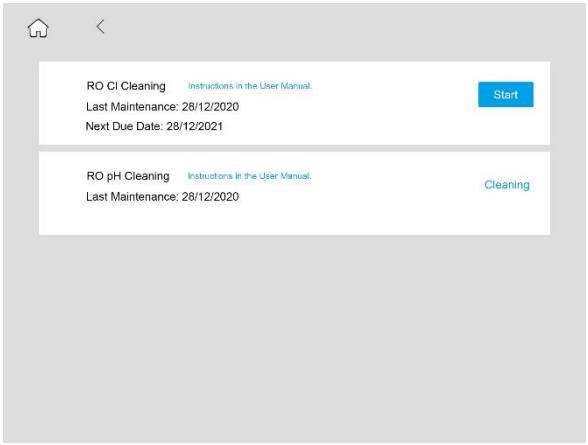
d) Install the Cleaning Pack to the position of P Pack.

e) Tap **Cleaning & Sanitization** on **Maintenance Menu** to enter setup menu.



f) Click **Start** to enter cleaning process. Choose **Yes** on the pop-up dialog.





g) System will be back to Standby mode after pH cleaning stops.

h) Remove the Cleaning Pack and install P Pack back.

i) Switch the system to Ready mode.

If the effect is not obvious after the cleaning, need to do pH cleaning once again. If there is still no obvious improvement after cleaning twice, replace the RO membrane.

5.4 Replacing Consumables

Consumable life, in particular cartridges, is heavily dependent upon feed water quality and amount of water used. Below is a general guideline of frequency to replace consumables**.**

Consumables		**Replacement Frequency**	**Performance Indicator**
P Pack & AC Pack		6 months	May cause irreversible scaling and oxidation of RO membrane and EDI module.
254 nm UV lamp		24 months	Increase bacteria count
Final Filter	Remove bacteria and particles	12 months	Reduce in flow rate
		When needed	Flow rate is less than 1 litre per minute
Bio-filter	Removes pyrogen, RNAses and DNAses	3 months	Increased pyrogen, RNAses and DNAses levels

System administrator can set Permission for cartridge replacement in Maintenance Menu. System default is OFF. If the **Permission** is **On**, User need to enter a name to verify the installation. Only authorized Users registered in the system are allowed to install or replace consumable.

The following consumables need to be registered to the system on the RFID tag reader at installation.

Scan the RFID chip for the installed AC Pack, RO Pack, 254 nm UV lamp, tank vent filter and final filter in their corresponding box to register the consumables. Tap **Install** when a pop-up dialog is appearing if the **Verification** is **Off**.

5.4.1 Replacing the VWR AC Pack, VWR P Pack and T-Pack (optional)

a) Switch the system to Standby mode, then remove the system left and right side panels.
b) Turn the lever on the cartridge adapter to right to the unlock position, pull the cartridge downwards to disengage the cartridge from its adapter. Install the new one as described in 2.4.4.
c) After installation, do not install the system side panel. Power up and degas the system, and check any leakage. If leaks, reseat the cartridge, then test again.
d) If there is no leakage, install back the left and right side panels.
e) Scan the RFID chip of the T Pack (Optional) on the AC-Pack location. Need to put system to Standby mode and remove the AC Pack first to scan if already installed. Tap **Install** on the pop-up dialog to reset the cartridge life.

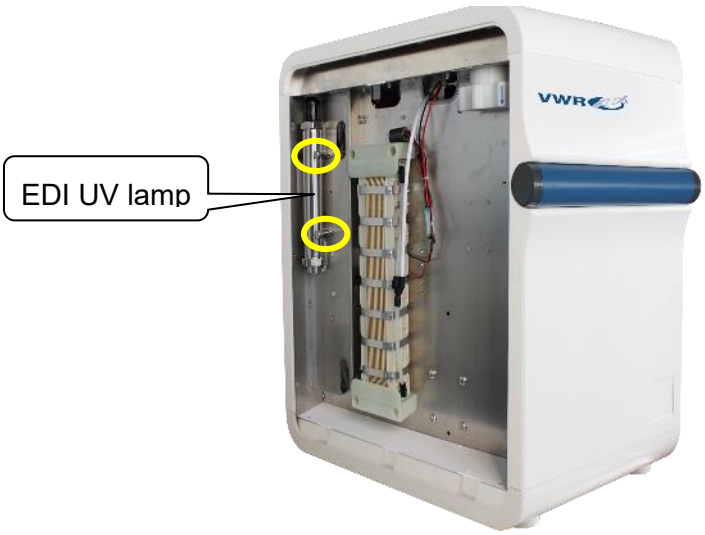
5.4.2 Replacing the 254 nm UV Lamp

Warning!

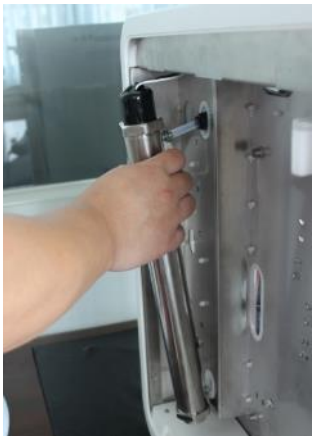
Ultraviolet (UV) radiation is harmful to the eyes and skin. Do not observe the lamp directly when it is illuminated. This system is equipped with a lamp cover to prevent UV light leakage. This cover must be on ALL TIMEs when a UV lamp is installed.

Caution!

Keep the UV lamp straight in and out of the stainless steel chamber during its installation to avoid any action that could cause the lamp to break.



a) Turn off the power.
b) Remove the left side panel to find the UV lamps.
c) Loosen the UV lamp chamber screws. As shown above, the yellow circles indicate the EDI water UV lamp chamber screws.
d) Tilt the upper end of the UV lamp chamber out.



e) Wear gloves included in the new UV lamp package. Avoid direct skin contact with the quartz glass of the UV lamp. Remove the UV lamp cover to expose the UV lamp. Unplug the UV lamp from its power cord, and then carefully remove the old UV lamp from the chamber.

f) Carefully insert the new UV lamp into its chamber. When about 2/3 of the lamp is inserted, hold the UV lamp and connect it to the ballast cable connector (4-pin connector) as shown in the picture, and then gently insert the new UV lamp completely into the chamber.

g) Cap the UV chamber with the black mask.

h) Install the UV lamp chamber back to the original position.

i) Turn on the system power. Scan the RFID chip of the UV lamp on the system. Tap Install on the pop-up dialog to reset the corresponding UV lamp.

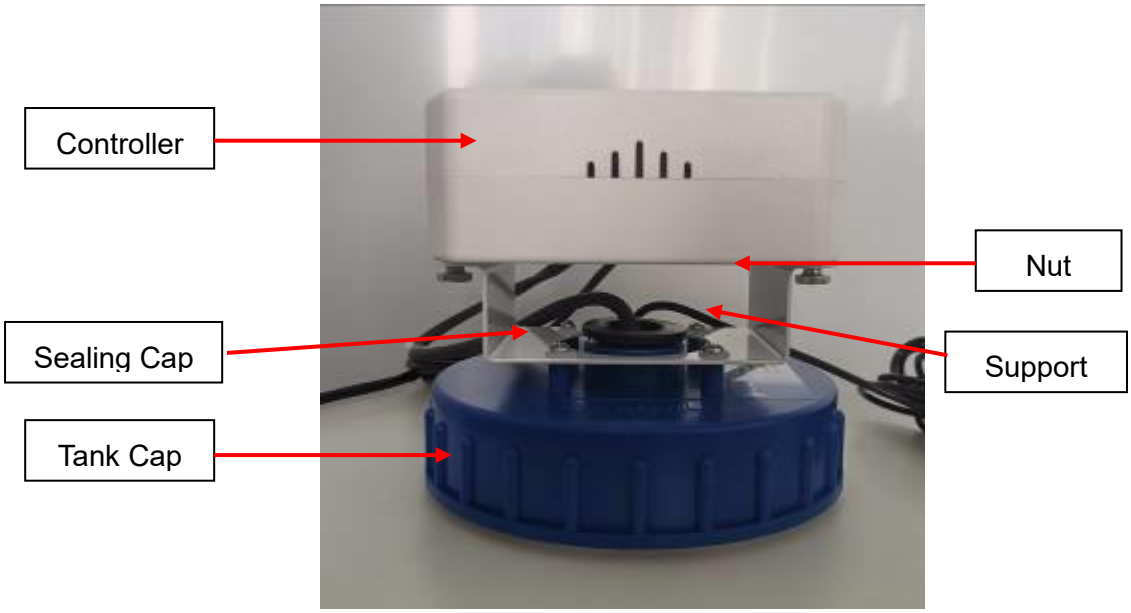
5.4.3 Replacing the Tank UV Lamp

Warning!

Ultraviolet (UV) radiation is harmful to the eyes and skin. Do not observe the lamp directly when it is illuminated. This system is equipped with a lamp cover to prevent UV light leakage. This cover must be on ALL TIMEs when a UV lamp is installed.

Caution!

Keep the UV lamp straight in and out of the stainless steel chamber during its installation to avoid any action that could cause the lamp to break.



a) Power off the VWR main system.

b) Screw off the nut on the back of the controller. Remove the controller and carefully remove the used lamp from the chamber. Unplug the UV lamp base.

c) Wear gloves included in the new UV lamp package. Avoid direct skin contact with the quartz glass of the UV lamp. Install the new UV lamp to the lamp base, and then gently insert the new UV lamp completely into the chamber.

d) Screw the sealing cap on the tank cap, and then screw the nut to fix the controller on the tank cap.

e) Turn on the power and operate the system. Scan the RFID tag for the UV sanitization module on the RFID reader position (or) to register it.

5.4.4 Replacing the RO Pack

f) Switch the system to Standby mode, then remove the system right side panel.

g) Turn the lever on the cartridge adapter to right to the unlock position, pull the cartridge

downwards to disengage the cartridge from its adapter. Install the new one as described in 2.4.4.

h) After installation, do not install the system side panel. Power up and degas the system, and check any leakage. If leaks, reseat the cartridge, then test again.

i) If there is no leakage, install back the right side panel.

j) After RO Pack is installed, the system will perform 5 minutes RO flush when switching to Ready mode.

k) Scan the RFID chip of the RO Pack on the system. Tap **Install** on the pop-up dialog to reset the cartridge life.

5.4.5 Replacing the Tank Vent Filter

a) Remove the old tank vent filter.

b) Screw the new tank vent filter to the bass on the tank.

c) Scan the RFID chip of the tank vent filter on the system. Enter Components Installation menu to reset the corresponding tank vent filter.

5.4.6 Cleaning the PE Tank

Warning!

NaOH is a strong corrosion agent which may harm the body. Be careful to protect yourself when cleaning the tank.

a) Switch the system to Standby mode when the tank is full (100%).

b) Prepare 0.1 M NaOH using analytical grade NaOH (120 g NaOH for the 30-L tank, and 240 g for the 60-L tank). Dissolve in 1 L pure water, and then pour into the water tank. Gently mix.

c) Soak the tank overnight.

d) Take out the 8 mm PE tubing and connect it to the drain outlet of the tank, put the other end into the drain.

Note: Please check local regulations on how to properly discharge 0.1 M NaOH.

e) Open the drain valve underneath the tank, drain all solution.

f) Close the valve by turning it 90º. Put system into Ready mode to fill the tank full. Put system into Standby mode.

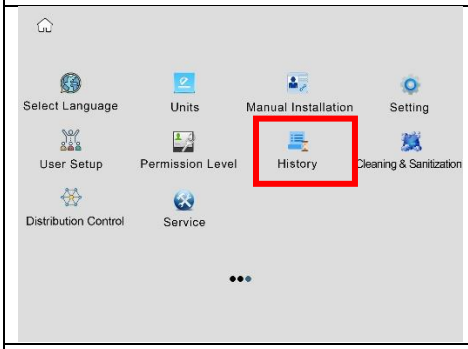
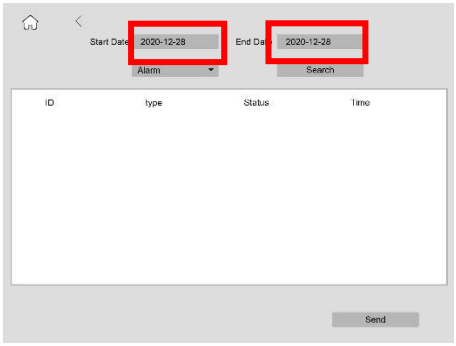
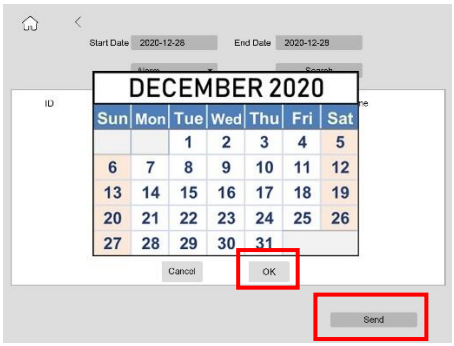
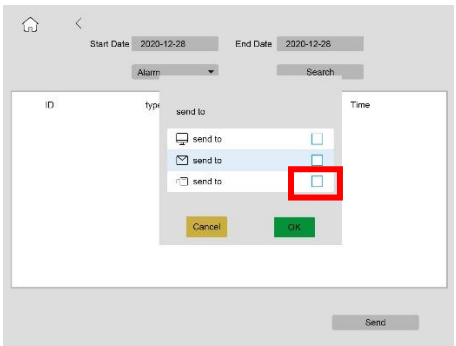
g) Gently tilt the tank and swirl, then open the valve to drain all water.

h) Repeat Step f and g for two more time.

i) Take a water sample from the tank. Use a pH paper to check its pH. If the water is basic, repeat Step f and g one more time.

j) Plug the tubing back to the system. Put the system into Ready mode.

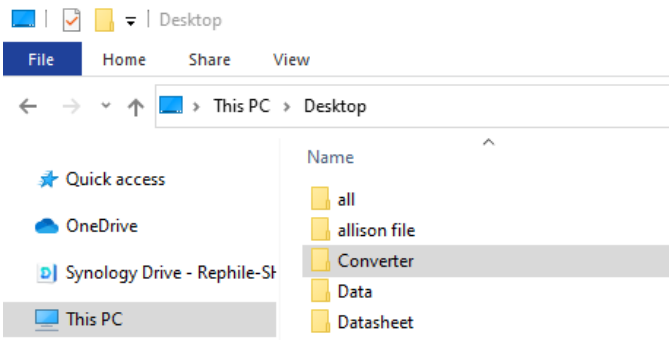
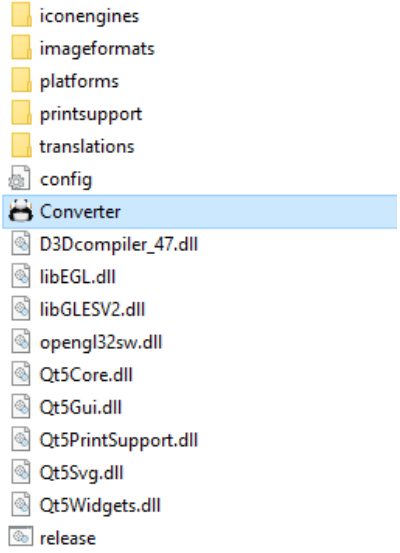
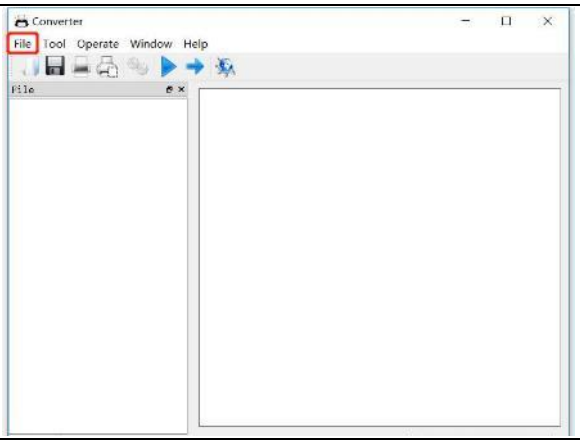
5.5 History Inquiry and Export

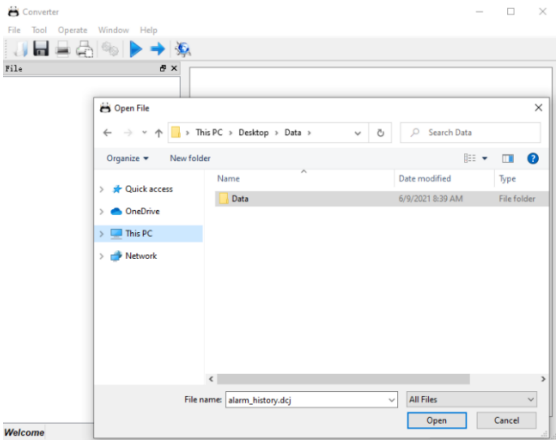
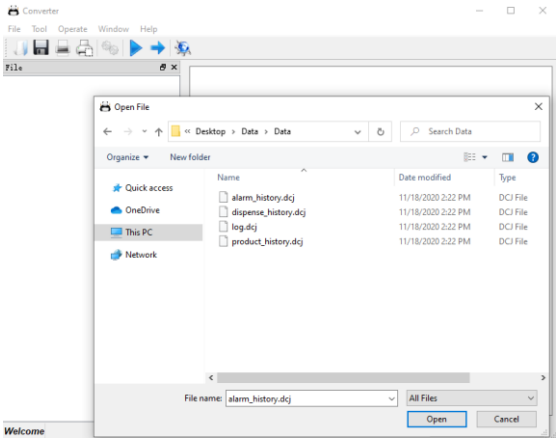
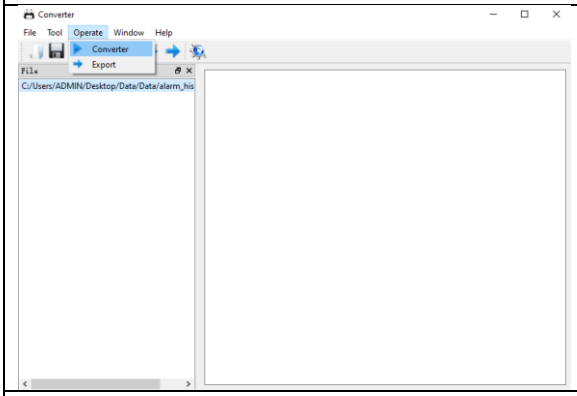
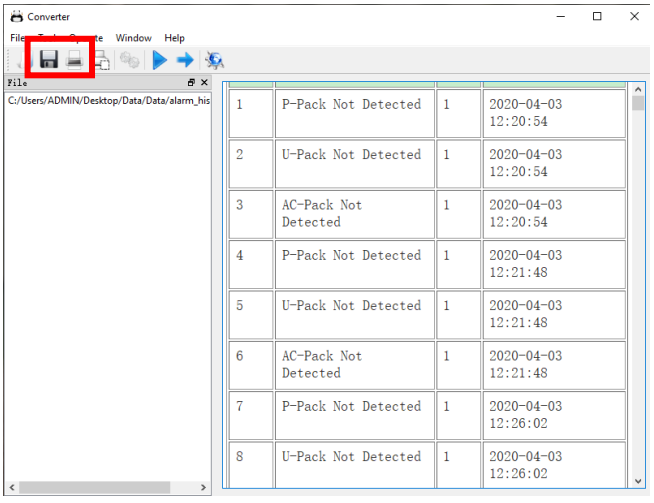
	Insert a USB stick into the port on the control console as shown.
	Swipe left on the Screen to Maintenance Menu in Standby mode. Tap **History** on Maintenance Menu.
	Tap **Start Date** and **End Date** to choose the date that need to check.
	Tap **Search** to check the history data. The history data include water quality, alarms information, dispensing information, product information and daily record.
	Choose the way to send the data. Check the red box and tap **OK**, then tap **Send**.

Read and Print the Exported History Data from a PC Computer:

Exported data are encrypted. The files exported can be read as pdf files or printed using VWR Data Converter.

- Insert a USB stick to the right side of the control console to export the history data as shown above.
- Insert the USB stick to a computer.
- Follow the steps below to read, save or print the data for the first time, then tap the data in the .dcj file in RData to open it directly.

	Copy the VWR Data Converter file to your computer from the SD card. Tap the file “Converter” as an administrator to complete the registration.
	Tap the file “**Converter.exe**” to open it.
	Tap “**File**”, choose “**Open**”.

	Choose the file folder “**Data**” from the USB stick to open it.
	Choose the data file you wish to check and then open it.
	Tap “**Operate**”, then choose “**Convert**”.
	The data are as shown left. You can **Save** the data in pdf format or **Print** it by tapping the icons as shown in the red boxes.

1	P-Pack Not Detected	1	2020-04-03 12:20:54
2	U-Pack Not Detected	1	2020-04-03 12:20:54
3	AC-Pack Not Detected	1	2020-04-03 12:20:54
4	P-Pack Not Detected	1	2020-04-03 12:21:48
5	U-Pack Not Detected	1	2020-04-03 12:21:48
6	AC-Pack Not Detected	1	2020-04-03 12:21:48
7	P-Pack Not Detected	1	2020-04-03 12:26:02
8	U-Pack Not Detected	1	2020-04-03 12:26:02

6 PARTS AND ORDER INFORMATION

VWR E Systems

European Catalogue Number	VWR E System
171-1251	VWR E 5 Ultrapure water system
171-1252	VWR E 10 Ultrapure water system
171-1253	VWR E 15 Ultrapure water system

Commonly Used Consumables

Catalogue No.	Product Name	Description	Unit
171-1273	Dispenser with support	With a 3 m corrugated pipe, including data cables and water tubing	Set
171-1274	Upgrade kit for dispenser	With power adapter, three power cords, 20 m water tubing and 10 m corrugated pipe	Set
171-1284	Control console		Each
171-1264	Tank	30 Liter PE tank, w/continuous level sensor & overflow sensor	Each
171-1265	Tank	60 Liter PE tank, w/continuous level sensor & overflow sensor	Each
171-1255	VWR P pack		Pack
171-1254	VWR AC pack		Pack
171-1259	VWR T pack		Pack
171-1276	VWR RO pack, 12 L/H		Pack
171-1277	VWR RO pack, 16 L/H		Pack
171-1282	254 nm UV lamp		Each
171-1279	RO booster pump	24 VDC, 1/pk	Each
171-1280	UP recirculation pump	24 VDC,1/pk	Each
	Feed pump	24 VDC,1/pk	Each

171-1262	Final filter	0.2 µm PES final capsule filter, 1/pack	Each
171-1263	Bio-filter	Point-of-use filter, 1/pack	Each
171-1476	Leak protector	Contain a feed valve and a leak sensor	Each
171-1267	Tank vent filter		Each
171-1268	Tank sanitization module		Each
171-1270	Tank UV lamp	UV lamp, 254 nm	Each

7 Technical service

Web Resources

Visit the VWR website at **www.vwr.com** for:

- Complete technical service contact information
- Access to the VWR Online Catalogue, and information about accessories and related products
- Additional product information and special offers

Contact us

For information or technical assistance contact your local VWR representative or visit. **www.vwr.com**.

8 Warranty

VWR warrants that this product will be free from defects in material and workmanship for a period of two (2) years from date of delivery. If a defect is present, VWR will, at its option and cost, repair, replace, or refund the purchase price of this product to the customer, provided it is returned during the warranty period. This warranty does not apply if the product has been damaged by accident, abuse, misuse, or misapplication, or from ordinary wear and tear. If the required maintenance and inspection services are not performed according to the manuals and any local regulations, such warranty turns invalid, except to the extent, the defect of the product is not due to such non-performance.

Items being returned must be insured by the customer against possible damage or loss. This warranty shall be limited to the aforementioned remedies. IT IS EXPRESSLY AGREED THAT THIS WARRANTY WILL BE IN LIEU OF ALL WARRANTIES OF FITNESS AND IN LIEU OF THE WARRANTY OF MERCHANTABILITY.

Compliance with local laws and regulations

The customer is responsible for applying for and obtaining the necessary regulatory approvals or other authorisations necessary to run or use the Product in its local environment. VWR will not be held liable for any related omission or for not obtaining the required approval or authorisation, unless any refusal is due to a defect of the product.

9 Equipment disposal

This equipment is marked with the crossed out wheeled bin symbol to indicate that this equipment must not be disposed of with unsorted waste.
Instead it's your responsibility to correctly dispose of your equipment at lifecycle -end by handling it over to an authorized facility for separate and recycling. It's also your responsibility to decontaminate the equipment in case of biological, chemical and/or radiological contamination, so as to protect from health hazards the persons involved in the disposal and recycling of the equipment.
For more information about where you can drop off your waste of equipment, please contact your local dealer from whom you originally purchased this equipment.

By doing so, you will help to conserve natural and environmental resources and you will ensure that your equipment is recycled in a manner that protects human health.

Thank you

Local VWR offices in Europe and Asia Pacific

Austria
VWR International GmbH
Graumanngasse 7
1150 Vienna
Tel.: +43 1 97 002 0
Email: info.at@vwr.com

Belgium
VWR International BV
Researchpark Haasrode 2020
Geldenaaksebaan 464
3001 Leuven
Tel.: +32 016 385 011
Email: vwr.be@vwr.com

China
VWR (Shanghai) Co., Ltd
Bld.No.1, No.3728 Jinke Rd,
Pudong New District
Shanghai, 201203- China
Tel.: +400 821 8006
Email: info_china@vwr.com

Czech Republic
VWR International s. r. o.
Veetee Business Park
Pražská 442
CZ - 281 67 Stříbrná Skalice
Tel.: +420 321 570 321
Email: info.cz@vwr.com

Denmark
VWR International A/S
Tobaksvejen 21
2860 Søborg
Tel.: +45 43 86 87 88
Email: info.dk@vwr.com

Finland
VWR International Oy
Valimotie 17-19
00380 Helsinki
Tel.: +358 9 80 45 51
Email: info.fi@vwr.com

France
VWR International S.A.S.
Le Périgares – Bâtiment B
201, rue Carnot
94126 Fontenay-sous-Bois cedex
Tel.: 0 825 02 30 30* (national)
Tel.: +33 (0) 1 45 14 85 00
(international)
Email: info.fr@vwr.com
* 0,18 € TTC/min

Germany
VWR International GmbH
Hilpertstrasse 20a
D - 64295 Darmstadt
Freecall: 0800 702 00 07
Tel.: +49 (0) 6151 3972 0
(international)
Email: info.de@vwr.com

Hungary
VWR International Kft.
Simon László u. 4.
4034 Debrecen
Tel.: +36 (52) 521-130
Email: info.hu@vwr.com

India
VWR Lab Products Private Limited
No.139. BDA Industrial Suburb,
6th Main, Tumkur Road, Peenya
Post,
Bangalore, India – 560058
Tel.: +91-80-28078400
Email: vwr_india@vwr.com

Ireland / Northern Ireland
VWR International Ltd / VWR
International (Northern Ireland) Ltd
Orion Business Campus
Northwest Business Park
Ballycoolin
Dublin 15
Tel.: +353 01 88 22 222
Email sales.ie@vwr.com

Italy
VWR International S.r.l.
Via San Giusto 85
20153 Milano (MI)
Tel.: +39 02-3320311/02-487791
Email: info.it@vwr.com

Korea
VWR International ~
17, Daehak 4-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do
Tel.: +82 31 645 7256
saleskorea@avantorsciences.com

Middle East & Africa
VWR International FZ-LLC
DSP Laboratory Complex
125, Floor 01
Dubai, United Arab Emirates
Tel.: +971 4 5573271
info.mea@vwr.com

The Netherlands
VWR International B.V.
Postbus 8198
1005 AD Amsterdam
Tel.: +31 020 4808 400
Email: info.nl@vwr.com

Norway
VWR International AS
Brynsalleen 4
0667 Oslo
Tel.: +47 22 90 00 00
Email: info.no@vwr.com

Poland
VWR International Sp. z o.o.
Limbowa 5
80-175 Gdansk
Tel.: +48 058 32 38 210
Email: info.pl@vwr.com

Portugal
VWR International - Material de
Laboratório, Lda
Centro Empresarial de Alfragide
Rua da Indústria, nº 6
2610-088 Alfragide
Tel.: +351 21 3600 770
Email: info.pt@vwr.com

Singapore
VWR Singapore Pte Ltd
18 Gul Drive
Singapore 629468
Tel: +65 6505 0760
Email: sales.sg@vwr.com

Spain
VWR International Eurolab S.L.
C/ Tecnología 5-17
A-7 Llinars Park
08450 - Llinars del Vallès
Barcelona
Tel.: +34 902 222 897
Email: info.es@vwr.com

Sweden
VWR International AB
Fagerstagatan 18a
163 94 Stockholm
Tel.: +46 08 621 34 00
Email: info.se@vwr.com

Switzerland
VWR International GmbH
Lerzenstrasse 16/18
8953 Dietikon
Tel.: +41 044 745 13 13
Email: info.ch@vwr.com

UK
VWR International Ltd
Customer Service Centre
Hunter Boulevard
Magna Park
Lutterworth
Leicestershire
LE17 4XN
Tel.: +44 (0) 800 22 33 44
Email: uksales@vwr.com