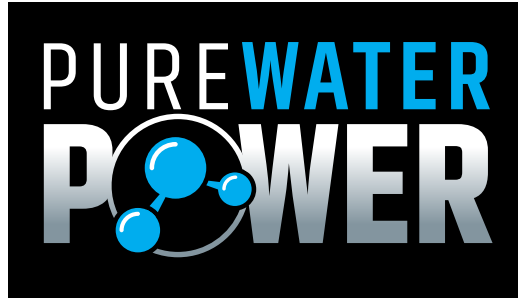


Pure Water Power Purification System

4-Stage RODI Cart

Reverse Osmosis / Deionizing water purification systems designed for waterfed pole window and solar cleaning.

Operations Manual



Single RO



Dual RO

New Machine Setup Procedure

1. Unpack unit and inspect machine for shipping damage.
2. Take inventory of the following items shipped along with the unit.

- Qty. 1 - RO membrane. (installed) Qty-2 on Dual RO Models
- Qty. 1 - DI resin cartridge. (installed)
- Qty. 1 - Sediment filter cartridge, 5 micron. (installed)
- Qty. 1 - Carbon block filter cartridge. (installed)
- Qty. 1 - Large filter housing wrench.
- Qty. 1 - Small filter housing wrench.
- Qty. 1 - TDS meter

Pure Water Power 4-Stage RODI Purification System

The Pure Water Power 4-stage Cart allows for spot free rinse using only regular tap pressure up to 50 ft. high. This system is configured for optimum pure water cleaning and uses 4 types of filtration for the best and most economical total filtration possible. The 4 stages of filtration are as follows: Stage-1 from the incoming water supply is the sediment filter which removes rust and large solids, Stage-2; is the Carbon Filter which removes the Chlorine prior to stage-3; which is the Reverse Osmosis (RO) which removes 98% of the Total Dissolved Solids (TDS). before passing through the final Stage-4 De Ionization (DI) filter which brings the TDS level down to 0. This gives you 100% pure water for cleaning and rinsing without spotting and provides that level for a much longer time before any filters are required to change. This Pure Water Power RODI System produces almost a gallon per minute at heights up to 50 ft with normal incoming pressure of 60 psi from the source. Pure Water Power has delivered a tap water RODI system carefully configured with the most efficient water flow available using only tap pressure and has constructed this unit with all brass fittings, (no plastic parts found on this commercial work horse), and stainless steel RO housing for a professional look and commercial grade quality and ruggedness. If you demand perfection at a better than market price, well this unit is what you want. Unit Capable of producing 2500 GPD at 125 incoming psi. Easily connect to any water source and any waterfed pole. Unit Equipped with standard garden hose fittings in and out. It is more than recommended to use a 5/8" minimum hose diameter incoming water supply. Anything smaller will restrict the water flow of this system.

Pure water production volume on any Reverse Osmosis system is temperature dependant. Colder feed water, i.e. the late fall, winter and early spring will produce a lower volume (gpm) of pure water. Warmer water, i.e. late spring, summer and early fall will produce a higher volume (gpm) of pure water.

It is important to check the TDS level of the water coming from your system occasionally. This can be done by filling a cup with the water from your brush and testing it with a handheld TDS Meter.

Operation Instructions

1. Connect water supply garden hose to feed water inlet connection. Make sure your water supply hose is a minimum of 5/8" inside diameter or volume loss can occur and limit your output to the brush.
2. Make sure drain water supply hose (this is the blue hose coming off the flush valve assembly) is positioned to an area that can accept the water such as shrubs, trees, grass or drainage that leads to a storm drain. Attach an extra garden hose if needed to reach the desired area. This waste water line will always have discharged water coming out even during normal operations. This water will not hurt plant life as it is just water with a high TDS content.
3. Turn on the water supply connected to the Water In.
4. Position the Flush Valve Lever upwards to Flush Mode Operation. This will bleed all air within the system. When no air can be heard as the water is coming out position the lever downward to Normal Use Mode. This should only take a few minutes.
5. Test the Water at the brush with your TDS meter to insure you are getting a reading under 10 ppm. Any reading above 10 means that Your TDS readings are too high and spotting can occur.

Shutting down the System

1. **IMPORTANT:** Position the Flush Valve Lever to flush mode to allow water to flush out the RO membranes for 1 minute. This will depressurize the system. Must be done after every use.
2. Turn the Water Supply off.
3. Position the Flush Valve Lever to normal use.

IMPORTANT: After the last use of the day, open the flush valve for 1 minute to flush the concentrated water from the membrane. This will increase the life of the membrane.

It is important to check the TDS level of the water coming from your system occasionally. This can be done by filling a cup with the water and testing it with a handheld TDS meter. Once the TDS levels rise above 10 ppm spotting will appear and it's time for a DI filter change.

Changing your Filters

Filter placement: As you face the unit from the Handle Side:

- The 5 micron sediment filter cartridge is the first filter the feed water goes through. Install it in the housing on the right side, next to the water supply hose inlet fitting.
 - The carbon block cartridge is the second stage filter and goes into the housing on the left side.
1. Slide the small filter housing wrench up from under the bottom of the white housing and turn CCW to loosen. Remove the tool and spin housing completely off.
 2. Lubricate both o-rings on housing with Magic Lube o-ring lubricant.
 3. Remove plastic wrapping on new filter cartridge. Position center hole on shouldered ring on bottom of housing.
 4. Screw housing into base and tighten with small filter housing wrench.
 5. Repeat steps for the second filter.

DI resin cartridge Installation:

1. Slide the large filter housing wrench up from under the bottom of the gray housing and turn CCW to loosen. Remove tool and spin housing completely off.
2. Lubricate o-rings on housing with Magic Lube o-ring lubricant.
3. Remove cartridge from the sealed bag and place into housing with seal washer in the up position and locate the bottom hole on shouldered ring inside the bottom of the housing.
4. Screw housing into base and tighten with filter housing wrench.

Reverse Osmosis (RO) Membrane

1. Remove the nut on one side of the metal clamp assembly at the top of the housing and set aside the set of c clamps.
2. Slide off the black cap at the top of the housing. You may have to wiggle it side to side and it will slide upward and off.
3. With needle nose pliers grab onto one of the splines on the membrane and pull upward. Membrane will slide out.
4. Warning: Insert new membrane making sure the end without the gasket goes in first leaving the gasket side to remain at the top after installation is complete. Push all the way in. Apply gasket lubricant to the o-rings on the cap and insert cap back on the housing. Re-install clamp assembly.

Filter Maintenance

Sediment and Carbon Filters

Every 5000 gallons of feed water run through the machine or every other DI filter Change. Carbon must be changed at least once every six months regardless of usage or RO membrane can fail prematurely.

- Replace the 5 micron Sediment filter.
- Replace the Carbon block filter.

DI Resin Filter

The life expectancy of the DI resin cartridge is based on the TDS level of the RO water going into it. The RO will remove 98% of the TDS from the feed water. Example: The feed water supply from a garden hose at your job site has a TDS of 300 ppm. The RO will remove 98%, so the water going into the DI resin cartridge will be at 6 ppm. (2% of 300 ppm) The TDS levels of the feed supply water can vary at each job site due to the water coming from different sources. The chart below will give you an estimated life based on an average of the supply water. The supply water temperature will affect the pure water production rate from the RO. This will affect the estimated reading for DI cartridge replacement as well. Test the water daily to determine when a change in water quality has occurred and use that to determine when the cartridge needs to be replaced.

RO Membrane

The life expectancy of the RO membrane is 5 to 6 years as long as you change your pre filters especially the Carbon filter. Your Carbon Filter needs to be changed at least once every 6 months no matter how many times you operate this system. Failure to comply with changing your carbon filter can and will result in early RO membrane failure. The reason for this is the carbon filter self depletes and if it fails to remove the chlorine than the RO will be ruined

You should run water through the system every 2 weeks during periods of non-use. This will ensure the RO membranes will remain moist and maintain their life span.

DI Filter Estimated Lifespan in Gallons

<u>Supply Water TDS</u>	<u>10" DI Filter Capacity</u>	<u>20" DI Filter Capacity</u>
100	7,150	14,000
150	4,767	9,500
200	3,875	7,100
250	2,860	5,700
300	2,400	4,800
350	2,050	4,100
400	1,800	3,600
450	1,550	3,100
500	1,200	2,400

PWP RODI Single

SKU	Item	Qty/Unit
Filters		
227-26-16	SS Membrane Housing	1
022-26-25	Membrane	1
227-26-26	Black DI Housing - 10"	1
209-26-26	DI Cartridge - 10"	1
227-26-22	PreFilter Housing - Clear	2
209-26-19	Carbon Filter	1
227-26-03	Sediment Filter	1
Hardware		
209-24-256	Flat Washer	12
209-24-284	Hex Head Bolt 1.5"	6
209-24-586	Large Washer	1
209-24-632	Slotted Flanged Head Screw	8
209-24-608	Shoulder Bolt	2
209-24-338	Waxed Nut	6
209-24-554	Hex Head Bolt 25mm	4
Brass Fittings		
209-24-140	Hex Bushing	1
209-24-133	RO Membrane Top Cap Plug	1
290-24-23	Male GH X Male NPT	1
209-24-249	PreFilter 45	1
209-24-445	GH Male x Male 3/8 NPT	1
209-24-327	Female GH x Male NPT	1
209-24-582	Brass Elbow M x F	1
Push to Connect Fittings		
209-24-382	90 Pushlock - Long Thread	3
272-24-84	Push-to-Connect 1/2 x 3/8 NPT Male	1
272-24-116	PWP - Ball Valve 3/8 FPT 600PSI	1
209-24-291	Pushlock x NPT Elbow - Short	2
Frame Components		
272-24-05	Pure Water Power RO/DI Cart Frame	1
272-24-54	Waste Water Bracket	1
272-24-61	Blue Vinyl Frame Cap	2
Additional Components		
209-24-606	Wheel - Black	2
209-24-616	Neoprene Spacer for Wheel	4
209-25-81	Black Hose - Polyurethane 1/2OD - 1in	58
209-26-13	XERO Virgin Resin	1/4 cuft
Accessories		
290-26-02	RO Guardian	1
161-54-01	magic lube	1
035-24-01	tds meter	1
290-24-42	Waste Water Hose	1
227-26-14	Large Filter Wrench	1
227-26-13	Small Filter Wrench	1

DUAL RO

SKU	Item	Qty/Unit
Filters		
227-26-16	SS Membrane Housing	2
022-25-25	Membrane	2
227-26-26	Black DI Housing - 10"	1
209-26-26	DI Cartridge - 10"	1
227-26-22	PreFilter Housing - Clear	2
209-26-19	Carbon Filter	1
227-26-03	Sediment Filter	1
Hardware		
209-24-256	Flat Washer	12
209-24-284	Hex Head Bolt 1.5"	6
209-24-512	Hex Head Bolt 0.75"	4
209-24-586	Large Washer	1
209-24-632	Slotted Flanged Head Screw	8
209-24-608	Shoulder Bolt	2
209-24-338	Waxed Nut	6
209-24-554	Hex Head Bolt 25mm	4
209-24-452	Waxed Locknut	4
Brass Fittings		
209-24-140	Hex Bushing	1
209-24-133	RO Membrane Top Cap Plug	2
290-24-23	Male GH X Male NPT	1
209-24-244	Male x Female Elbow	1
209-24-249	PreFilter 45	1
209-24-445	GH Male x Male 3/8 NPT	1
209-24-327	Female GH x Male NPT	1
209-24-582	Brass Elbow M x F	1
Push to Connect Fittings		
209-24-468	Double Banjo	1
209--24-127	Double Banjo - Plastic	1
209-24-367	Male Thread x Pushlock - Straight	2
209-24-382	90 Pushlock - Long Thread	4
209-24-440	T-Union 1/2" Push to Connect	1
272-24-84	Push-to-Connect 1/2 x 3/8 NPT Male	1
272-24-116	PWP - Ball Valve 3/8 FPT 600PSI	1
Frame Components		
272-24-05	Pure Water Power RO/DI Cart Frame	1
272-24-54	Waste Water Bracket	1
272-24-61	Blue Vinyl Frame Cap	2
Additional Components		
209-24-606	Wheel - Black	2
209-24-616	Neoprene Spacer for Wheel	4
209-25-81	Black Hose - Polyurethane 1/2OD - 1in	84
209-26-13	XERO Virgin Resin	1/4 cuft
Accessories		
290-26-02	RO Guardian	2
161-54-01	magic lube	1
035-24-01	tds meter	1
290-24-42	Waste Water Hose	1
227-26-14	Large Filter Wrench	1
227-26-13	Small Filter Wrench	1

[Tech Support](#)

For Filter replacements or any technical information please contact us or one of our distributors.

Product videos and how to videos can be found at www.PureWaterPower.com