OPERATING MANUAL

LABSTAC

LOW TOC ULTRAPURE WATER SYSTEM

WPS61-002DUV

labstac.com

INDEX

1. Preface

Dear customer, in the beginning, we sincerely thanks for your choosing our water purification system. This water purification system has incorporated new cutting-edge technology. It is installed and used easily, and can provide you with ultrapure water for science research. So, it will benefit your work. For the water purification system's maximum efficiency, it is suggested that the user manual should be read before installation. Any question in the installation process, please contact our technology engineers or dealers.

2. Specification

Model	WPS61-002DUV
Output	Up to 2 liters/minute (less output with UF cartridge)
Pure water outlet	2: deionized water, ultrapure water
Ultrapure water quality - Resistivity (25°C)	18.2MΩ.cm
Ultrapure water quality - TOC	<3ppb
Ultrapure water quality - Bacteria	<0.1cfu/ml
Ultrapure water quality - Particle(>0.1μm)	<1/ml
Ultrapure water quality - Endotoxin	N/A
Ultrapure water quality - RNases	N/A
Ultrapure water quality - DNases	N/A
Deionized water quality - Resistivity (25°C)	>5MΩ.cm
Feed water requirements	RO water, distilled water, deionized water; 5-45°C, 1-10atm
Dimension and weight	Length×Width×Height: 420×450×520mm; Weight: about 16kg
Electrical requirements	AC100-240V, 50/60Hz
Power	72W
Standard configuration	Main body (Including 1 set of cartridge)+ TDS/conductivity test pen

Purification System:

Sequence number	Specification	Quantity/set
LV.1	Low organic carbon cartridge	1
LV.2	Mixed bed resin cartridge	2
LV.3	Double(185&254nm) wavelength UV cartridge	1(UV/UVF)
LV.4	Ultrapure polishing resin cartridge	4
LV.5	5000 Doulton UF cartridge	1(UF/UVF)

LV.6	(0.45±0.1)μm terminal filter	1

Table 1
REMARKS:
The valug will be influenced by temperature and feed water's quality.

3. Water Flow Chart

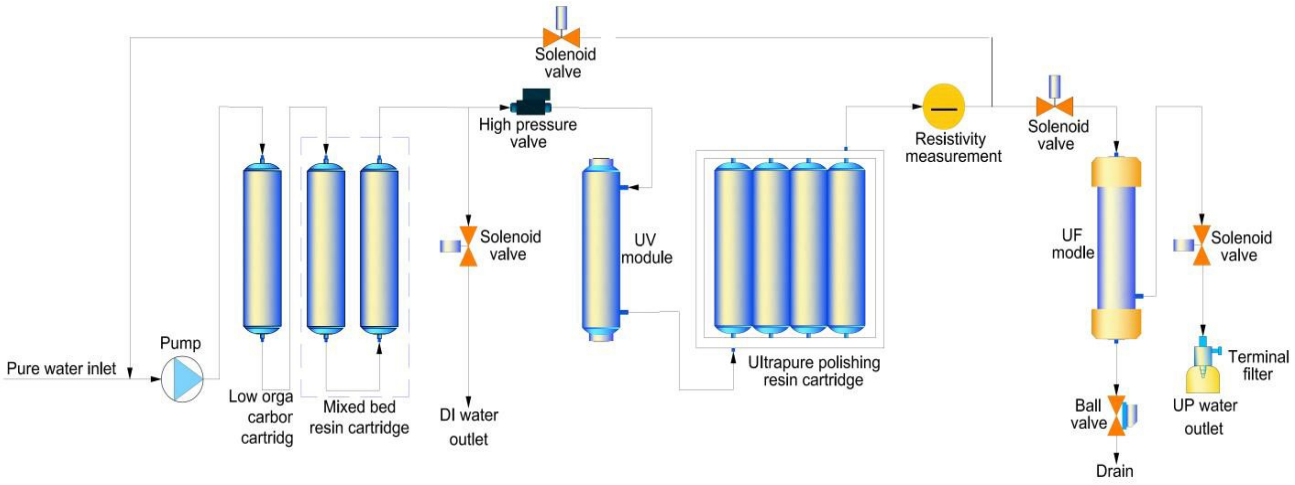


Figure 1

4.Working Environments

Inlet water: Ro water, distilled water, deionized water. Inlet water pressure: 1atm Work temperature: 5-40 C Power:AC100-240V.50/60Hz, 72W
(Clean, dry working environments would be suggested!)

5. Installation

5.1 Preparation for installation

The purification system should be installed horizontally and near to source water.

5.2 Tube and adapter’s connection

The adapter of the machine is high quality easy-put adapter. And material of tube is high quality's PE.
Tube installation and drag diagram

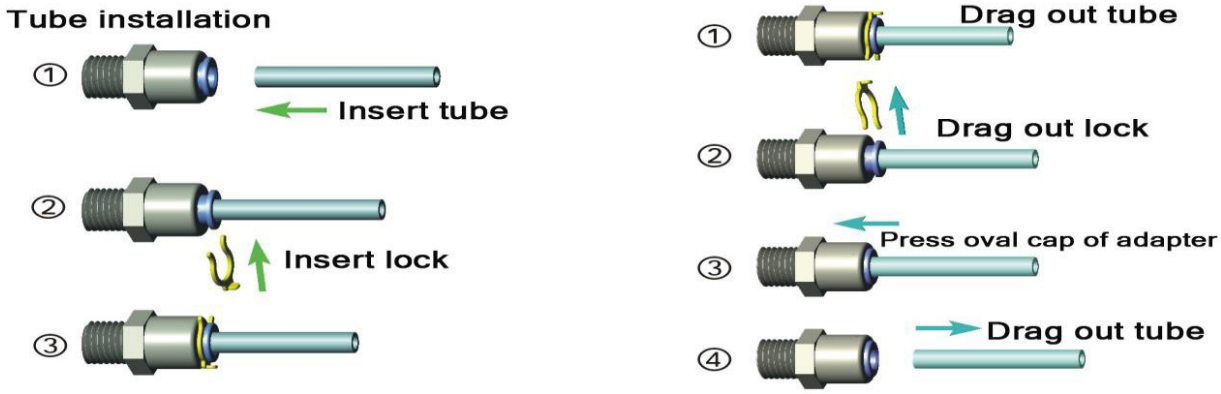


Figure 2

■ ATTENTION:
The tube should be cut with special tube cutter for rounded cut section. And rounded cut section should be guaranteed as much as possible with other cut tools. Connect the tube-press the oval cap of the interface strongly, then insert the tube to the bottom of adapter. Take off the tube-press the oval cap of the interface strongly, then drag out the tube. Do not drag when the tube can't be dragged out any more. The fore-end of the tube, which has been inserted to adapter, should be cut, when it will be used again Sufficient PTFE thread seal tape should be used in all the threaded joints for water leakage inhibitor or preventing.

5.3 Installation steps

Open the packing-case, take out main body, accessory box, water tank (optional). Take out adapters and tube from accessory box, and read the Instruction Manual carefully. External interface are on the back of machine, and it is labeled with different color’s label. Moreover, its adapters are inserted with different color's stop plug.

■ ATTENTION:
Stop plug should be pulled out before the following steps.
Connect to water source
Use 1/4” PE tube with a suitable length. One side connects with inlet water source (Ro water, distilled water, deionized water) and the other connects with the interface with blue label marked “To inlet water” at the back of machine.

■ ATTENTION:
Make sure of that the head face of inlet water tube is below liquid level of deionized water. Insert inlet water tube into the bottom of water tank of deionized water. Make sure of that liquid level of deionized water is not below machine for 20cm.
Connect to UF drain
Use 1/4” PE tube with a suitable length. Insert one side into the interface with green label marked “To UF drain” at the back of machine, and the other side, through UF drain ball valve, is directed to drain.

■ ATTENTION:
The UF drain valve is closed all the time except for flushing UF membrane.
Thus the installation is OK.
Installation Guide Chart

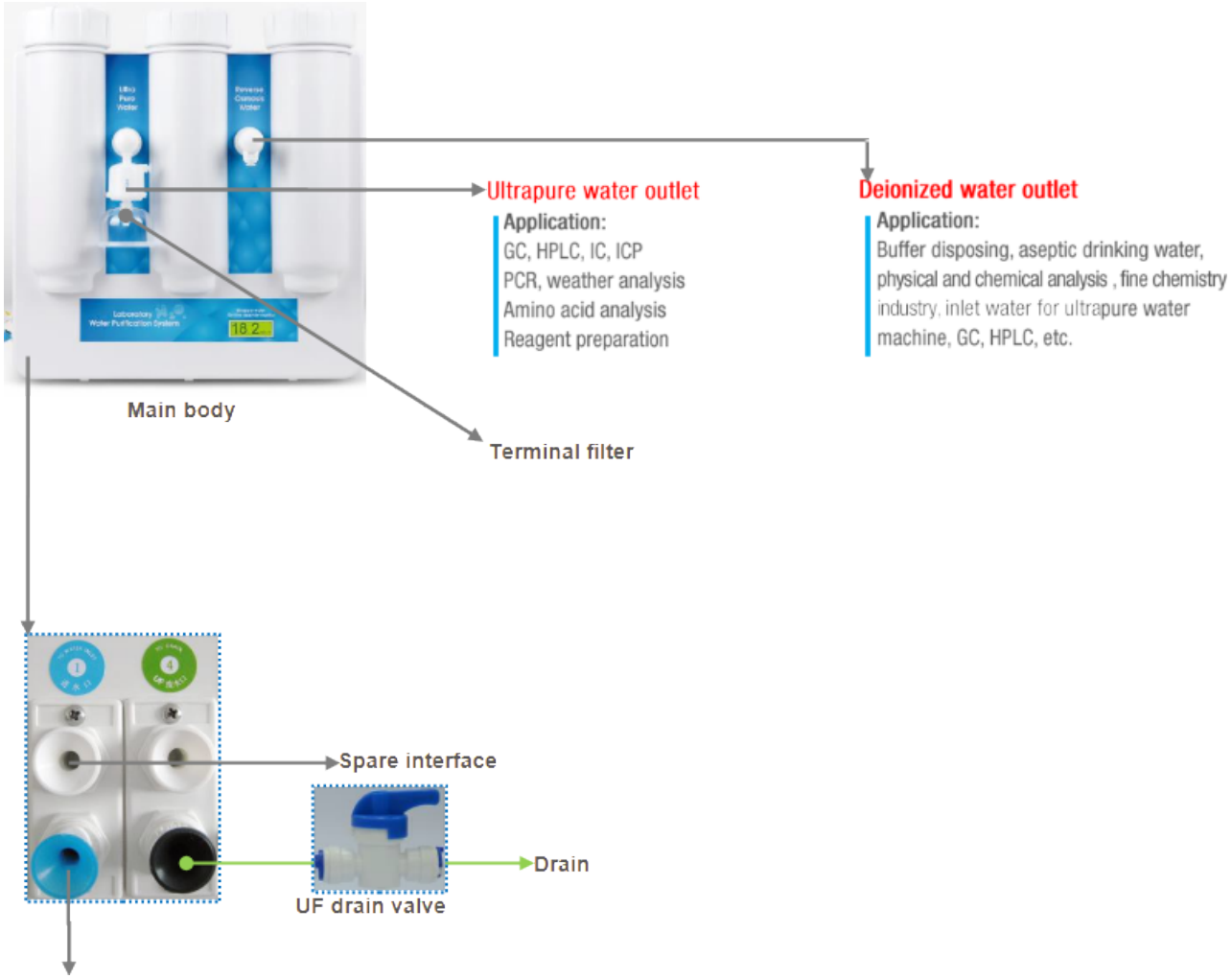
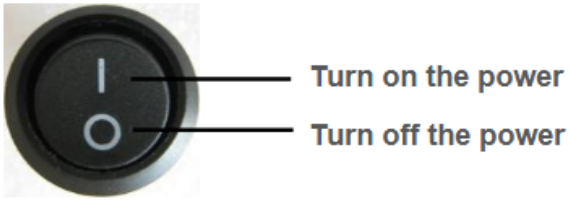


Figure 3

6. Usage Guide

Al data have been set in the factory. The machine will operate smoothly without any data-setting and debugging.
The power switch is on the side of the shell. Specific picture is as follows:



6.1 Starting up

Plug in the power source and turn on the power switch. then the system begins to produce pure water.

6.2 Getting corresponding pure water

Press "DI" or “UP” buttons, which are on the Water outlet, to get corresponding DI water or ultrapure water (higher quality water than DI water).

6.3 Standby

When deionized water and ultrapure water is not for use, the system will be in standby state. In standby state, the system will switch to ultrapure water circulation state.

6.4 Shutdown

Turn off the power switch.

6.5 Releasing internal air of terminal filter

Unscrew the rounded bolt, which is on the side of the terminal filter, and open the valve of ultrapure water. When ultrapure water goes out, the internal air of the terminal filter will be released. Until the terminal filter is nearly full of pure water, then tighten the rounded bolt.

 ■ ATTENTION:
If the internal air of the terminal filter is not released- pure water cannot go through the terminal filter for air resistance, then the system will stop working due to high pressure.

 ■ ATTENTION:
Make sure that the power source is not connected when the system is not in the use state for a long time (for example, off duty).

6.6 Flushing UF membrane

> Method of flushing UF membrane:
Turn on the UF drain valve, and press “UP” button, which are on the panel, to turn on Ultrapure water’s valve.

 ■ ATTENTION:
The “UF drain valve” is shut on normal condition, except for flushing UF membrane.
> Frequency of flushing UF membrane:
At least one times every week, and at least lasting 30 seconds every times.

6.7 The usage to keep high quality pure water

The Ultrapure water is easily polluted by the surrounding environment. So getting fresh pure water is suggested.
Keep the source water tank from sunlight for microbe's reproducing.
When getting pure water, initial pure water is suggested to drain to get steady pure water.
Avoid air bubbles when get pure water to reduce air pollution.

 ■ ATTENTION:
The microbe's reproducing will reduce the life of filter cartridge when the machine does not work for long time.
So the machine's work every 7-10days is necessary.

7. Water Quality Test

The system has 2 method of water quality measuring.
0ne method is On-line resistivity monitor, which is used to monitoring ultrapure water's quality. Measure unit: Resistivity (MQ-cm) The other is TDS/Conductivity pen. which is used to testing source water and deionized water's quality. Measure unit: TDS(total dissolved solid, ppm) or conductivity(us/cm)

REMARKS:
= Under normal conditions, If mixed bed resin cartridge is effectiveTD,S of DI water should be "0" ppm.
=0if TDS of DI water > 2ppm, it means that the quality of DI water is very bad. Mixed bed resin cartridge should be replaced at once.
= OConversion relations between TDS and conductivity rate(us/cm):
If TDS<50ppm, conductivity rate(jus/cm) ~TDSx2
If TDS>200ppm, conductivity rate(us/cm) ~TDSx(1.5~1.7)

8. Consumables

Item No.	Specification	Suggested replacement term
PTC-MBR-K	Mixed bed resin cartridge	About 1000 liters pure water/PC
PTC-UPPR-K	Ultrapure polishing resin cartridge	About 1000 liters pure water/PC
PTC-AC-HZ51	Low organic carbon cartridge	About 6800 liters pure water
LANP-(185nm&254nm)-10W-K	Double wavelength(185&254nm) UV lamp	About 9000 hours
TF-(0.45±0.1)μm-S	(0.45±0.1)μm terminal filter	-
UF-5000D	5000 doulton uf cartridge	-

REMARKS:
Worse inlet source water quality or big dosage will reduce the life of the cartridge above.
Consumables Guide Chart

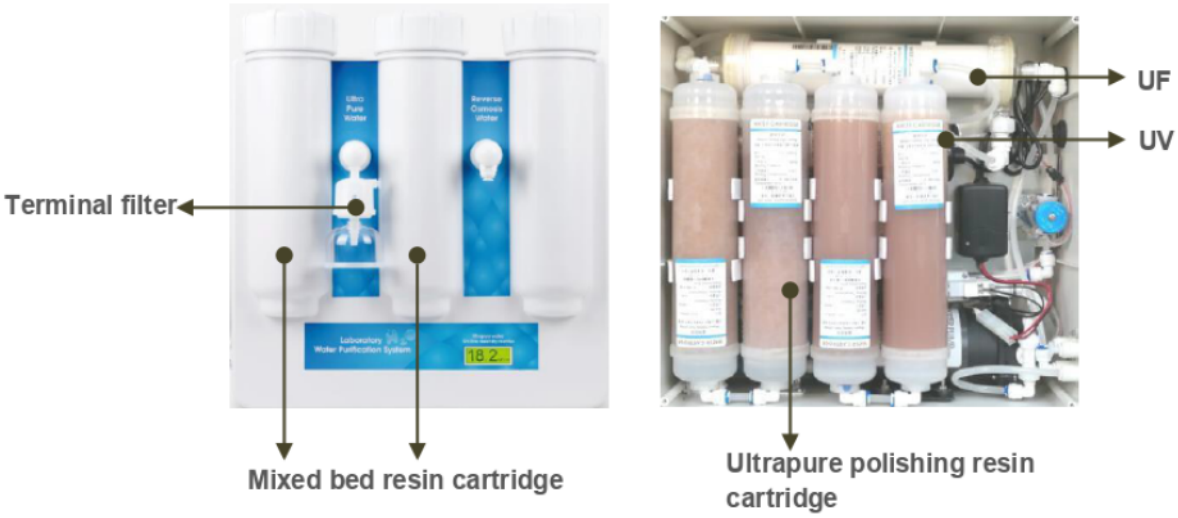


Figure 4

9. Normal Trouble Diagnosis

Normal trouble	Cause	Diagnosis
No power	-No plug in -Power adapter broken	-Check the power connecting -Replace new adapter
No pure water goes out or a little amount of pure water	-Valve of pure water outlet broken -Cartridges or filters' life ends -No or little source water drawing	-Replace new valve -Replace new cartridges or filters -Air in Inlet tube or pump, please exhaust
Cartridges' life warns	-Cartridges' life ends	-Replace new cartridges
Water leakage	-Adapter or something broken	-Check, insert and drag out again, replace
Water quality deteriorate	-Cartridges or filters' life ends -Water quality sensor broken	-Replace new cartridges or filters -Replace new water quality sensor

All other matters not mentioned herein, please contact us directly.

10. Warranty & Repair Regulation

The products enjoy repair service since the day of purchase. In one year from the purchasing day, we are obliged to replace components for customers free of charge, due to non-human-behavior factors, -except for:
(1).Al l the consumables;
(2). Damage caused by maloperation or use in abnormal situations;
3). Disassembly any part of the machine or human-behavior damage;
(4). Not repaired by our serviceman.
Specification can be changed without any prior notice for development.

Labstac LLC
82 Wendell Avenue, STE 100, Pittsfield, MA, 01201, USA
Email: contact@labstac.com | Website: labstac.com