AIR & WATER QUALITY INC.
160 US Route 1• Freeport, ME 04032

OWNER'S MANUAL

for

EPRO 1500-6000

REVERSE OSMOSIS SYSTEM

ELECTRONIC CONTROLS

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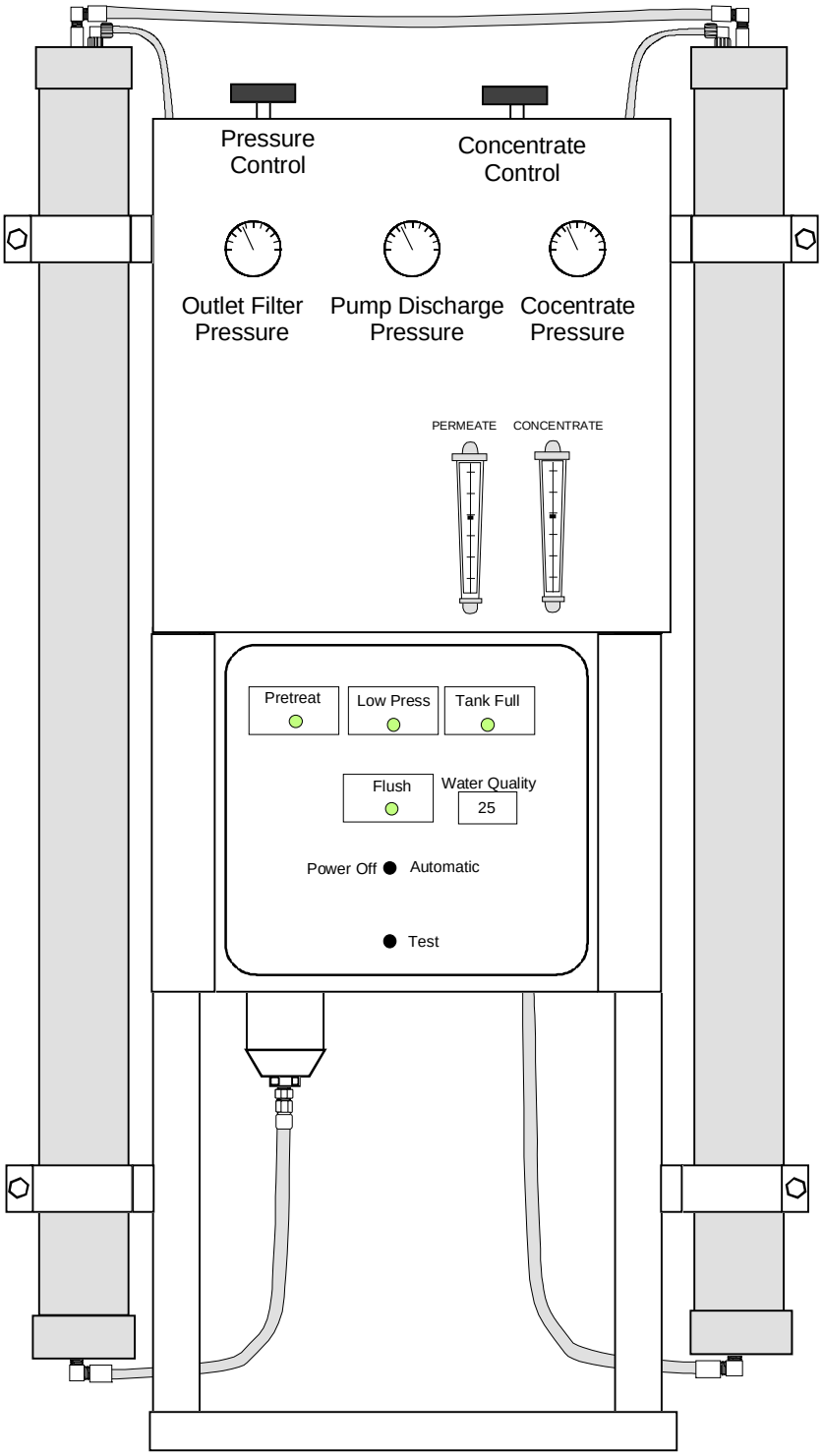
EPRO 1500-6000 Reverse Osmosis Unit



Notes:

1. Your unit may not look exactly like the picture because of options you may or may not have.

2. This picture does show the optional TDS monitor and additional membrane used on the EPRO 3000

3. If you have questions about your particular unit and features, please contact us at Air & Water Quality Inc. (800)698-9655

Introduction-

Our EPRO 1500-6000 series are small commercial RO's that have been modified for us to meet some of the special demands placed on RO systems used in cold water (50 ^{o}F) residential systems. As with all the products we sell, we believe we are bringing you the most cost effective solution that does not sacrifice quality or essential features. All of our products offer state of the art design with future serviceability and flexibility in mind. This manual provides the owner with all the operation details they need. It includes the details of user operable features that are not found in the manufacturer's manual. If you would like more detailed information about the RO, please refer to the manufacturer's manual. Do not attempt any adjustments or service that is not fully described in this manual.

The system also includes a storage tank(s) and repressurization pump system. Please refer to the pump manual and details at the end of this manual for any questions that relate to pump operation.

Yearly Maintenance-

You have made a large investment in your water system that should be protected to provide you with many years of service. We recommend that you have us come once a year to perform a system check-up. Please have your logs available so we can determine what will need to be done.

General Operation-

The three basic components of the system are the RO, storage tank with control float and repressurization pump. The RO produces water and sends it to the storage tank. The repressurization pump delivers water from the storage tank to the house. The repressurization pump will cycle on and off to deliver the water to your fixtures. When the water level in the storage tank drops below the float, the RO will come on and start refilling the storage tank.

If the tank full light is not on the RO pump should be running and producing water. To determine if the system is producing water, check to see if the concentrate pressure gauge is at its preset level and that the permeate flow meter is showing the correct flow. You can find these parameters in the information packet we left on site. If the low pressure light is on, read the section on "Low Pressure Lock-out" below before attempting to restart the system. If the tank full light is not on and the RO is not producing water, call us at (800)698-9655.

Pre-treatment-

If your system has pre-treatment equipment like a softener, filtration and or solution feed, you must be sure to keep it maintained to prevent premature failure of the membrane. This maintenance includes setting clocks, checking salt levels, and checking solution levels.

Pre-filter-

All systems will have a 5 micron cartridge pre-filter. This pre-filter will have a pressure gauge on the outlet of the filter housing. Change the pre-filter cartridge anytime the outlet pressure drops below 25psi when the RO is running. If there is a pressure gauge on both the inlet and outlet of the cartridge filter, change the cartridge anytime the difference is greater than or equal to 5psi.

Feed Water with Chlorine-

If there is chlorine in the feed water, there will be a carbon filter in front of the RO. The carbon may be in a tank or in a cartridge. You should check the chlorine concentration after the carbon filter each week. There should be no detectable chlorine. If chlorine is detected, change the cartridge or call for service.

RO Pump-

The pump supplied with the RO is multi-stage centrifugal pump. The pump must never be run dry. Operating the pump without sufficient feed water will damage the pump and will void the warranty.

Never run the pump without a 5 micron or less cartridge type filter.

System Parameters-

We have set the controls on the RO to give the best performance for your water conditions. Please consult us before changing any of the pressures or flows on the system.

Your unit has been preset to the following recommended conditions:

Pressure _____psi

Permeate flow ____ gpm (treated water)

Concentrate flow ____ gpm (waste water) Pretreatment lock-out- Y / N.

System Log-

You should log these parameters in the log sheets we have provided for you. Please feel free to photo copy the blank sheets to provide yourself with more when you need them. If you like, we can send you new blank sheets.

We would like you to take readings every day during the first week and then once a week after that. The readings have to be taken while the unit is running for at least five minutes. If the storage tank(s) are full and the unit is not running, you will need to use the test button on the RO to start it. The switch in the middle of the control panel needs to be in the “automatic” position and you will need to press the test button at the bottom of the control panel. The RO should come on and run for a maximum or 10 mins so you can check the flow and pressures. If the RO’s pretreatment lock-out system has been enabled, the RO will not run if the pretreatment light is on. You will have to wait until the pretreat light goes out to run a test cycle. DO NOT TURN THE RO ON IF PRETREATMENT

EQUIPMENT IS REGENERATING. If you have questions about this, please contact us at (800)698-9655.

Flow and Pressure Adjustments-

Do not attempt any of these adjustments unless you have done this before or have been shown how to do this.

If the permeate flow is below the preset level, adjust the pressure upward to increase the flow. While doing this it is important that –

1. THE SYSTEM (CONCENTRATE PRESSURE) DOES NOT EXCEED 190 PSI
2. THE PERMEATE FLOW DOES NOT EXCEED THE UNITS RATED OUPUT
3. THE CONCETRATE FLOW DOES NOT DROP BELOW THE PRESET AMOUNT.
4. IF YOU MUST EXCEED THE PRESET PRESSURE BY MORE THAN 10 PSI TO OBTAIN THE PRESET FLOW, CONTACT US AT (800)698-9655.

Low Pressure Lock-Out-

You RO has been equipped with a low pressure lock-out. This system feature performs the following functions:

1. Continually checks the inlet pressure to the RO to determine if it is high enough to allow safe operation.
2. If the pressure is too low, it turns on the low pressure light.
3. If the pressure remains low for more than 4 secs., it will shut the RO down.
4. If the reset button is pressed, it will turn the RO on and re-check the pressure.

Low pressure lock-out is normally activated as the result of two conditions. Loss of water from the well pump or low pressure caused by pre-filter plugging. Before attempting to reset the system when the low pressure red light has come on, you should check to see that the inlet pressure to the pre-filter is above 30 psi and then…

-if the pressure is not above 30 psi, investigate the cause of this and correct it.

-if the pressure is above 30 psi turn the power switch to “power off” and then back to “automatic” and check the out-let pressure on the pre-filter while the RO is running. If the outlet pressure is not above 25 psi, the low pressure light will come on and the RO will shut down again. Change the pre-filter and try to reset the unit again. If the prefilter outlet pressure is above 25 psi and the unit continues to shut down, please contact us for service at (800)698-9655.

System Performance-

In normal operation, the reverse osmosis membrane can become fouled. Fouling will cause a decrease in both the quantity and quality of the water produced. Periodic cleaning of the membrane(s) can improve performance of the system and extend the life of the membrane. Well maintained membranes can last 3 or more years. Keeping pre-treatment

equipment well maintained will extend the time between cleanings and is critical to achieving the normal life expectancy of the membrane.

If the flow or rejection drops more than 10% when the unit is set to the preset pressure, contact us for membrane cleaning or replacement.

Disinfection-

Your system has been sanitized at start up. You will, however, want to disinfect the storage tank on a regular basis even if you have chosen the ultraviolet light(UV) option. We recommend, that, once a month you add 1 ml of household bleach (5.25%) to each 165 gallons of water storage.

Repressurization Pump-

The repressurization pump delivers the water from the storage tank to the house. If the storage tank runs out of water the pump will shut itself off.

If you have a Grundfos MQ pump the pump will automatically try to restart a number of times before it quits completely. If your pump will not restart after the storage tank has refilled, simply unplug the pump for 30 seconds and then plug the pump back in. The pump should restart and deliver water to the house. If this does not work, please contact us at (800)698-9655.

If you have a pump that has a low pressure cut-out switch (gray box on the the pump motor with a lever on the side), you will need to lift and hold this lever until the pump pressure exceeds 25 psi. This is best done by grabbing the lever between the thumb and forefinger and slowly lifting the lever just until the pump starts. If you lift the lever all the way up, the pump will shut off. **NOTE THIS TYPE OF PUMP WILL NEED TO BE MANUALLY RESTARTED ANY TIME YOU RUN OUT OF WATER OR HAVE AN EXTENED POWER OUTAGE.**

We also provide a low storage water shut down option that may have been installed. This consists of a second float near the bottom of the storage tank and eliminates the need for a low pressure cut-out switch on the repressurization pump. If you have this option, the pump will not run unless the water is above the lower float. You will need to refill the storage tank to regain pump operation.

Low Water Warning System-

This is an option that warns you when the water in the storage tank(s) drop below a predetermined level. This option can signal you in a number of ways. We usually install a pilot light in a well traveled area of the home. The purpose of the light is to notify you that you are getting low on water and should investigate the reason before you run out.

Specifications:

	EPRO1500	EPRO3000	EPRO4500	EPRO6000
Height(in)	50	50	50	50
Length(in)	28	28	30	30
Width(in)	24	24	24	24
Voltage	115/230V	115/230V	230V	230V
Weight(lbs)	95	120	150	180
Motor HP (1 Phase)	1.5 1 or 3 phase	1.5 1 or 3 phase	3 1 or 3 phase	3 1 or 3 phase
Rated Amps 115/230V	20/10	20/10	NA/17	NA/17
Element Size	4" X 40" 1 required	4" X 40" 2 required	4" X 40" 3 required	4" X 40" 4 required
Production GPD[1]	1500	3000	4500	6000
% Rejection	98%	98%	98%	98%
Required Feed Flow	5.5 GPM	6.5 GPM	7.8 GPM	8.3 GPM

Membrane:

Membrane type:	Thin-Film Composite
Maximum operating pressure:	300psi
Maximum operating temperature:	113^0F
Maximum feed	1 NTU
Free chlorine	<0.1 ppm
pH Range continuous operation	2 – 11
Short term	1 – 12
Maximum Feed Flow:	16 GPM(2.5") / 16GPM(4.5")
Maximum Feed Silt Density Index	SDI 5
Maximum Feed Iron	0.3 mg/L
Maximum Feed Mn	0.05 mg/L
Maximum FeedTotal Hardness	54 mg/L

[1] This is the rated output of the membrane and will vary depending on water temperature and TDS. Consult us for the expected output for your specific conditions.