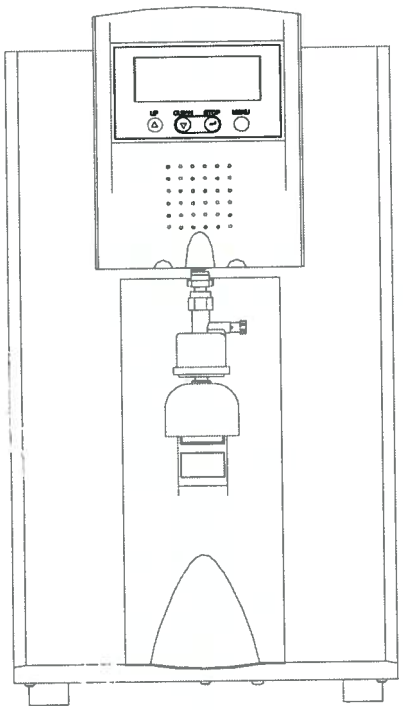
Heal Force®

# Smart-Mini
# Water Purification System
# Operation Manual



Version:1612

## Notice

If it is the first time for you to use our product, please carefully read this manual which will give you a lot of help. We take responsibility for regular maintenance and repair work instead of consequences caused by improper operation.

The content of the publication is subject to change and/or updating without notice. The content of this manual is only for reference use. The manufactory and the distributors shall not be responsible for losses caused by incorrect description or misuse of this manual. The graphics contained in the manual are as general representative which may have some errors compared to entity. But the description is definitely match the function.



## Preface

Thank you for using the water purification system designed and manufactured by Shanghai Canrex Analytic Instrument Co, Ltd.

If you have any good suggestion, Please contact us, we will improve our products and after sale service continuously.

Global Exclusive Agent: Healforce development (hongkong) Co. ltd. Tel: (00852） 28987303
China Exclusive Agent: Nison Instrument (Shanghai) Co. ltd. Tel: (8621)62728646
Manufacture: Shanghai Canrex Analytic Instrument Co. ltd. Tel: (8621)50911997

# ISO 9001:2008 Certificate

TÜV NORD

# CERTIFICATE

## Management system as per

## GB/T 19001-2008/ ISO 9001 : 2008

In accordance with TÜV NORD CERT procedures, it is hereby certified that

**SHANGHAI CANREX ANALYTIC INSTRUMENT CO., LTD.**

**3 Floor, 4 Factory Building, No. 298, Lianzhen Road, Pudong New District, Shanghai, P. R. China**

Organization Code: 78112153-3

applies a management system in line with the above standard for the following scope

**Design and Manufacturing of Water Purification Systems for Laboratories**

Certificate Registration No. 04 100 062186
Audit Report No. 2.5-4951/2015

Valid from 2015-06-12
Valid until 2018-06-11
Initial Certification 2006-06-23

Certification Body
at TÜV NORD CERT GmbH

Printing Address:
TUV NORD Hangzhou Co., Ltd.
Shanghai Branch
11F, Sail Tower, No 266 Han Kou Rd.,
Huang Pu District, Shanghai, China
200001
Issue Date: 2015-04-29

This certification was conducted in accordance with the TÜV NORD CERT auditing and certification procedures and is subject to regular surveillance audits.

TÜV NORD CERT GmbH Langemarckstrasse 20 45141 Essen www.tuev-nord-cert.com

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D-ZM-13007-01-05

Note: The certificate information can be queried at the official Website of Certification and Accreditation Administration of the People's Republic of China: www.cnca.gov.cn

SHG, FE4951, RC: 0182, Sector 2

# Contents

# Chapter 1 General

## 1.1 Safety information

You must use the safety norms according to this manual before using the Smart-Mini system, especially water and power supply. It is necessary to refer to this manual when you install or operate the Smart-Mini system. Unqualified using environment will endanger the normal operation, or even damage the whole system.

The installation, commissioning and maintenance of the equipment can only be completed by Heal Force or its authorized agents. Heal Force did not responsible for duties and responsibilities if the equipment is disassembled by unauthorized dealer or service personnel.

## 1.2 System operating environment

- Indoor sue
- Avoid direct sunlight
- Between 0-2000 meters altitude
- Ambient temperature: 4-45℃
- Operating Voltage: 220-230V AC 50/60Hz
- Inlet pressure: 0.1-0.4MPA.
- The fluctuation range of the main power supply can be 10% of the normal voltage.
- Transient over-voltage power supply is grade 2.
- There is an drains around the equipment(1 meters)
- Adequate indoor ventilation
- Mounting surface must be fixed, level, and not burning
- Avoid direct sunlight
- No heat source next to the equipment.
- Be away from strong magnetic field.

# Chapter 2 System Introduction

## 2.1 Specifications for the system

| | | |
|---|---|---|
| Feed water requirement | Conductivity μS/cm@25°C | <400 |
| | Pressure MPa | 0.1~0.4 |
| | Temperature °C | 5~40 |
| Pure water | Ion rejection rate %@25°C | ≥95 |
| | Bacteria remove % | >99 |
| | Make rate* L/H@25°C | 15 |
| Ultra-Pure water | resistivity MΩ.cm | >18 |
| | TOC** ppb | 1-10 |
| | microorganisms***(CFU/ml) | ≤1 |
| | Particles**** (0.22μm) /ml | <1 |
| | Dispensing rate L/H | 60-90 |
| | Power Consumption W | 120 |
| | Weight kg | 25 |
| | Storage tank | 6L |
| | Main System Dime. W*D*H | 525*314*571 |

Note:

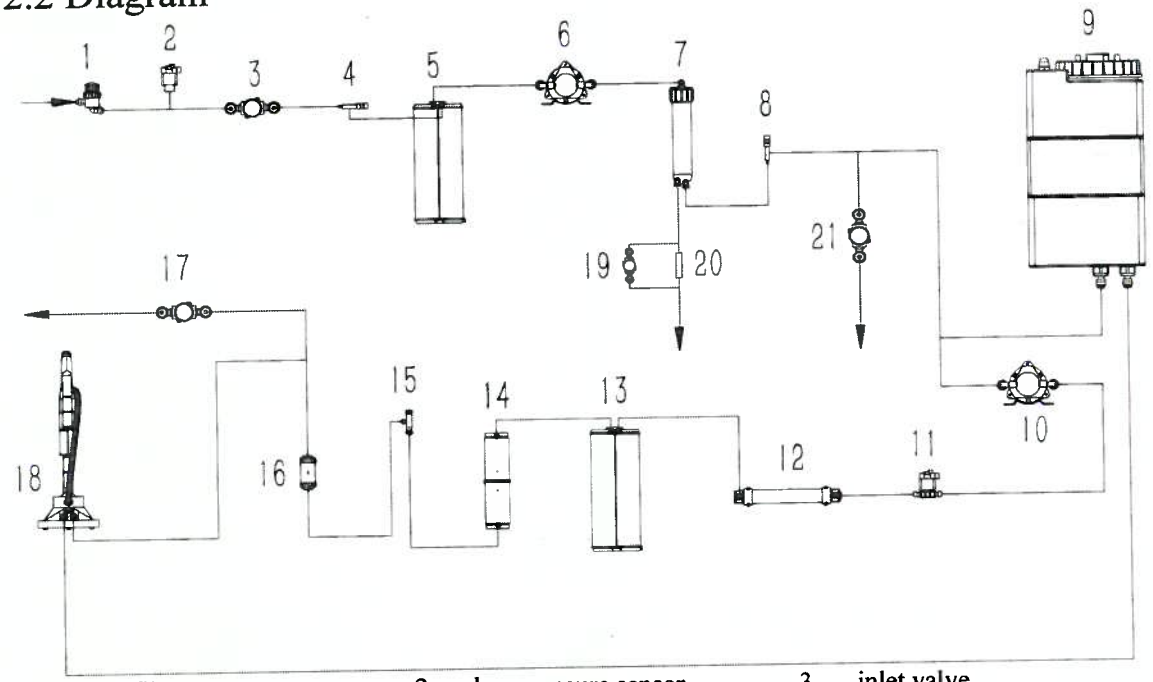
* The making rate will be changed with temperature variation. (3% per 1°C)

** The feed water TOC is less than 1000ppb.

*** with 0.22um final filter cartridge

**** with Ultra-filter cartridge

## 2.2 Diagram




| | | | | | |
|---|---|---|---|---|---|
| 1 | pre-filter | 2 | low pressure sensor | 3 | inlet valve |
| 4 | conductivity sensor 1 | 5 | pretreatment cartridge | 6 | RO pump |
| 7 | RO membrane | 8 | conductivity sensor 2 | 9 | water tank |
| 10 | dispensing pump | 11 | high pressure sensor | 12 | UV lamp |
| 13 | purification cartridge | 14 | ultra-purification cartridge | 15 | resistivity sensor |
| 16 | micro-filter | 17 | dispensing valve | 18 | dispenser(option) |
| 19 | RO flushing valve | 20 | wastewater valve | 21 | drain valve |

# Chapter 3 Instructions before installation

## 3.1 check before installation

Users please ensure whether the product you received is your purchase before installation.

You had batter check all items according the packing list.

- Whether the power site is close to the system.
- Whether the feed water meets the requirements.
- Whether the feed water pressure is normal.
- Whether the feed water supply is nonstop.
- Whether the feed water pipe has1/2"NPTF whorl connector.
- Whether the strength of the wall can bear the system (including tank full of water) weight.
- Whether the system's height can clearly observe both LCD screen and keypad operations on control panel.
- Whether there is adequate space to substitute supplies and connecting pipe as well around and behind the system.
- Whether you have installed more than 1/2" drains, not more than one meter far away from the system, intended for discharging waste-water and water overflowing.
- Whether the installment circumstances are consistent with the regulations.
- Whether there is reserved space if you are looking forward to having remote water dispenser and pedal switch installed.

## 3.2 Option spare parts

### 3.2.1 Pressure limiter CR-SP829

Please purchase this product additionally when the feed water pressure is too high（> 0.4MPa）. This component can reduce pressure to 0.4Mpa below.

### 3.2.2 Enhanced pretreatment cartridge CR-SP102L

Enhanced pretreatment cartridge is a multi-stage pretreatment module to removes the impurities in tap water including suspended particulates, colloids, microorganisms, organics, chlorine and heavy metals to ensure the following purification modules work properly.

### 3.2.3 Remote water dispenser CR-SPRWD-1

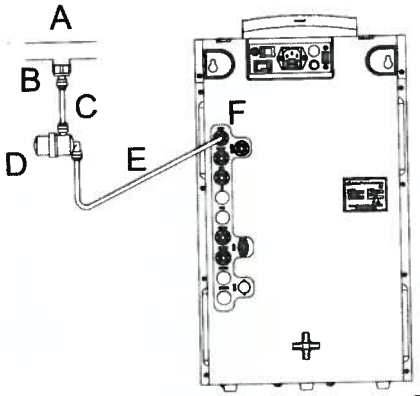
For Multiple water dispensing, the longest distance is 3 meters.

# Chapter 4 Installation

It is important for the user to master installation and removal of quick connector. If user does not operate properly will lead to water leakage, quick connector damage and pipeline broken.

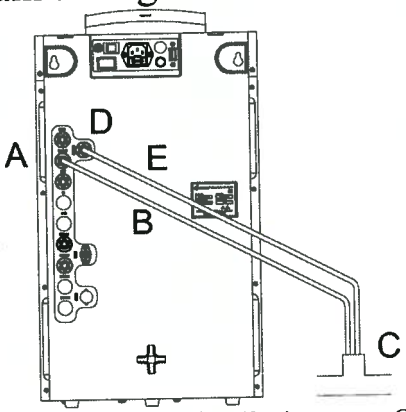
## 4.1 Connection of feed water to the system

Before connecting, close any valves supplying feedwater to the system.



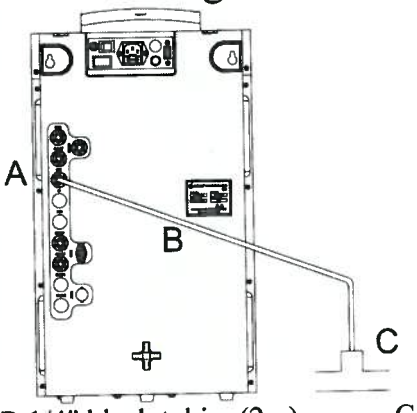

A 1/2" male fitting
B 1/2" to 1/4" connector
C 1/4" blue tubing(20cm)
D pre-filter
E 1/4" blue tubing(2m)
F "FEED"

## 4.2 Connection of the drain tubing




A "DRAIN1"
B 1/4" black tubing(2m)
C floor drain
D "DRAIN2"
E 1/4" black tubing(2m)

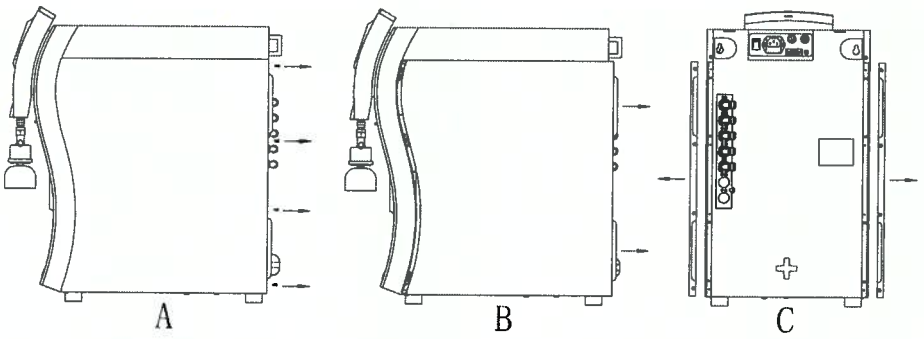
## 4.3 Connection of the overflow tubing




A "OUT"
B 1/4" black tubing(2m)
C floor drain

Note: The overflow tubing must have a certain slope. It shall not be bent or arched.

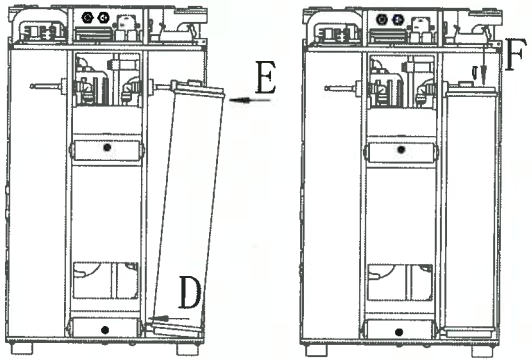
## 4.4 Installation of the pretreatment cartridge




Step A: unscrew the screw of the side door with a screwdriver.

Step B: pull the handle of the side door with both hands, forced back to pull the a side door out of 10mm ~ 13mm.

Step C: carry out the side door.




Pretreatment cartridge is installed in the right chamber of the system.

Get the pretreatment cartridge from the box (make sure number is correct for the CR-SP101M), open the vacuum bag, remove protection cover for the inlet and outlet of pretreatment cartridge. Make sure there is a black "O" ring in the inlet and outlet, which is in the bottom of the hole.

Place the square tenon at the low of the pretreatment into the corresponding square hole on the main unit, shown as in the figure "D" above.

Push the joint at the up of the pretreatment cartridge to the main unit shown as in the figure "E" above. Make sure the "O"-rings of pretreatment cartridge can be completely sealed with the joints.

There is locking plate connected with nylon line on the joints of main unit. Insert the locking plate into the slot of metal bar, as shown in the figure F above.

## 4.5 Installation of the purification cartridge

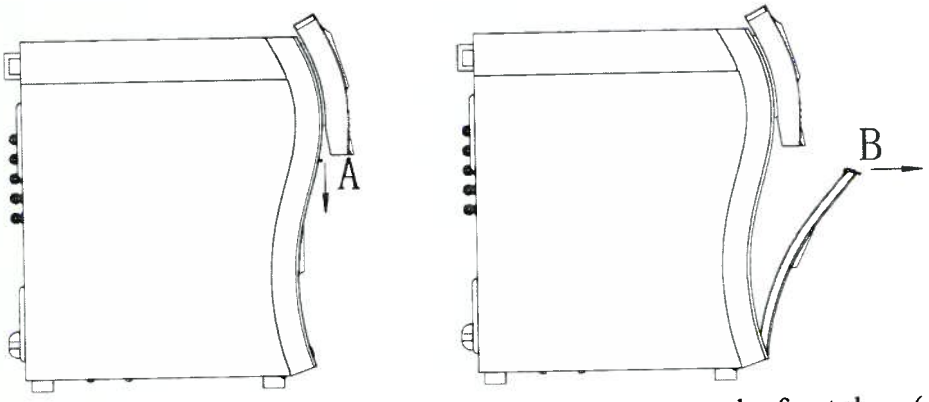
Remove the left side door (front view).

Purification cartridge is installed in the left chamber of the system.

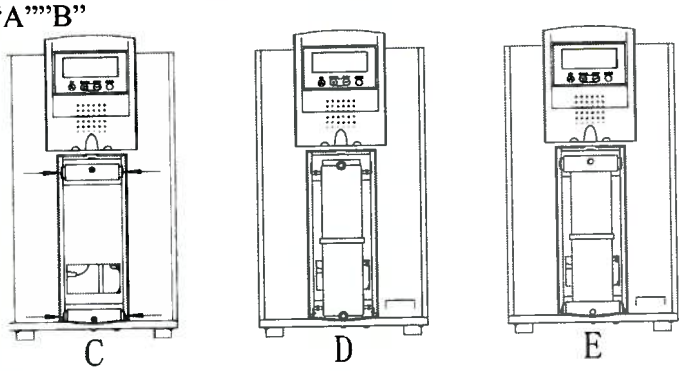
Get the purification cartridge from the box (make sure number is correct for the CR-SP301M).

The operation method: please refer to section4.4 of this chapter.

## 4.6 Installation of the ultra-purification cartridge




Press and pull the latch at the top of the front door, to remove the front door (press down about 3mm , do not press down hardly which may cause deformation or even fracture bayonet). As shown in figure "A""B"




Left the upper and lower latches, As shown in Figure C.

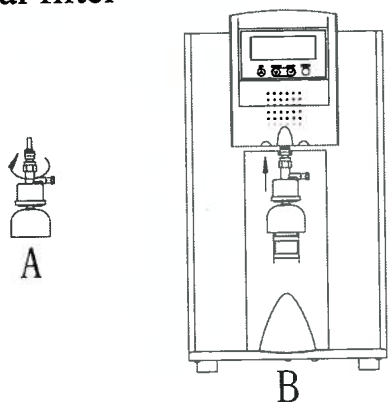
Take out the ultra-purification cartridge from the box (make sure number is correct for the CR-SP303M), open the vacuum bag, remove protection cover for the port of cartridge. Make sure there is a black "O" ring in the ports, which is in the right position.( should be close to the inlet and outlet inside the convex shoulder). If the position is not right, Please adjust it to the right position.

Push the ultra-purification cartridge firmly into place , Both the top and bottom ports of the cartridge have to be fully seated shown as figure "D" above.

Place the latch as origin. Make sure that both the top latch and bottom latch are fully closed. Each latch should "click" when it is fully closed.

Install the front door as this chapter. The purification cartridge installation is completed

## 4.7 Installation of the final filter

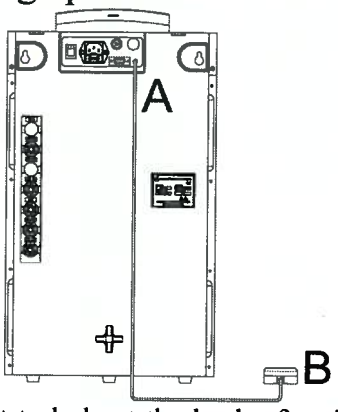



Take the final filter and quick connector (with 40mm 1 / 4 "white hose) from the attachment bag.

Wind sealing tape around external screw for 2-3 laps then screw on quick connect of filters, and tighten. Shown in Fig A

Insert the white hose into the water producing terminal of the system.

## 4.8 Installation of the leakage protection sensor



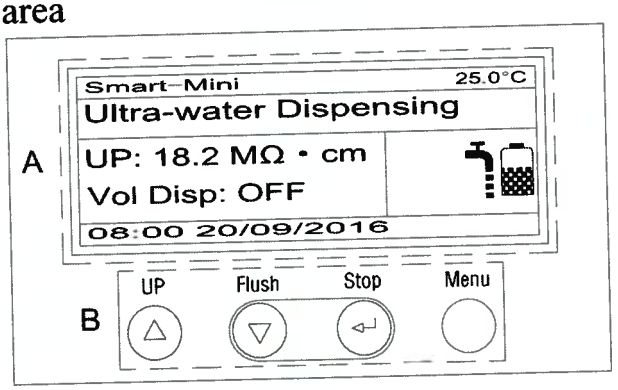

Get the cable one end connect to hole at the back of main unit. Put the leakage protection sensor on the table near the main unit.

## 4.9 System electrical connection

Using the supplied electrical power cord, connect it to the system and then to an earth grounded outlet.

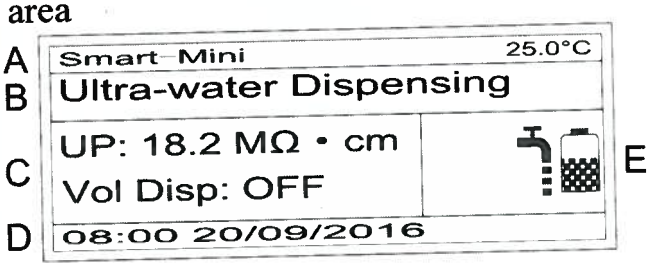
# Chapter 5 Parameter setting and operation

## 5.1 Control panel area




A: dashed box for the LCD display area.
B: dashed box for the function keypad board.

## 5.2 LCD display area




A: system model and the current temperature display .
B: current status
C: product water quality and Volume dispense status.
D: date and feed water conductivity.
E: graphic for display status.

## 5.3 symbols and graphics for LCD display

FEED Feed water conductivity
UV UV light
Vol.Disp. Fixed Volume Dispensing
PF Pretreatment cartridge

RO Pure water conductivity
DS RO deionization rate
UP Products resistivity
MF Micro-filter


Without feed water


Feed water low quality


RO failure


UV light failure


RO failure


Ultrapure water recycle


System leakage


Pretreatment failure


Micro-filter failure


Purification cartridge failure


Ultrapure water producing


Water tank level

## 5.4 Function Keypad

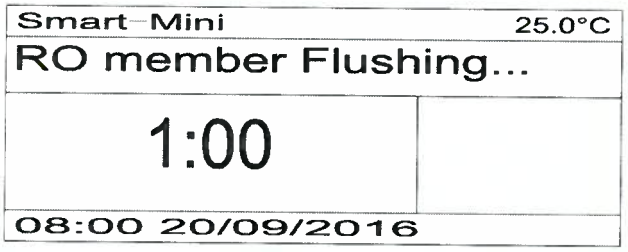
There are 4 function keypads in the system: DISP./▲, Flush/▼, Stop/↵ and Menu

| | |
|---|---|
| DISP./▲ | Dispense product water keypad at the operation, it will be become adjusting keypad at the menu mode. |
| Flush/▼ | RO cartridge flush keypad at the operation, it will be become adjusting keypad at the menu mode. |
| Stop/↵ | Stopping water dispensing or flushing at the operation, it will be become confirmation keypad at the menu mode. |
| Menu | Parameter setting keypad, it will be become return keypad at the menu mode. |

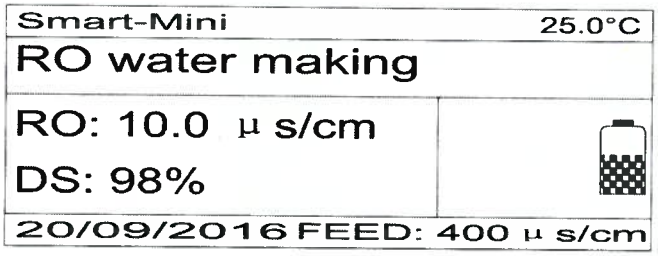
## 5.5 Operation

Turn on feed water supply. Ensure that all the pipe connecting parts have no leaking. Switch on the power supply at the back of the main unit.

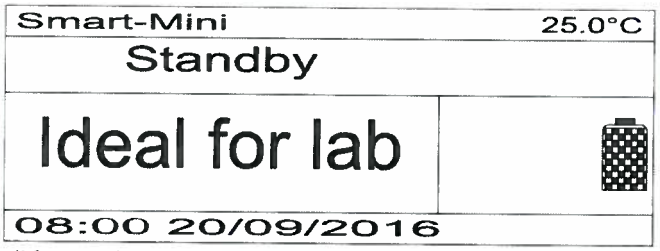
After the main unit is powered on, LCD will display a welcome message, which is followed by the current state of the system. The system will remain in flushing status about 1 minute. As shown below:




When the flushing process of main unit is finished, the system will automatically enter the water producing state. The system will flushing automatically RO membrane before and after producing RO water. The system also shows water conductivity and RO deionization rate. As shown below:

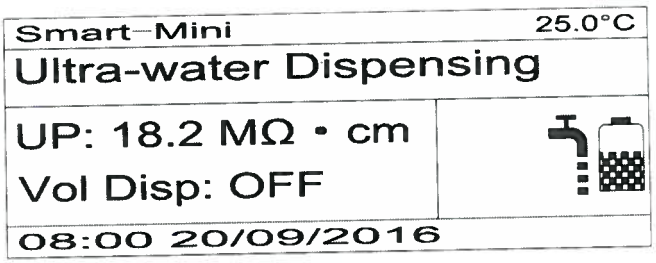



When the storage tank of the system is full , the system will enter the standby mode automatically. As shown below:

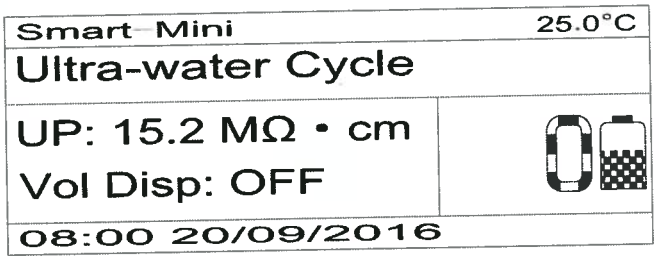



Press "DISP. /▲" keypad you can take the pure water.

⚠ Ensure that the pure water at least 20% of the water tank.




If the quality of current ultrapure water can not meet the requirement of original setting (ie 16.0MΩ.cm), the system will automatically enter recycling mode to improve the water quality. And if the water quality reaches the set value, the main unit starts to produce ultra-pure water. As shown below:

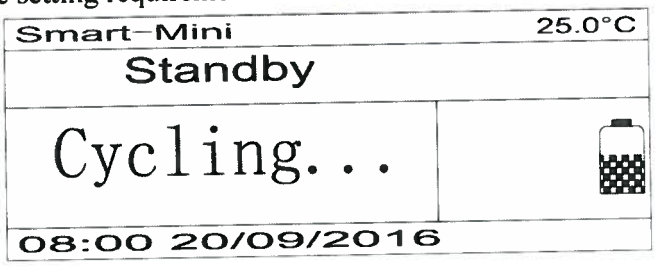



Press "Stop/↵" keypad to stopping take product water.

The system has manual flush function for RO membrane cartridge, press the "Flush /▼" to flush RO membrane cartridge.

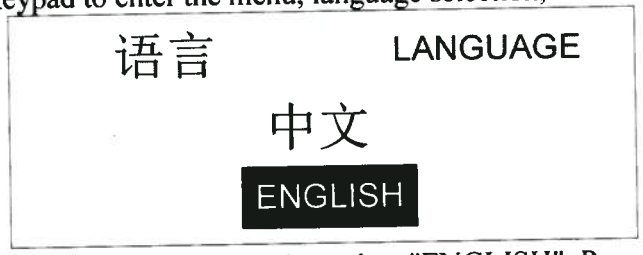
Press the "Stop /↵"keypad to stop flushing operation.

When the system is in the standby state, the ultrapure water in the loop will automatically recycle for 5 minutes every 2 hours, which will guarantee the quality of ultrapure water to the setting requirement. As shown below:

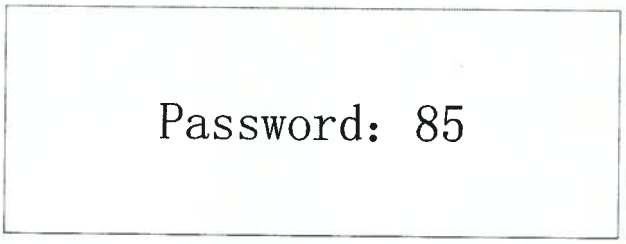



## 5.6 Parameters setting

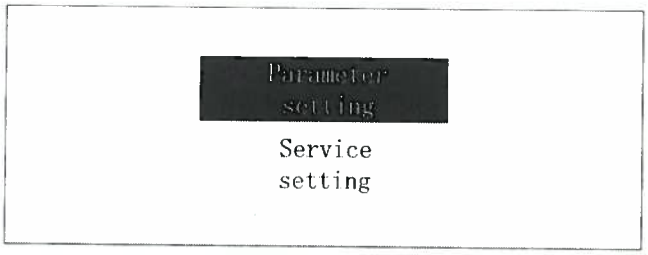
Press "Menu" keypad to enter the menu, language selection, as shown below:




Press "DISP./▲" or "Flush/▼" keypad to select "ENGLISH". Press the "Stop /↵" keypad to confirm the setting and to the next level. As shown below:

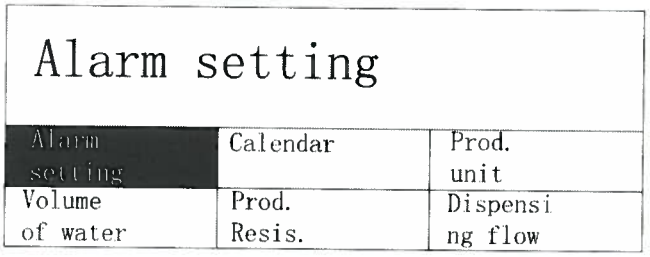



Press or hold down the "DISP./▲" or "Flush/▼" keypad to enter the correct password. The default password is 85. Enter the password, press the "Stop/↵" keypad to confirm the entry of next menu level, as shown below. If the password input is error, the system will be directly reset.



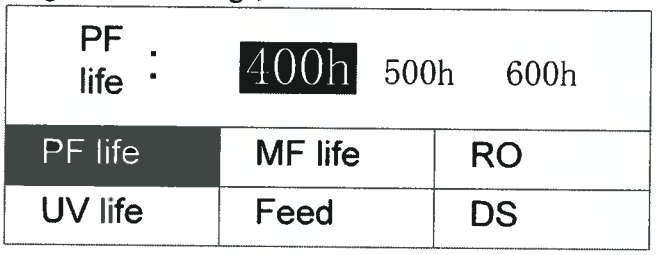

Press the "DISP./▲" "Flush /▼" keypad to select "Parameter setting". Press the "Stop/↵" keypad to enter the parameter setting level

After entering the parameter setting menu, you can see the contents of the setting are: Alarm settings, Calendar, Prod. unit, Volume of water, Prod. Resis., Dispensing flow. As shown below:




## 5.6.1 Alarm Settings

After entering the parameter setting menu, press the "DISP./▲" or "Flush/▼" keypad to select "Alarm setting". Press the "Stop / ↵" keypad to confirm the settings menu to enter the alarm category including various settings, as shown below:

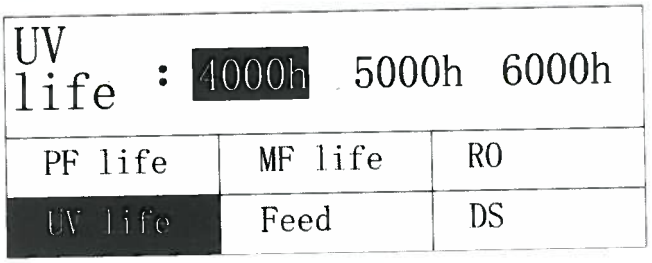



### Alarm time setting for pretreatment failure

Press "DISP./▲" or "Flush/▼" keypad to select "PF life". Press the "Stop/↵" keypad to confirms. Press "DISP./▲" or "Flush/▼" keypad to select one of the 400,500,600hour according to the tap water quality. Press the "Stop/↵" keypad to confirms the setting and switches to the next menu level.

### Select alarm time UV lamp failure

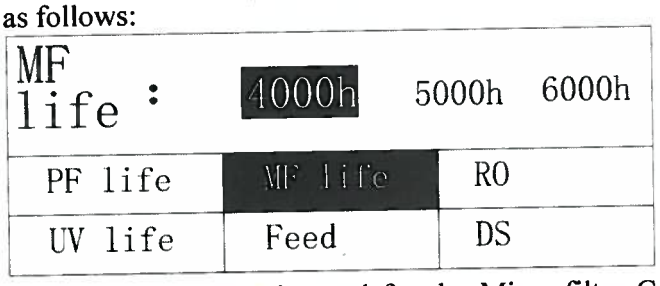
LCD display is as follows:




In this menu level the maintenance interval for the UV oxidator of main system must be reset after exchanging the UV lamp. the manufacture setting is 4000hour for UV lamp life time, the user can press "Disp./▲, Flush/▼" keypad to select one of the 4000,5000,6000,hour according to the user desire. Press the "Stop/↵" keypad to confirms the setting and switches to the next menu level.

## Micro-filter failure time alarm options

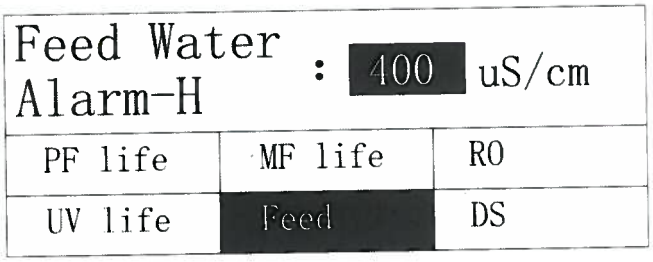
LCD display is as follows:




In this menu level the maintenance interval for the Micro-filter Cartridge life time of main system must be reset after exchanging the cartridge. the manufacture setting is 4000hour for Micro-filter Cartridge life time, the user can press "Disp./▲, Flush/▼" keypad to select one of the 4000,5000,6000 hour according to the user de sire. Press the "Stop/↵" keypad to confirms the setting and switches to the next menu level.

## Feed water quality alarm setting

LCD display shown as follows:




The limit of the feed tap water conductivity can be adjusted by the user. If the adjusted limit will be overstepped it will decrease the life time of Pre-treatment cartridge, RO membrane and purification cartridge. the manufacture setting is 400us/cm, the user can press "Disp./▲, Flush/▼" keypad to adjusting according to the user desire. Press the "Stop/↵" keypad to confirms the setting and switches to the next menu level.

When setting the value, please refer to the actual water quality. Only to eliminate the alarm for feed water. If the feed water quality is poor, the overall performance and lifetime of each module will be affected.

## Pure water quality alarm settings

LCD display shown as follows:

| RO Alarm-H : 20.0 uS/cm | | |
|---|---|---|
| PF life | MF life | RO |
| UV life | Feed | DS |

The limit of the RO water conductivity can be adjusted by the user. if the adjusted limit will be overstepped it will decrease the life time of purification cartridge. the manufacture setting is 20us/cm, the user can press "Disp./▲, Flush/▼" keypad to adjusting according to the user desire. Press the "Stop/↵" keypad to confirms the setting and switches to the next menu level

If this value is set too large, then the performance and lifetime of the ultrapure water purification cartridge will be affected.

Alarm settings for reverse osmosis desalting rate

LCD display is as follows:

| DS Alarm-L : 90 % | | |
|---|---|---|
| PF life | MF life | RO |
| UV life | Feed | DS |

The limit of the desalting rate of the RO membrane can be adjusted by the user. The display of the system shows the alarm message "Ds light" if the adjusted limit will be overstepped (manufacture's setting is 90%). press "Disp./▲, Flush/▼"keypad to increases or decreases the value, press the Stop/↵" keypad to confirm the setting and switches to the next menu level.

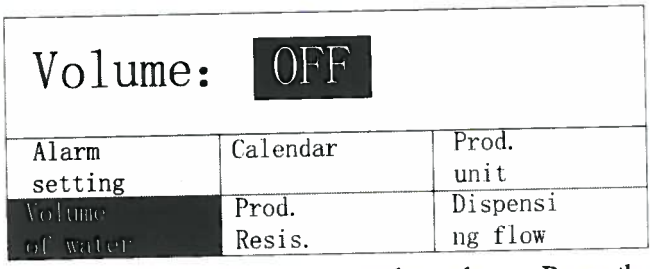
This value should not be set too low, otherwise the pure water quality will be affected. If the quality of inlet water is too poor, Please set high value for higher pure water requirement. Value setting range: 50 to 99.

## 5.6.2 Volume of water setting

After entering the parameter setting menu, press "DISP./▲" or "Flush/▼" keypad to select "Volume of water".

| Volume of water | | |
|---|---|---|
| Alarm setting | Calendar | Prod. unit |
| Volume of water | Prod. Resis. | Dispensing flow |

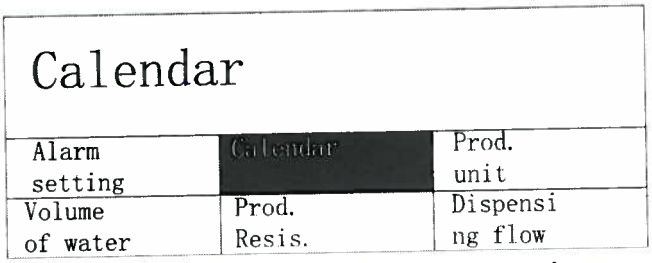
Press the "Stop/↵" keypad to confirms.



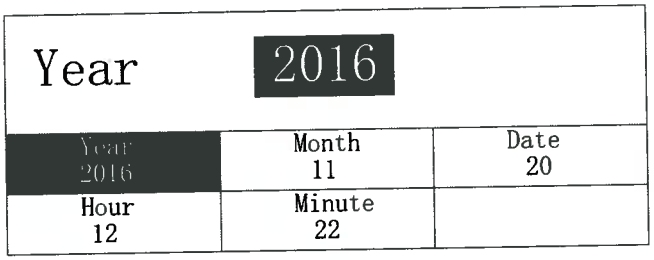

Press "DISP./▲" or "Flush/▼" keypad to set the volume. Press the "Stop/↵" keypad to confirms the setting and switches to the next menu level.

### 5.6.3 Calendar setting

After entering the parameter setting menu, press "Disp./▲"或"Flush/▼"keypad to select the "Calendar".

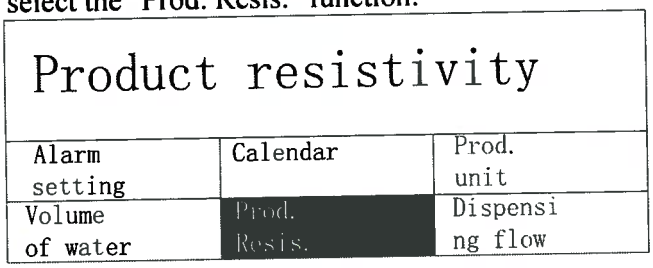



In this menu level the user want to change the timer in maim system ,you can be press the "Disp./▲, Flush/▼"keypad to set the correct date and time according to the mention of the display. Press the "Stop /↵" keypad to confirms the setting and switches to the next menu level.

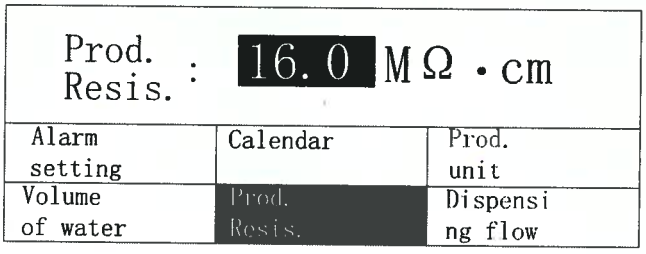



### 5.6.4 Ultra-pure water quality setting

After entering the parameter setting menu according to this chapter, press "Disp./▲"or "Flush/▼"keypad to select the "Prod. Resis." function.




Press "Stop/↵"keypad to enter the water quality parameters setting interface, as shown below:

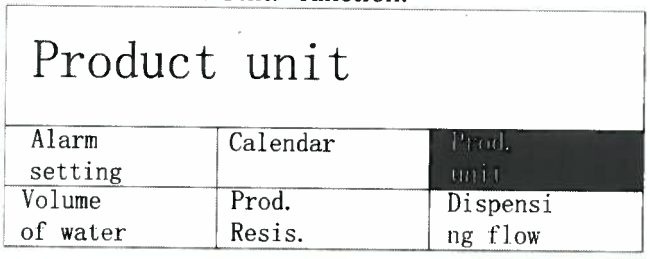



Press "Disp./▲, Flush/▼" keypad to adjusting according to the user desire. Press the "Stop/↵" keypad to confirms the setting and switches to the next menu level.

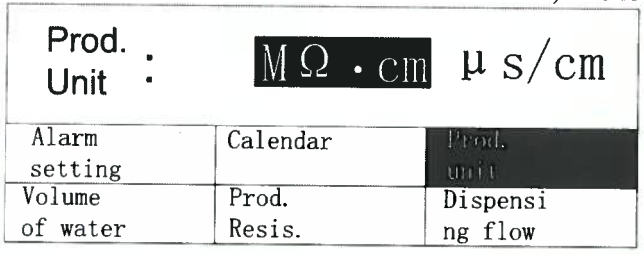
### 5.6.5 Unit selection

By setting this parameter, user can choose to the unit form of the ultrapure water, MΩ.cm or μS/cm.

After entering the parameter setting menu according to this chapter, press "Disp./▲"or "Flush/▼"keypad to select the "Prod. Unit." function.




Press "Stop / ↵" button to confirm the unit selection interface, as shown below:

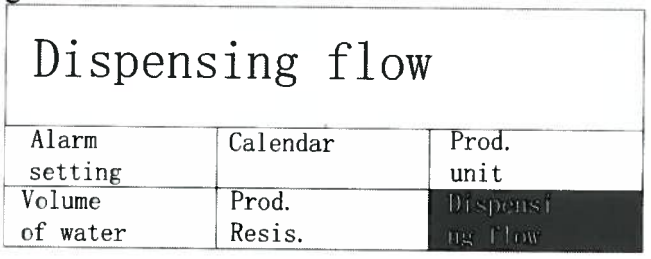



In this menu level the user can select the display unit of product water , the user can press "Disp./▲, Flush/▼" keypad to selecting one of "MΩ.cm" or "us/cm" according to the user desire. Press the "Stop/Enter" keypad to confirms the setting and switches to the next menu level.

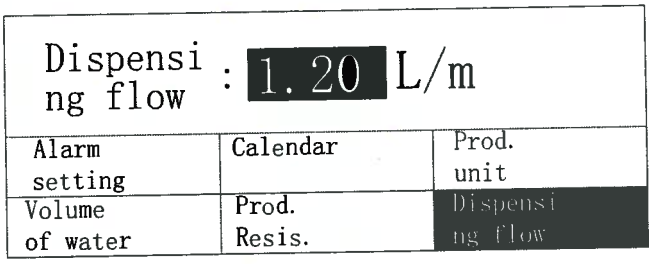
### 5.6.6 Dispensing flow setting

By setting this parameter, user can calibration the accuracy of fixed quantity of taking water such as 1L or 5L.

After entering the parameter setting menu ,Press the "Disp./▲"or "Flush/▼"keypad to select the "Dispensing flow" function.




Press "Stop/↵"keypad to enter the water dispensing flow parameters setting interface, as shown below:




Press the "DISP./▲" "Flush /▼" keypad to enter the actual value.
Press the "Stop/↵" keypad to confirms the setting and switches to the next menu level.
Note: Suggestion the user had batter to calibrating fixed quantity every half month.

# Chapter 6 Troubleshooting

## 6.1 No display

| Description | Solution |
|---|---|
| No power supply for power outlet | Confirm power outlet is normal |
| Electrical outlet loose | Change electrical outlet |
| System power cord is not properly installed | Make sure the power cord is plugged into the electrical outlet of main unit |
| system power is turned off | Turn on the power switch on the back of the main unit |
| Power cord is damaged | Change the power cord |
| Fuse burned | Change fuse |
| Internal component failure | Contact Technical service |

## 6.2 Making RO water is too low

| Description | Solution |
|---|---|
| No feed water supply, warning for water shut off | confirm the patency of external water supply |
| Pre-filter blocked, warning for no water | Rinse the filter and replace it when necessary |
| Feed water pressure is too low, indicating no water warning | Needs another pressure pump |
| water supply connection error, indicating no water warning | Make sure that feed water pipe connecting to the FEED connector of the main unit. |
| Pretreatment blocked | Replace the pretreatment module |
| There are impurities on the RO surface | Press "Flush/▼"button to flush RO |
| RO blocked | Replace the RO module |
| Pure water outlet connection error | Verify that the RO OUT of main unit connected with RO IN of water tank |
| Water temperature is too low | Add the preheat system |
| Internal component failure | Contact Technical service |

## 6.3 The pure water conductivity is too high

| Description | solution |
|---|---|
| Feed water conductivity is high | Choose RO-2 module |
| RO exhausted, showing RO or DS alarm | Replace the RO membrane |
| New reverse osmosis membrane with remaining protection liquid. | Press "Flush/▼"button to rinse the membrane |
| Internal component failure | Contact Technical service |

## 6.4 Ultra-pure water resistivity is too low

| Description | Solution |
|---|---|
| Purification cartridge is exhausted | Replace the Purification cartridge |
| The unit display conductivity value | Switch the unit mode to resistivity |
| Purification cartridge installation error | Make sure the purification cartridge installation OK. |

| | |
|---|---|
| Disinfectant is not fully discharged after disinfection | Discharge amount of the ultra-pure water |
| Internal component failure | Contact Technical service |

## 6.5 The flow rate of ultra-pure water is too low

| Description | Solution |
|---|---|
| System is in recycling mode | Wait for the producing water reaching preset quality |
| Water tank level is less than 20% | Wait for pure water level increase in water tank |
| Ultra-pure water resistivity is too low | Adjust the ultra-pure water quality to the requirement |
| Ultra-pure water resistivity value is setting too high | Adjust the ultra-pure water quality to the requirement |
| Supply pipe connection error | Confirm the RO OUT of water tank connecting to the RO IN of main unit |
| Internal component failure | Contact Technical service |

# Chapter 7 Order information of option parts

| Description | specification | Order No. | Remark |
|---|---|---|---|
| Enhanced pretreatment device | Pretreatment cartridges | CR-SP102 | |
| Pressure reductor | 5KG | CR-SP829 | |
| Remote water dispenser | Smart | CR –SPRWD-1 | |

# Chapter 8 Appendix

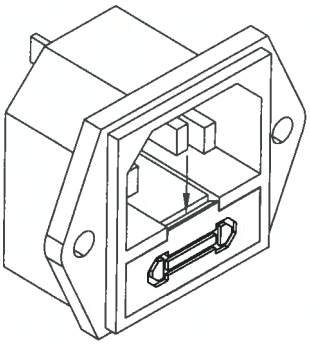
## Appendix 1 Fuse replacement

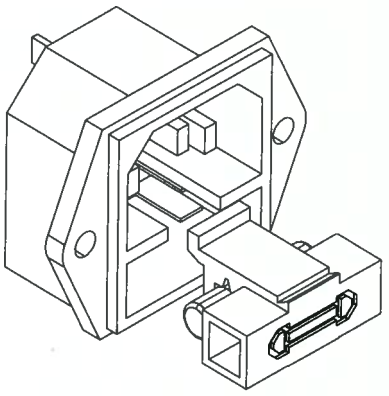
The fuse used by the system is 1A/250V, which is installed in the power outlet at the back of the main unit.

Pull the power cord from the external power outlet.

Unplug the power cord from the main unit. You can see a fuse holder below the power socket.

Use a screwdriver to pull the fuse holder from socket. As shown below





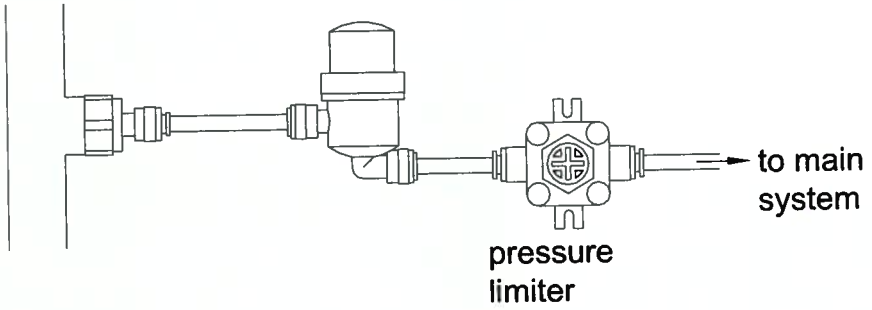
Take out the used fuse from the fuse holder, install new one into holder and push to the end.

Push the fuse holder to the square hole which lies in the lower part of power socket.

Fuse replacement is complete, plug the power cord and connect to an external power supply.

# Appendix 2 pressure reductor installation

The feed water pressure for the system is normally 0.4MPA. If the pressure exceeds this value, a pressure reductor needs to be installed after the pre-filter, as shown below.




Please install the pressure reductor according to the water flow direction, do not install it in the wrong direction, otherwise it will not work normally.

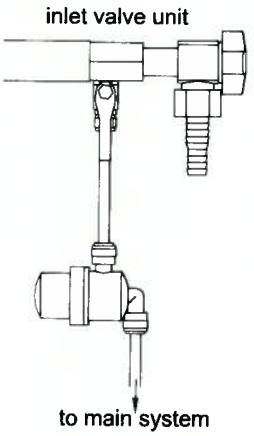
The pressure reductor is adjustable, you can use tools to rotate the cross slots to change the feed water pressure relief. Please connect a pressure gauge to the outlet and block the following pipe when you adjust the pressure. Then you need to regulate slowly in accordance with the pressure gauge.

Do not rotate the regulator when you do not have any water pressure test instrument.

# Appendix 3 inlet valve unit installation

Some of the laboratories have no threaded tap. The fast connection can not be used to connect to an external water supply pipe. The inlet valve components can be optional alternative, which is installed in the middle of external pipe.

Inlet valve subassembly is usually installed on the outside of the tap, as shown below.




Inlet valve subassembly includes a T-way and a ball valve. Installation steps are as follows

Turn off the external tap water supply valve.

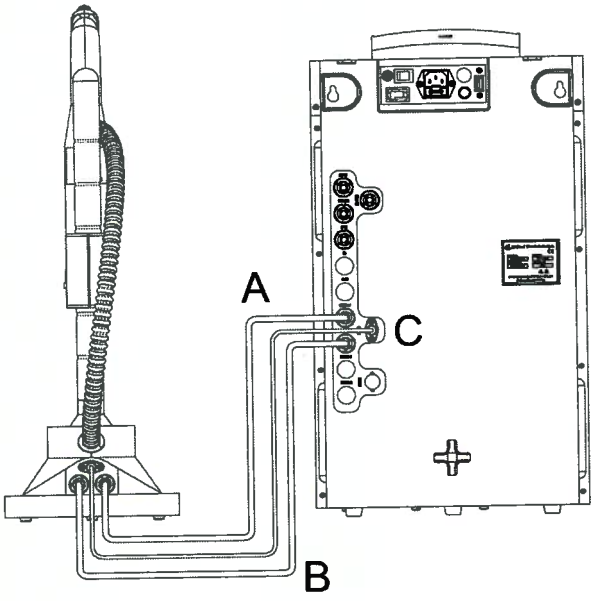
Remove the tap from water supply pipe.

Take T-way which with teflon seal one end links to external water supply pipes, the second end to the tap and the third end to the ball valve with teflon seal.

Take the pre-filter connect to the ball valve.

Install other components in accordance with the manual

# Appendix 4 Installation of the remote water dispenser



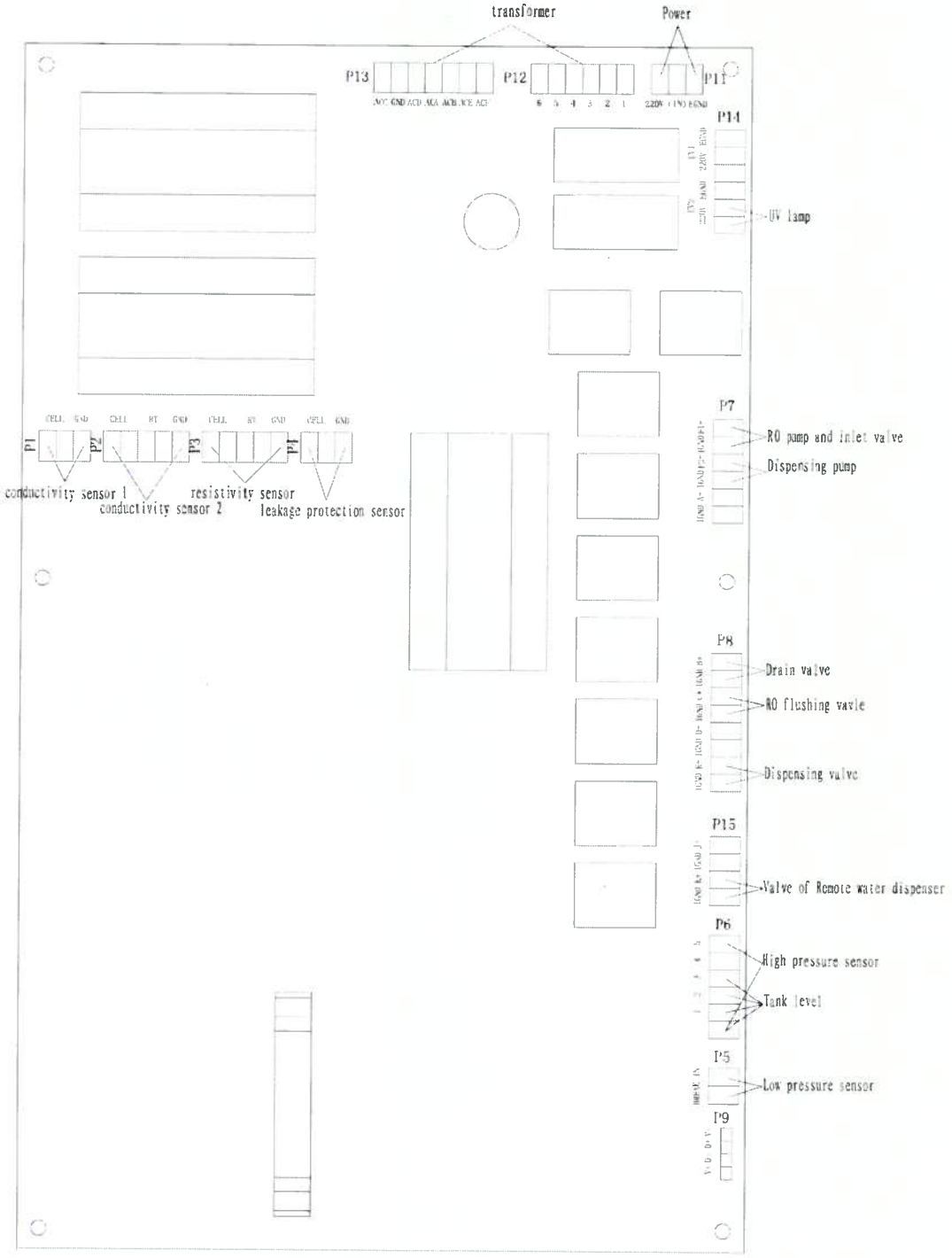

A Get a white tube (1 / 4 ", 3m), insert one end of the tube into the "RWD1-1" on the back of main unit, and the other end into the one of the connector on the back of RWD.

B Get a white tube (1 / 4 ", 3m), insert one end of the tube into the "RWD1-2" on the back of main unit, and the other end into the one of the connector on the back of RWD.

C Get a PS/2 cable, insert one end into the “RWD1” on the back of the system, and insert the other end into the PS/2 socket of the remote water dispenser.

# Appendix 5 Components connection to main-board

The mainboard have 220V or 110V voltage. User should not arbitrarily open the main unit shelter.



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