

## ■ Trouble shooting

Problem	Possible reason	Solution
System is not functioning	1.Controller box set at 0.	1.Make an adjustment.
	2.The pressure of feed water isn't high enough. (more than 1.5kg/cm <sup>2</sup> )	2.Check water-in pressure and if pre-filter chokes.
	3.The location difference between RO system and feed water tank.	3.Change the control method of RO system and adjust low pressure switch.
	4.The power for RO system isn't normal.	4.Check power source and also adjust voltage. It's normal to be within the tolerance $\pm 5\%$ .
System can't work after flushing	1.Control box in condition of high water level.	1.Check pure water tank and circuit of high water level.
	2.Control box in condition of low water level.	2.Check feed water and pre-filters and pump.
	3.Control box is out of order.	3.Change computer box.
Output of RO system isn't sufficient	1.Flush solenoid is out of order.	1.Change flush solenoid.
	2.Recovery needle valve is set too much.	2.Adjust recovery needle valve.
	3.Pressure needle valve is out of order.	3.Check pressure needle valve and check if needle valve is normal.
	4.RO water-in pressure isn't sufficient.	4.Pump head gets abrasive so pressure isn't sufficient.

**PUREPRO**  
DRINKING WATER SYSTEM

REVERSE OSMOSIS SYSTEM

# 1500G-3000G

## USER'S MANUAL

<1> Requirement for feed water	01
System specification	01
<2> Part list	02
<3> System diagram	03
<4> Electronic solenoid valve protector	04
Low pressure switch	04
<5> Computer controller	05
<6> Installations	07
<7> Operation process & Maintenance	08
<8> Trouble shooting	09

Thank you very much for selecting Pure-Pro Water Corp. In order to bring the best use of your system, please read the user's manual carefully before installation and follow the regulations.

## ■ Requirement for feed water

Feed water pressure	2KG/cm <sup>2</sup> ~ 4KG/cm <sup>2</sup>
Hardness	< 50 PPM (AT CaCO <sub>3</sub> )
Cl	< 0.1 PPM
Turbidity	< 1
Feed Water TDS	< 1000 PPM

PS: Please contact your technician if feed water doesn't meet the requirement.

## ■ System specification

Models	1500G	3000G
Dimension(cm)	50(L) x 43(W) x 120(H)	50(L) x 43(W) x 120(H)
N.W	≐ 55KG	≐ 80KG
Voltage	110V / 220V 1ø	220V / 3ø
Currency	50HZ/60HZ 50HZ/60HZ	15A / 14A
	15A / 14A 8A/7A	
Booster pump	0.75 KW	1.5KW
In/Out diameter	IN 3/4", OUT 1/2"	IN 3/4", OUT 1/2"
Control	Computer control	
Pressure gauges	Feed water pressure/ Purification	
Water quality indicator	T.D.S	
Pre-filters	20"-PP + UDF	20"-PP + UDF
RO membrane	TFC-4040 x 1	TFC-4040 x 2
Pump	1HP Pump/2507	2HP Pump

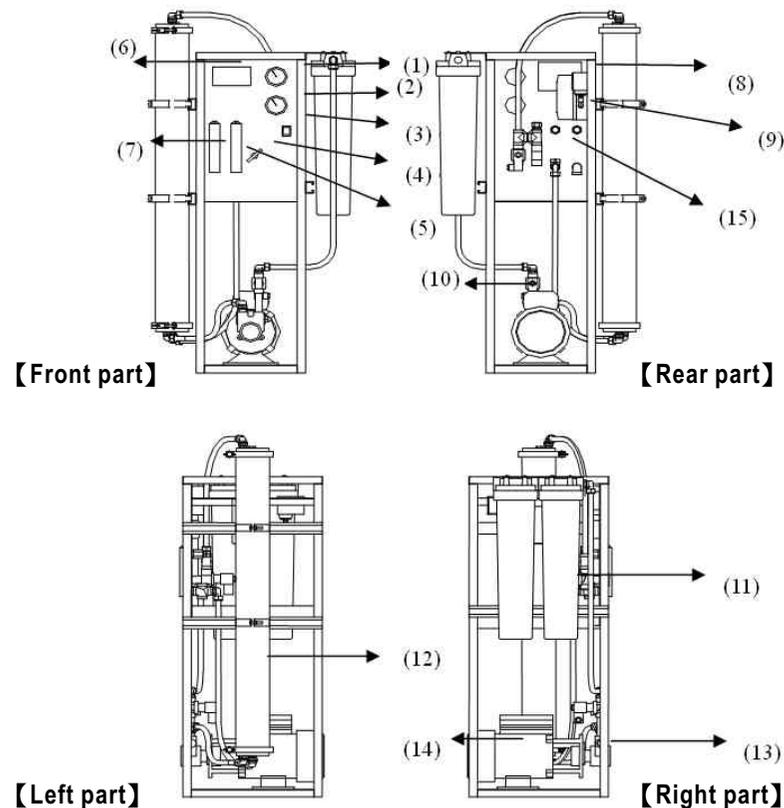
## ■ Trouble shooting

Problem	Possible reason	Solution
Membrane chokes	1.The soft water from softener doesn't suffice RO system.	1.Check the water softening process and also calculate if softening quantity can suffice RO system to purify.
	2.Drain valve or tubing chokes.	2.Check drain valve and tubing.
	3.The rate of drain and pure water isn't normal.	3.Adjust the rate more than 1:5.
	4.The TDS of feed water is too high.	4.Check feed water source and also decrease the recovering rate. The consistence of recovery must be less than TDS 800 PPM.
	5.Colloid suspension is too much.	5.Install UF or 0.45u minus filter on pre-filters.
	6.Feed water quality is too poor.	6.Improve the feed water quality or increase pre-filters.
	7.Iron is too much.	7.Expose to air or add medicament for re-filtration.

## ■ Trouble shooting

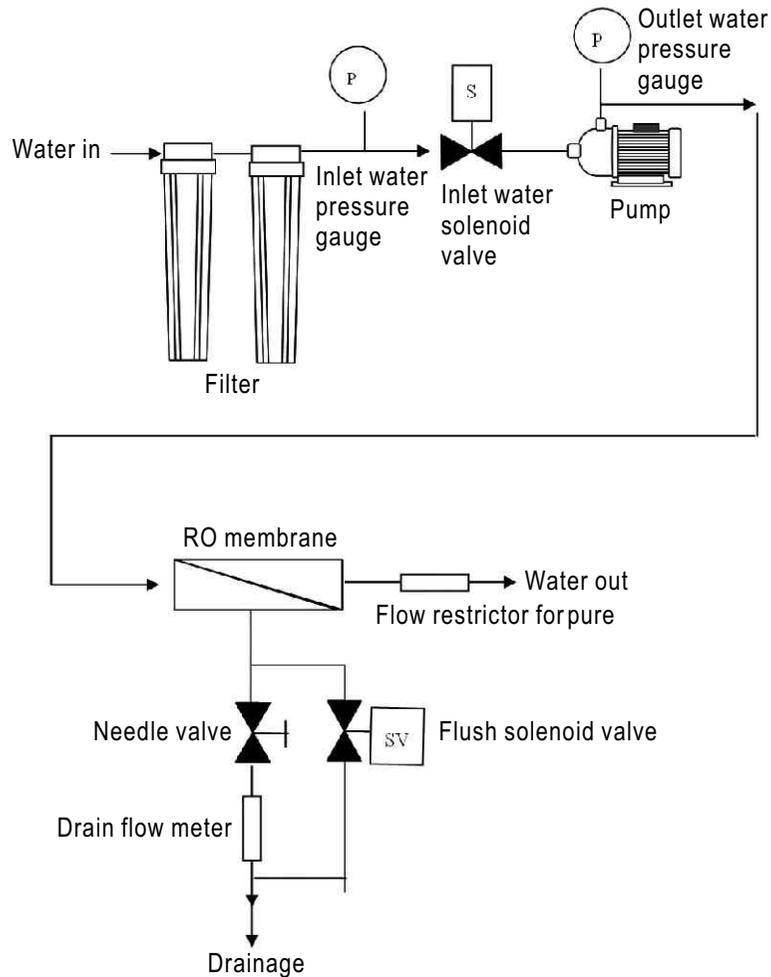
Problem	Possible reason	Solution
Pump doesn't work	1. Wrong power in.	1. Check power phase, which can be check by computer box.
	2. Magnetic switch is out of order.	2. Check magnetic switch coil and joint. ( check if free or not with multi-meter RX1)
	3. Magnetic switch is overload, protective switch shuts down.	3. Measure the operation currency with clamp meter and also set the value to be 1.25 times. ( Push the stick back)
	4. Control box is on the condition of lower water pressure.	4. Check the pressure difference between water-in and pre-filter and the joint to low pressure switch is free. ( check if free or not with multi-meter RX1)
	5. High pressure switch is out of order, the joint between post carbon and sand filter isn't free.	5. Check if the joint between multi-meter RX1 and test point is free and if AB point is correct.
	6. Control box is out of order.	6. Check the if 5.7 point on the computer box feed power to magnetic switch and if power supply is normal.
	7. Axle center of pump is choked by rust.	7. Check if noise when pump works. Please change the pump if no work.
	8. pump head gets stuck.	8. Please take pump head away. Please change pump head if manual pump head can't work.

## ■ Part list



Item	Parts	Item	Parts
1	Feed water pressure gauge	9	Electronic Solenoid valve protector
2	Water-out gauge	10	1/2" Off Solenoid valve
3	Power switch	11	Pre-housing and filter
4	1/2" Needle valve	12	RO Housing and Membrane
5	Pure water flow meter	13	1504, 2507 Pump
6	Water quality computer controller	14	1/2HP, 1HP Motor
7	Drain flow meter	15	1/2" Flush solenoid valve
8	Low pressure switch		

## ■ System Diagram



### Note :

1. Low pressure adjuster: Lower by anticlockwise, raise by clockwise.
2. Please confirm power supply matches system's electric current, voltage, and HZ.
3. This system is automatically controlled by computer program.  
People under training are best recommended to operate the system.

## ■ Operation process

### Attentions Before Operation :

- A. Pressure of Inlet Water exceeds  $1.0\text{Kg}/\text{cm}^2$ .
- B. Supplying electrical power accord with the need of Equipment Device,  
Supplying Voltage be maintained within 5% as indicated scale for power of equipment.
- C. Connected tubes for permeate water and concentrate water be fairly finished.

### Operating Process : ( Pre-operating have been checked )

- A. Starting on-off switch.
- B. Setting delay operating device (for 20 seconds) for lower pressure switch, to protect the motor for avoiding disorder by frequent starting of operation.
- C. Adjust the ratio and pressure of permeate water and concentrate water.
  - a. Adjusting needle valve first, scale at the ratio 1:3 for permeate water and concentrate water, the ratio is according to the quality of inlet water, if TDS is higher then setting concentrate water be relatively more.
  - b. Adjusting the inner six-angle screw of Procon head (adjusting by-pass fluid) to accord with the production rate of RO system.

## ■ Maintenance

1. Pre-treatment Filter: According to the quality of water, usually be used for 1~3 months.
2. Check and record the actual fluid of permeate and concentrate water, if the permeate water production is less than the normal production for 10~15%, then RO membranes need for acid washing.
3. Check and record the pressures of inlet water and operation.
4. After replacement of Filter, press the red knob of filter housing for releasing the remaining air in the housing.
5. Press the compelling knob (flush) on the control panel to test whether the operation be normal.

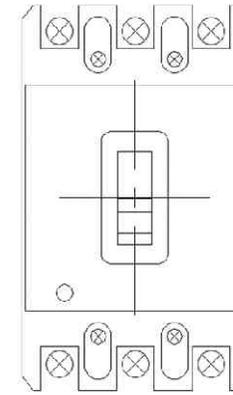
## ■ Installations

1. To connect 3/4" water-in PVC tubing and ball valve pipe.
2. To connect drain with 1/2" PE tubing.
3. To connect flush solenoid with 1/2" PE tubing.
4. To connect with 1/2" PE tubing to pure water tank.
5. To connect with the blue wire from control box to the floating ball switch on the tank to control for full tank.
6. To connect power source. ( Note: voltage)

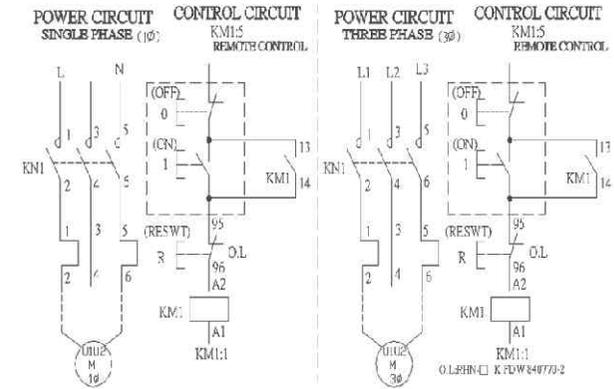
### NOTE:

1. Please confirm the power specification.
2. Please confirm if the connection of pure and drain water tubing are right.
3. Please confirm the inner diameter of main power wire not less than 3.5mm<sup>2</sup>.
4. The wire connected to full water switch and floating switch may not be used for others.
5. Reverse flush switch is necessary for the installation of pre-filter system so RO system could stop working for prevention from salt water to damage machine.
6. Please install pump before system if water-in pressure is less than 1.5 kg/cm<sup>2</sup>.
7. Please clean pre-filters every week to keep the sufficient water-in supply.

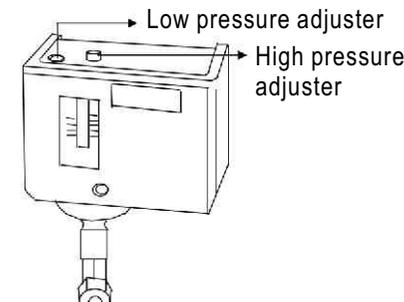
## ■ Electronic solenoid valve protector



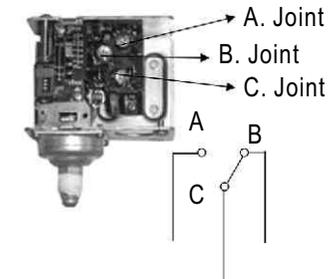
Circuit diagram



## ■ Low pressure switch



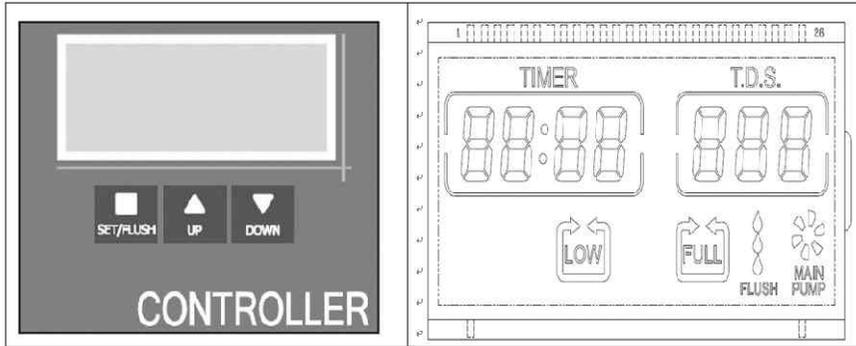
Circuit diagram



1. Low pressure adjuster:  
Lower by anticlockwise,  
raise by clockwise.
2. High pressure adjuster:  
Lower by anticlockwise,  
raise by clockwise.

- Joint direction:
1. No joint on B
  2. A and B are connected to Control box with green wire.

## ■ Computer controller



### Button direction:

1. Setting button: To enter setting mode.
2. Up button: increase setting value.
3. Down button decrease setting value.
4. Screen monitor: Display operation state.

### Argument setting method:

In standby mode, press setting button 3 seconds to enter argument setting mode (one "Bi" sound), press up or down button to adjust argument as you need, press setting button can enter next argument, after setting run a circle of argument will return to standby mode.

**Enforce flushing method:** press up and down button 5 seconds at the same time.

**Dosing method:** First, follow enforce flush method, it will get into enforce flushing count down state, then press down button to pause down counting; when need stop, then press down button again and it will over process.

### Screen monitor method direction

1. **TIMER:** Using Add up method to show the time of present water making (min./sec.), if over an hour, it will change to (hr./min.), and flush time (count down).  
When in standby state will show total hour of water making, after over 9999 hours will start from 0000 hour.
2. **TDS:** To show present water quality.
3. **LOW:** Inlet water low pressures indicate.
4. **FLUSH:** Flush indicate.
5. **MAIN PUMP:** High pressure pump.

## ■ Computer controller

6. It will show FLUSH · MAIN PUMP...etc words when starting; after enter commands, above leaf or water drop will indicate with circle running mode.
7. LOW, FULL....etc words will show their frame at first, until it is connected then show that words.

### Setting direction:

1. P1: Time of making water flushing and enforce flushing: 0 sec. - off, 15 sec. 30 sec. 45 sec. 60 sec....etc.
2. P2: To enter delay operation time. 0 sec. - off, 5 sec. 10 sec. 15 sec. 20 sec....etc.
3. P3: To set circulate flushing by water making. 0=OFF function. Setting flushing spacing from 1H, 2H, 3H~12H. (flushing automatically after N hours continuously water making)
4. P4: Setting flushing by standby state, 0= off function; setting flushing spacing from 12H, 24H, 36H, 48H, 60H, 72H, 84H, 96H (flushing automatically after in standby state for N hours)
5. P5: Setting TDS warning: If set 0=off warning function; setting spacing from 10, 20, 30~200 ppm, screen flash with buzzer will continue for one min., then repeat warning once in every hr.
6. P6: TDS Fine-tuning: using for TDS Fine-tuning (original setting data: 10)
7. Shut down record: Record the last 5 times shut down with time (include any cause of shut down)

### Wires:

yellow line LOW=low pressure switch / green line FULL= full water switch  
red line=inlet water solenoid / orange line= flushing solenoid  
brown line= high pressure pump / black line=110v~240v power in

### R.O system operation mode:

1. Power in: after waiting 10 seconds to enter standby mode. (TIMER and TDS in panel count down from 9 to 0)
2. Standby mode: To test LOW (low pressure) input point (yellow), if LOW=NO, then stop operating; **start again operating until NC.**
3. To test FULL (full water) input point (green line)=NO; until reach the set data, red line=inlet solenoid, brown line=high pressure pump, orange line=flushing solenoid output.
4. When the set flushing time is up (P3), orange line=flushing solenoid output point OFF, red line=inlet water solenoid, brown line=high pressure pump ON. (when it has inlet water but storage tank is empty, then it will start to make water)
5. When water making continuously for N (1~12) hours; or in standby state until N (1~96) hours, it will flush (0~60) seconds automatically. (controlled by data P3, P4)