



User Manual

PCZ-300



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Table of Contents

Consumables List	Pg. 2
Replacing Consumables	Pg. 3-4
L1-300 RO System	
System Overview	Pg. 5-6
System Specifications	Pg. 7
System Shut Down Procedure	Pg. 8
Maintenance	Pg. 8
Replacing Filters	Pg. 9-10
Troubleshooting	Pg. 11
D/I Resin Packs	
Frequently Asked Questions	Pg. 12
Installation	Pg. 12
Resin Pack Exchange	Pg. 13
Servicing Your D/I Resin Pack	Pg. 14
UV Filters	
Maintenance	Pg. 15-16
UV Lamp Replacement	Pg. 16-17
Filter Replacement	Pg. 17



Consumables Parts List

QTY	DESCRIPTION	PART #	FREQ
1	5 Micron 9.75" Sediment Pre-filter	5M975PWO	3 Months
2	CTO 9.75" 10 Micron Carbon Block	200658PWO	3 Months
1	Membrane-300gpd	PWO3002521MEMB	1 Year
1	DI Regeneration Coupon for ¼ cube	2100CPWO	Red Light
1	DI New Resin Start Up Bag, ¼ cube	2100SPWO	1 Year
1	Pura UV Lamp 20"	PURA20LPWO	1 Year
1	Pura UV Sleeve 20"	PURA20SQPWO	1 Year

If you would like to place a consumable order
or receive a quote, please email:

optical@purewatermi.com



Replacing Consumables

Changing Pre Filters

On a monthly basis, change 5 micron pre filter (5M975PWO), and solid carbon block filters (CTO975PWO). Failure to change filters regularly may result in chlorine breakthrough, which will permanently damage membrane and negatively effect water quality.

How To Change Filters

1. Close 3/8 inlet feed valve
2. Turn off storage tank valve
3. Disconnect power source to system (marked RO Plug)
4. Use supplied filter wrench and un-screw all three filter housings
5. Remove and discard used filters
6. Sanitize filter housings with a cap full of household bleach (unscented). Add water and swirl around inside of housing. (Be sure to include o-ring).
7. Using rubber gloves unwrap new filter and place into filter housing.
8. Reverse steps 4-1.

Changing Membranes

The membrane should be changed annually, or when Total Dissolved Solids (TDS) levels reach 15PPM, whichever comes first.

Note: The brine seal must be in the same position as it was for factory pre-installed membrane element. The brine seal should be on the right side of the membrane housing.

How To Change Membrane

1. Close 3/8 inlet feed valve
2. Turn off storage tank valve
3. Disconnect power source to system (marked RO Plug)
4. Use supplied filter wrench and un-screw all three filter housings
5. Remove membrane element from the right (feed water) side of the membrane housing. Long nose pliers may be needed to remove old membrane out of the housing
6. Lubricate the brine seal and o-rings with a *non-petroleum* based lubricant, such as Dow Corning 111
7. Install new membrane through the right (feed water) side of the housing with brine seal located on the feed water side
8. With a smooth and constant motion, push the membrane into the housing so the brine seal enters the housings without coming out of the brine seal groove



Replacing Consumables Continued

9. Re-install end plug on the right side by gently twisting the end cap, while pushing it onto the housing. Ensure that o-rings are not pinched or fatigued during this process. Push the end plug on until outer diameter of the plug is flush with the outer diameter of the pressure vessel
10. Insert the two half-moon retaining disks until they are fully seated. Fasten using a #5 Allen wrench
11. Reconnect any fittings that may have been disconnected when the membrane pressure vessels were disassembled
12. Sanitize filter housings with a cap full of household bleach (unscented). Add a little water and swirl around inside of housing. (Be sure to include o-ring).
13. Using rubber gloves unwrap new filter and place into filter housing.
14. Reverse steps 4-1.

Changing Silex D/I Resin Socks

Change resin packs when DI quality light goes from green to red.

Note: DI resin quality light is set to go from green to red when water quality drops below 1 meg/ohm. Light may go red when water is NOT flowing. Check for quality while filling five gallon pail or water is flowing to process. Further details found on pages x - x.

How To Change Resin Packs

1. Turn tank valve off at bottom of storage tank and unplug delivery pump.
2. Open DI Drain valve at base of silex DI Housing. When DI housing is drained use supplied filter wrench to loosen DI connection.
3. Set in 5 gallon bucket and remove spent resin sock and let drain.
4. Place drained sock into plastic bag and knot bag securely. Then place in silex shipping box with regeneration coupon and ship immediately to Ameriwater for regeneration and resin sock return.

Changing UV Light

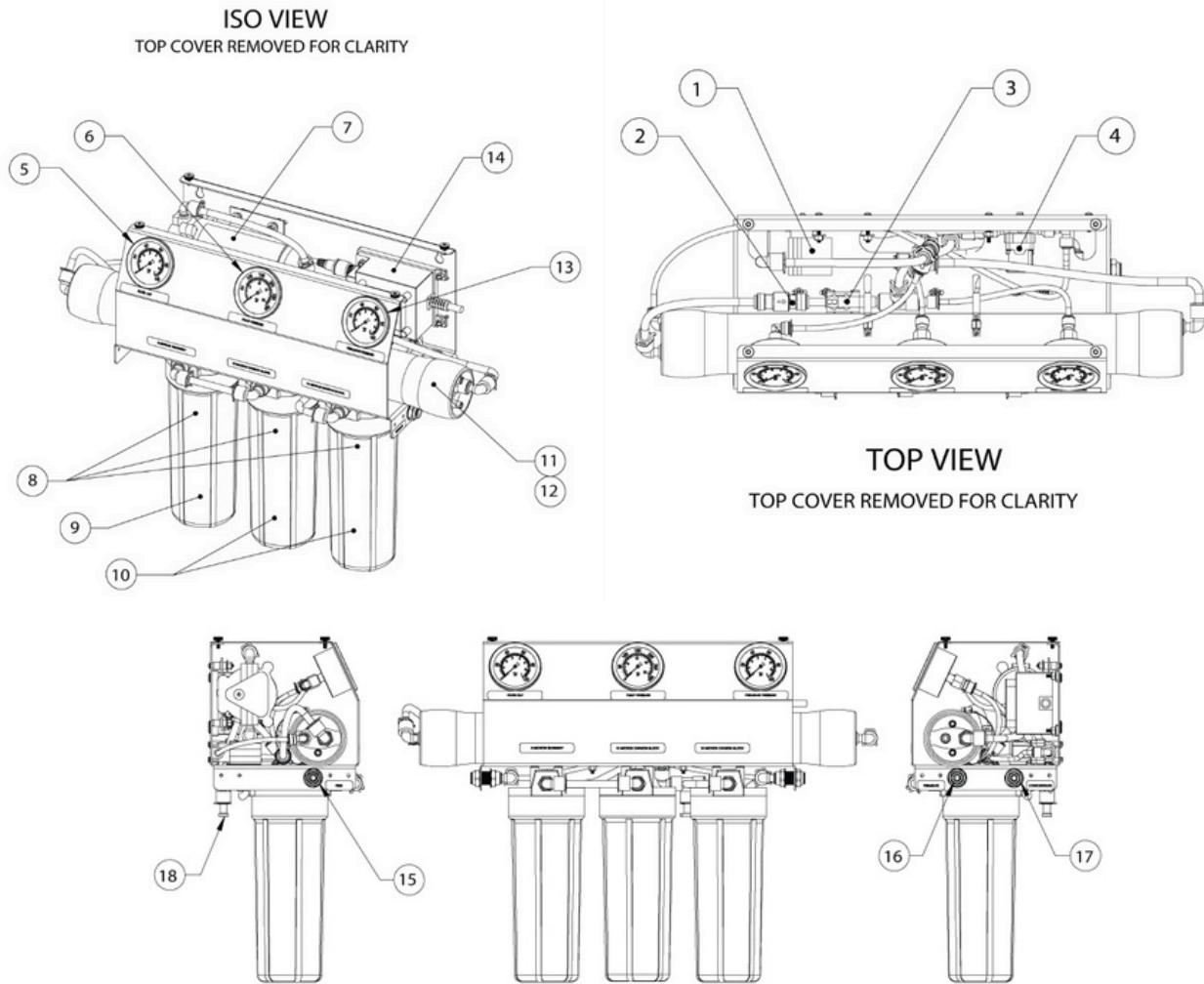
UV light should be replaced on an annual basis.

Note: The inside of the system and the quartz sleeve should be cleaned every filter change. Clean all parts (except the filters and electronic parts) with soap and rinse thoroughly with clean potable water. Allow parts to dry fully before reassembly.

How To Change UV Light


1. Install the light filter by holding it by the protective plastic bag and inserting filter into the sump.
2. Slide bag from filter and discard
3. Plug system into electrical outlet
4. Turn on water supply and check for leaks
5. Flush system for several minutes to remove carbon fines

L1-300 SYSTEM



COMPONENT DESCRIPTIONS

1. **Flow Restrictor** – Valve on concentrate line to regulate system recovery.
2. **Check Valve** – Valve on permeate line to prevent membrane delamination.
3. **Pressure Switch** – Turns off system when product pressure reaches 40 psi, and turns system on at 20 psi.
4. **Solenoid Valve** – System inlet valve. Opens when system is in operation, closes when product tank is full or system is in non-operational mode.
5. **Filter Out Gauge** – Measures the feed water pressure in the system.
6. **Pump Pressure Gauge** – Measures system pressure on outlet of pump.
7. **R.O. Pump** – Supplies osmotic pressure necessary for reverse osmosis.
8. **Filter Housings** – Housings for 5 micron sediment and 10 micron carbon filters.
9. **5 Micron Sediment Filter** – Filters out suspended solids larger than 5 microns in the feedwater to the system.
10. **10 Micron Carbon Block Filter** - Filters out free chlorine, improves taste and odor.
11. **Membrane Housing** – Houses reverse osmosis membrane.


L1-300 SYSTEM CONTINUED

12. **Membrane** – Reverse osmosis membrane filters out dissolved solids (TDS) to produce permeate.
13. **Permeate Pressure Gauge** – Measures the permeate pressure.
14. **Transformer** – Transforms incoming voltage to 24VAC to power R.O. motor/pump and system.
15. **Feed Connection Port** – 3/8" Quick Connect. Connect the feed source to this line.
16. **Permeate Connection Port** – 3/8" Quick Connect. Connect this line to end use.
17. **Concentrate Connection Port** – 3/8" Quick Connect. Connect this to line drain.
18. **Tank Connection Port** – 3/8" Quick Connect. Connect this line to the product water bladder tank.

PURGING AND INITIAL STARTUP

1. Direct the permeate water line to drain.
2. Feed the 3/8" QC inlet with source water at 40-60 psi.
3. Plug system into electrical outlet.
4. Run system while permeate and concentrate lines feed to the drain for 20-30 minutes to flush out preservative and any trapped air.
5. After 20-30 minutes, shut down the system and re-direct the permeate line back to final use location (i.e. faucet).
6. Your start up is now complete. Make sure that the system pressures and flows are matching up with that of your specific system model, located on the System Information (pg. 6) of this manual. Record the readings daily for a week and after a week record the readings once a week. This will assist you to determine when component maintenance and/or replacement is necessary.

OPERATING DO's AND DON'Ts

DO:

- **Change the cartridge filters regularly based on the frequencies on page 2.**
- Monitor the system.
- Run the system, as much as possible on a continuous basis.
- Adjust the system recovery to the recommended value.
- Always feed the pump with filtered water.

DON'T:

- Permit chlorine to enter or be present in the feed water. Shut down the system for extended periods.
- Close the throttle valve completely.
- Operate the system with insufficient feed flow.
- Operate the pump dry.



L1-300 System Continued

L1-300 System Specifications

Design	
Configuration	Single Pass
Feed Water Source ***	TDS <1000
Standard Recovery Rate†	50%
Rejection and Flow Rates	
Nominal Salt Rejection %	98.5
Permeate Flow* gpm (lpm)	0.21 (0.79)
Minimum Concentrate Flow gpm (lpm)	0.21 (0.79)
Connections	
Feed (in)	3/8 Tube
Permeated (in)	3/8 Tube
Concentrated (in)	3/8 Tube
Membranes	
Membrane(s) Per Vessel	1
Membrane Quantity	1
Membrane Size	2521

Vessels	
Vessel Array	1
Vessel Quantity	1
Standard Pump	
Pump Type	AquaTec 5800
Electrical	
Standard Voltage	110V, 60Hz, 1 PH, 1.0A
Voltage Options	220V, 50Hz, 1 PH, 0.5A
System Dimensions	
L x W x H (in/cm)	9 x 27 x 19 (22.9 x 68.6 x 48.3)
Weight (lb/kg)	50 (22.7)

*Product flow and recovery rates are based on feedwater conditions of 550 ppm TDS at 77°F and 60psi. Treatment ability of the RO system is dependent on feed water quality. Higher TDS and/or lower temperatures will reduce product flow.



L1-300 SYSTEM CONTINUED

SYSTEM SHUT-DOWN PROCEDURE

1. Unplug the system power cord from the wall.
2. Turn off feed supply water from system.
3. Purge the system (see information on purging on previous page)
4. If the reverse osmosis unit is to be shut down for an extended period of time, a membrane preservative should be used to preserve the membranes.

MAINTENANCE

The performance of a reverse osmosis unit is influenced by the feed water composition, feed pressure, temperature and recovery. For example, a feed temperature drop of 4°C will cause a permeate flow decrease of about 10%. This, however, is a normal phenomenon.

In order to distinguish between such normal phenomena and performance changes due to fouling or problems, the measured permeate flow and salt passage have to be normalized. Normalization is a comparison of the actual performance to a given reference performance while the influences of operating parameters are taken into account. The reference performance may be the designed performance or the measured initial performance.

Normalization with reference to the designed (or warranted) system performance is useful to verify that the system gives the specified (or warranted) performance.

Normalization with reference to the initial system performance is useful to show up any performance changes between day one and the actual date.

System performance normalization is strongly recommended, because it allows an early identification of potential problems (e.g. scaling or fouling) when the normalized data are recorded daily. Corrective measures are much more effective when taken early.

Contact Pure Water Works at optical@purewatermi.com if you have any questions about the maintenance of your system. Pure Water Works also provides virtual or on-site maintenance.



L1-300 SYSTEM CONTINUED

REPLACING FILTER CARTRIDGES

The reverse osmosis unit uses 5 micron sediment filter cartridges (Part numbers 5M975PWO and 200658PWO) that need to be replaced **every 3 months**. Change the sediment cartridges when the pressure gauge on the filter outlet of the filter housing indicates a pressure differential of 15 psi from that of the feed water supply.

1. Turn off and unplug reverse osmosis unit.
2. Turn off water supply to system.
3. Drain the product water tank. Make sure all pressure gauges read 0.
4. With a filter wrench, remove filter housing bottom.
5. Remove and discard the old filter cartridges.
6. Install new filter cartridges.
7. Re-assemble the filter housing.
8. Plug unit back in and turn on water supply to system inlet.
9. Turn on the RO unit and inspect filter housing for leaks.

MEMBRANE INSTALLATION, REMOVAL AND REPLACEMENT

Membrane (Part # PWO3002521MEMB) should be replaced **every year**. Installation and replacing membranes in the membrane housings is an easy process if you have the proper information and tools at hand. Please refer to the following instructions when removing and replacing membrane elements:

1. Remove the end cap from the right (feed water) side of the membrane housings. This is done by removing the two half-moon retaining disks using a #5 Allen wrench, the end plug should then freely slide out of the membrane housing.
2. Remove the membrane bag containing the membrane element from the shipping box. The membrane should be contained within a plastic oxygen barrier bag.
3. Cut the bag open as close as possible to the seal at one end of the bag, so the bag may be re-used if necessary.
4. Make sure that all parts are clean and free from dirt. Examine the brine seal and permeate tube for nicks or cuts. Replace the o-rings or brine seal if damaged.
5. Flow directions should be observed for installation of the membrane element into the pressure vessels.



L1-300 SYSTEM CONTINUED

REPLACING THE MEMBRANE ELEMENT

WARNING: THE BRINE SEAL MUST BE IN THE SAME POSITION AS IT WAS FOR FACTORY PRE-INSTALLED MEMBRANE ELEMENT. THE BRINE SEAL IS A RUBBER SEAL THAT PROTRUDES ON ONE SIDE OF THE MEMBRANE AND IS ALWAYS ON THE FEED SIDE OF THE MEMBRANE ELEMENT. FOR L1-SERIES RO SYSTEMS THE BRINE SEAL SHOULD BE ON THE RIGHT SIDE OF THE MEMBRANE HOUSING.

1. Remove membrane element from the right (feed water) side of the membrane housing. Long nose pliers may be necessary to pull the old membrane element out of the membrane element housing.
2. Lubricate the brine seal and o-rings with a non-petroleum based lubricant, such as Dow Corning® 111. Do not use a petroleum-based lubricant.
3. Install membrane through the right side (feed water) of the membrane housing with brine seal located on the feed water side.
4. With a smooth and constant motion, push the membrane element into the housing so the brine seal enters the housing without coming out of the brine seal groove.
5. Re-install the end plug on the right side by gently twisting the end cap, while pushing it onto the housing. Ensure that you do not pinch or fatigue any o-rings while re-installing the end plug. Push the end plug on until the outer diameter of the plug is flush with the outer diameter of the membrane housing.
6. Insert the two half-moon retaining disks until they are fully seated. Subsequently fasten using a #5 Allen wrench.
7. Reconnect any fittings that may have been disconnected when the membrane housings were disassembled.

CAUTION: WET MEMBRANES ARE SHIPPED IN A PRESERVATIVE SOLUTION. THE MEMBRANES MUST BE FLUSHED FOR AT LEAST 30 MINUTES TO REMOVE THE PRESERVATIVE FROM THE MEMBRANE. DISCARD ALL OF THE PERMEATE, WHICH IS PRODUCED DURING THE FLUSH PERIOD.



L1-300 SYSTEM CONTINUED

TROUBLESHOOTING

SYMPTOMS	POSSIBLE CAUSES	CORRECTIVE ACTION
Low Inlet Pressure	Low supply pressure	Increase Inlet Pressure
	Cartridge filters plugged	Change Filters
	Solenoid valve malfunction	Replace Sol. Valve and/or Coil
	Motor may not be drawing correct current	Use clamp-on amp meter to check the motor amp draw.
	Concentrate valve might be damage	Replace Needle Valve
	Leaks	Fix any visible leaks
Low Permeate Flow	Low inlet flow	Adjust concentrate valve
	Cold feed water	See temperature correction sheet
	Low operating pressure	See low inlet pressure
	Defective membrane brine seal	Inspect & or replace brine seal
	Fouled or Scaled membrane	Clean membranes
High permeate flow	Damaged product tube O-rings	Inspect and/or replace
	Damaged or oxidized membrane	Replace membrane
	Exceeding maximum feed water temperature	See temperature correction sheet
Poor permeate quality	Low operating pressure	See low inlet pressure
	Damage product tube O-rings	Inspect and/or replace
	Damaged or oxidized membrane	Replace membrane
Membrane fouling	Metal Oxide Fouling	Improve pretreatment to remove metals. Clean with Acid Cleaners.
	Colloidal Fouling	Optimize pretreatment for colloid removal. Clean with high pH anionic cleaners.
	Scaling (CaSO ₄ , CaSO ₃ , BaSO ₄ , SiO ₂)	Increase acid addition and antiscalant dosage for CaVO ₃ and CaCO ₄ . Reduce recovery. Clean with Acid Cleaners
	Biological Fouling	Shock dosage of Sodium Bi-Sulfate. Continuous feed of Sodium Bi-Sulfate at reduced pH. Chlorination and de-chlorination. Replace cartridge filters.
	Organic Fouling	Activated Carbon or other pretreatment. Clean with high pH cleaner.
	Chlorine Oxidation	Check Chlorine feed equipment and de-chlorination system.
	Abrasion of membrane by Crystalline Material	Improve pretreatment. Check all filters for media leakage.



D/I Resin Socks

Frequently Asked Questions

Q: How does the deionizer work?

A: Your system is simple and maintenance-free. When your monitor light signals that your water quality has dropped below the desired quality, you just exchange the resin pack and return it to AmeriWater for regeneration.

Q: How does the regeneration work?

A: AmeriWater's regeneration center maintains the resin used in the deionizer. When your resin pack is exhausted, just exchange it with your "stand-by" resin pack, and ship the exhausted pack to AmeriWater with a regeneration coupon. We will regenerate the resin and return it within one day after receipt. It's as simple as that!

Q: How long is the resin shelf life?

A: The resin has a shelf life of approximately one year. It is shipped to you in a plastic bag to prevent the exchangers from drying out. Inside the plastic bag, the resin is stored in a nylon pack that never has to be opened.

Installing The Resin Pack

1. Install the resin pack into deionizer body.
2. Using the filter wrench, loosen and remove the lower deionizer body by turning it counterclockwise. Verify that the O-ring stays in the O-ring groove.
3. With the isolation valves turned off, loosen the tube fitting on the bottom of the deionizer housing. Remove the tubing from the fitting.
4. Open the inlet isolation valve slowly to start water flow to the deionizer.
5. Attach the deionizer body back onto the cap and reconnect the tube fitting.
6. Remove the tubing from the deionizer outlet isolation valve and place it in a bucket or direct to a drain.
7. The quality monitor may glow red for a couple of minutes before changing to green.

Open the drain valve on the bottom of the housing.
Remove the resin pack from the box and plastic bag.
Stretch the resin pack over your arm to elongate the pack, and feed it into the housing.





D/I Resin Socks Continued

Resin Pack Exchange

When the quality monitor light changes from **green** to **red**, the resin pack needs (Coupon Part # 2100CPWO and Sock Part # 2100SPWO) to be exchanged.

Note: If the deionizer has not been in use, run water through the system for several minutes. If the light changes to green, resin pack does not need to be exchanged. If the light remains red, complete the following steps for resin pack exchange.

1. Close the inlet and outlet isolation valves and place a catch basin under the deionizer.
2. Open the test port (drain) located on the bottom of the deionizer housing to relieve pressure and drain the system.
3. After the pressure is relieved, loosen the tube fitting on the bottom of the deionizer body and remove the tube.
4. Using the filter wrench, loosen and remove the housing by turning it counter clockwise.
5. Remove the exhausted resin pack and install a new resin pack.
6. Follow the start-up procedures to pressurize system before use.
 - a. Attach the deionizer body back onto the cap and reconnect the tube fitting, and remove the tubing from the deionizer outlet isolation valve and place it in a bucket or direct to a drain.
 - b. Open the inlet isolation valve slowly to start water flow to the deionizer. Allow water to run through the deionizer until all air is purged from the system. After all of the air is removed reinstall the outlet tubing to the outlet isolation valve.
 - c. The quality monitor may glow red for a couple of minutes before changing to green.
7. Place the exhausted resin pack into the packaging from the replacement pack. Fill out and attach a regeneration certificate on the outside of the package. Ship the exhausted package to the address on the certificate. A new pack will be shipped within 24 hours of receipt.
8. **Order additional resin pack regeneration certificates from Pure Water Works, Part Number 2100CPWO by emailing optical@purewatermi.com.**



D/I Resin Socks Continued

Servicing Your D/I Resin Sock

Your D/I Resin Sock should be disinfected periodically to ensure continuous high-quality water is produced. To disinfect the system, follow these easy steps:

1. Remove the resin pack from the system.
2. Pour one tablespoon of household chlorine bleach into the filter sump.
3. Close the system completely.
4. Turn on the water to flush through the system until you can smell the chlorine.
5. Turn off the water and allow the system to stand for 15 minutes.
6. After 15 minutes, turn the water supply on to flush out your deionizer. Allow water to flow until you can no longer smell chlorine at the system outlet.
7. Drain the deionizer and verify that all standing water in the system is removed.

Apart from regular resin pack exchange and disinfection, your deionizer requires no maintenance. In the event your deionizer system is damaged, contact Pure Water Works to order replacement parts.

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UV Filters

ROUTINE MAINTENANCE

CLEANING PROCEDURE

The inside of the system and the quartz sleeve should be cleaned each time the filters are changed. Clean all parts (except the filters and electronic parts) with soap and rinse them thoroughly with clean potable water. Dry the inside of the quartz sleeve thoroughly before re-assembling system.

Note: UV lamp should remain on at all times during use because repeated starting of UV lamp shortens lamp life and UV lamp requires a warm up period of 1-2 minutes.

1. Disconnect system from electrical outlet.
2. Mix a mild cleaning solution of dish soap and clean potable water in the plastic bucket.
3. Close feed water supply valve and open downstream faucet to relieve system pressure.
 - a. *CAUTION: Do not attempt to remove sumps until water flow stops. This reduces pressure inside the system so sumps may be safely removed.*
 - b. *NOTE: For UVB and UV1 Models only: Remove and save Teflon Sleeve as it will be used again with replacement EPCB™ Carbon Filter.*
4. Remove each sump. Remove each filter as its sump is removed.
5. Discard the filters. Use sump wrench to remove stubborn sumps.
 - a. *NOTE: Use sanitary rubber gloves for this procedure to avoid contaminating cleaning solution or filters. Wear gloves whenever cleaning components or handling new filters.*
6. Clean quartz sleeve carefully using vinegar to remove hardness.
7. Do not use abrasive materials. Rinse sleeve thoroughly with clean potable water. Replace any sleeve that is damaged or will not come completely clean.
8. Remove sump "O" rings and wash with cleaning solution. Rinse them well with clean potable water. Inspect "O" rings for damage (i.e., nicks or scratches). Replace damaged "O" rings.
 - a. *CAUTION: Use care when cleaning UV head. Do not get the UV control module or connectors wet.*
9. Clean sumps and heads, inside and outside with washcloth and cleaning solution. Do not use abrasive materials.
10. Rinse sumps and heads with clean potable water.
11. For UV20 Model only: Clean and rinse the Stainless Steel Channeling Sleeve (Item 3) and Sleeve Gasket (Item 4) shown in Figure 2.



UV Filters Continued

12. Channeling Sleeve (Item 3) and Sleeve Gasket (Item 4) shown in Figure 2.
13. Inspect head and sump "O" ring groove area for damage (i.e., nicks or scratches).
Replace damaged components.
14. Place a small amount of silicone based "O" ring lubricant on the filter sump "O" ring.
Install the "O" ring into the filter sump groove.

UV LAMP REPLACEMENT

Lamps and Quartz Sleeves (Part # PURA20LPWO and PURA20QSPWO) must be changed every twelve months. While UV lamps rarely burn out, they do lose their disinfection power. Use only PURA UV lamps as they are specifically designed for the PURA system to deliver high quality drinking water.

1. Disconnect system from electrical outlet.
2. Shut feed water supply valve and open downstream faucet to relieve system pressure.
 - a. *CAUTION: Do not attempt to remove sumps until water flow stops. This reduces pressure inside the system so sumps may be safely removed.*
 - b. *CAUTION: Use care when sanitizing UV head. Do not get the UV control module or connectors wet.*
3. Remove sump from UV head and set aside.
 - a. *CAUTION: Do not touch quartz sleeve or UV lamp with bare hands. Fingerprints will reduce the effectiveness of the light.*
 - b. *WARNING: Do Not Attempt to Remove Quartz Sleeve. Damage to system and personal injury may occur if the sleeve is removed incorrectly. Contact your dealer if quartz sleeve is broken or needs replacement.*
4. Clean quartz sleeve carefully using vinegar to remove hardness. Do not use abrasive materials. Rinse sleeve thoroughly with clean potable water. Replace any sleeve that is damaged or that will not come completely clean.
5. Gain access to UV lamp:
 - a. For UVB, UV20, and UVBB Models only: Remove UV Control Module (Item 10) from Mounting Bracket (Item 6, 6A, 6B) by removing four Screws (Item 11).
 - b. For UV1 Model only: Loosen Screw (Item 9) securing slotted side of UV Lamp Retainer (Item 7). Remove other screw securing UV lamp retainer to UV head. Rotate bracket away from UV lamp. Remove and slide Finish Cap (Item 12) on cable towards UV control.
6. Remove UV lamp from system being careful not to break UV lamp or dislodge quartz sleeve:



UV Filters Continued

- a. For UVB and UV20 Models only: Remove UV control module with UV lamp by gently lifting control module straight up from mounting bracket. Grasp UV lamp firmly and remove lamp from the four-pin socket.
- b. For UVBB Model only: Remove UV control module with UV lamp by lifting the control module straight up from mounting bracket. The four-pin socket is attached to the UV control module by a short cable that allows for correct insertion depth. Grasp UV lamp and four-pin socket firmly and separate lamp from connector.
- c. For UV1 and Addon Models Only: Remove UV lamp by gently lifting the cable connecting the four-pin socket to the UV lamp. Grasp UV lamp and four-pin socket firmly and separate lamp from connector. During replacement, be sure UV lamp is inserted as far as possible into the quartz sleeve
 - i. Note: The inside of quartz sleeve must be completely dry before installing the replacement UV lamp.
 - ii. Note: Hold replacement UV lamp by the ceramic ends only. Do not touch the glass. Clean glass with isopropyl alcohol if necessary.

FILTER REPLACEMENT

Filters will normally last approximately four to six months. Filter life will vary due to water conditions. A reduced flow rate or deteriorating water quality indicates that filters must be changed.

1. Perform Cleaning Procedure

- a. NOTE: Do not remove protective plastic bag from filters. Open bottom of bag only enough to expose bottom of filter.
- b. NOTE: Refer to Exploded Schematic for your system to ensure each filter is installed in the correct position.
- c. NOTE: For UVB and UV1 Models only: Refer to the Exploded Schematic to ensure proper position of Teflon Sleeve removed in Cleaning Procedure.

2. Install the filters into the appropriate sump. Hold filter by its protective plastic bag and insert the filter into the sump.

- a. CAUTION: For UVBB Model only: Be sure sump with metal liner is installed onto UV head.
- b. CAUTION: TIGHTEN SUMPS BY HAND ONLY. Do not use tools as they will over-tighten and may damage sump. Take care not to cut or pinch "O" rings or gaskets. Use sump wrench for removal only.

3. Slide bag from filter and discard. Replace each sump as each filter is installed.

4. Plug system into electrical outlet. Turn on water supply and check for leaks. Flush system for several minutes to remove carbon fines.