LCRO Series

DRINKING WATER SYSTEMS

Installation & Service Manual

LCRO Series

❑ **LCRO-200**
200 GPD

❑ **LCRO-300**
300 GPD

❑ **LCRO-500**
500 GPD

WATER®
WORLD USA

Member
WATER QUALITY ASSOCIATION

Assembled in USA

Please read this entire service guide prior to beginning installation.

LCRO Series

DRINKING WATER SYSTEMS

REVERSE OSMOSIS SYSTEM WITH BUILT IN PUMP

Congratulations on choosing the LCRO Reverse Osmosis System. Our high quality reverse osmosis system has been designed and tested to give you trouble free performance for many years with proper maintenance. Please carefully read through this manual before installing the system. Make yourself familiar with all the parts, components, and installation procedures before continuing.

The LCRO unit is equipped with a pressure booster pump for the membrane. This is required where feed pressure is below 40 PSI, but higher than 5 PSI. It is also useful when higher production rates are required. This system is also equipped with a high and low pressure switch to operate and protect the pump.

CAUTION: ALWAYS CONSIDER ELECTRICAL SHOCK HAZARD WHEN WORKING WITH AND HANDLING ELECTRICAL EQUIPMENT. IF UNCERTAIN, CONSULT AN ELECTRICIAN. ELECTRICAL WIRING SHOULD ONLY BE DONE BY A QUALIFIED ELECTRICIAN PER LOCAL AND STATE ELECTRICAL CODES.

Before installing you will need to make sure that you have a dedicated power supply under the sink, or within a few feet of the system. We highly recommend a GFI outlet to plug the unit into as this system is usually located near numerous water supplies. Follow all electrical and plumbing codes and be certain of the voltage requirements on the LCRO unit. For installation assistance, contact your local dealer.

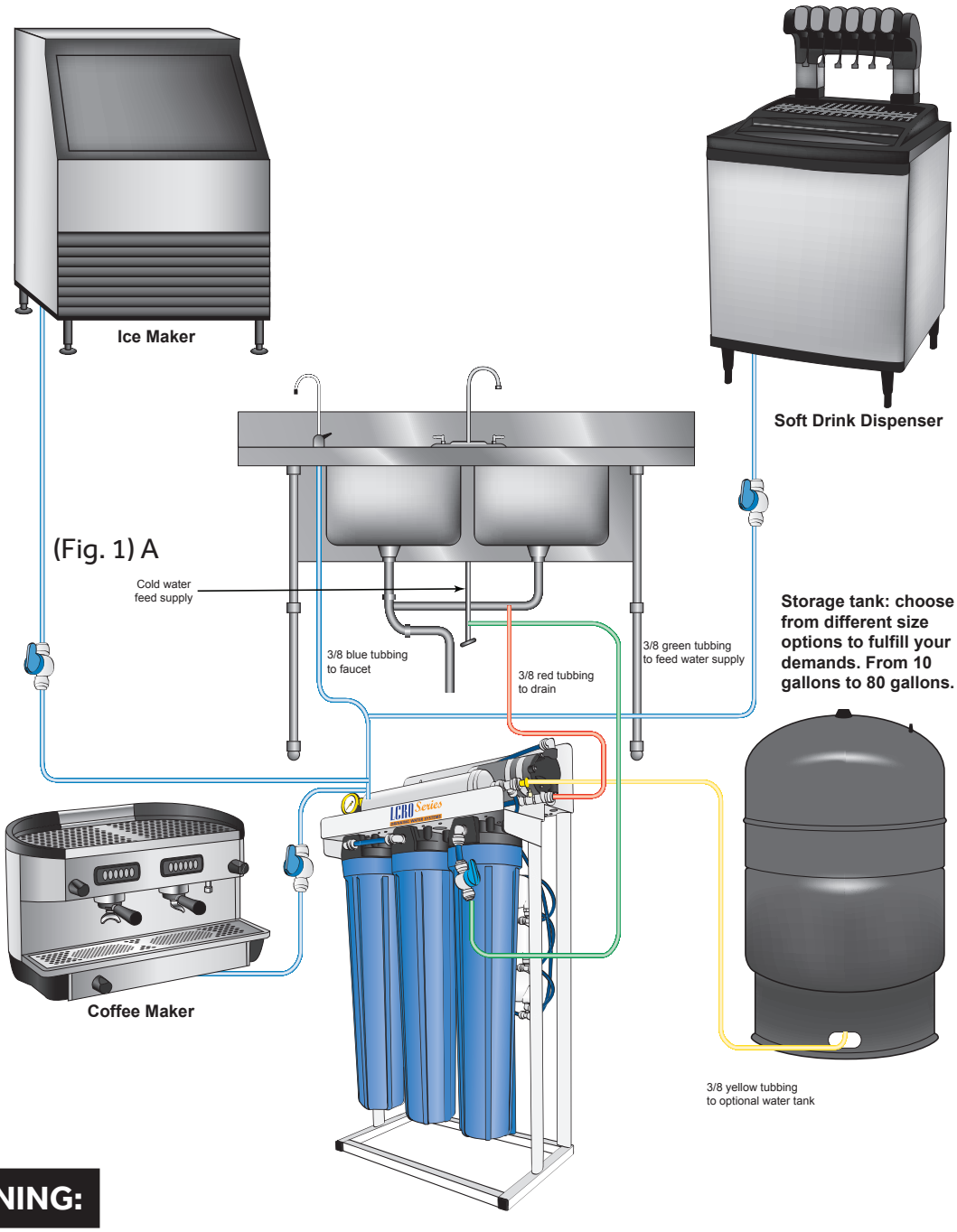
We have supplied the system with Color coded tubing for ease of installation.

The following tools will be required for your installation:

1) Hand drill for faucet hole. Use the appropriate bit for the surface you are drilling. (½" for non air gap faucets and - 7/8" drill bit for air gap ones).
   - A) Titanium bit for metal sinks.
   - B) Glass and tile bit or Relton cutter for porcelain sinks.
   - C) Diamond core bit for granite.
2) Phillips head screwdriver.
3) Adjustable crescent wrench.
4) Basin wrench.
5) ¼" drill bit for drain clamp.

Your local dealer

INSTALLATION DIAGRAM FOR LCRO SYSTEM



WARNING:

CONNECT YOUR SYSTEM TO THE COLD WATER SUPPLY ONLY. DO NOT USE WATER SUPPLY THAT IS MICRO-BIOLOGICALLY UNSAFE, OR OF UNKNOWN SOURCE WITHOUT ADEQUATE DISINFECTION BEFORE OR AFTER THE SYSTEM.

COLOR OF TUBE	TUBE O.D.	DESCRIPTION
Green	3/8"	Feed Water Line
Red	3/8"	Reject (Flow Restrictor) to Drain Line
Yellow	3/8"	Pure Water to Storage Tank
Blue	3/8"	Pure Water to Faucet, Refrigerator, or End Use.

Installation Kit Contents

 COLOR TUBING	1. Color Coded Tubing: Color Coded Tubing (4 coils, 4 colors) 3/8'' Green Tubing (approximately 8 feet) 3/8'' Red Tubing (approximately 6 feet) 3/8'' Yellow Tubing (approximately 6 feet) 3/8'' Blue Tubing (approximately 6 feet) Optional 5th coil is added for air gap installations 3/8" Red Tubing (approximately 5 feet) Note: The color coded tubing matches the color coded plugs on the LCRO® RO unit.
 JGV-ASVPP1LF	2. PPASV121212W (Angled Stop Valve) is used for connecting into cold water supply in between the top of basin supply angle valve and the flex line that connects to the cold water sink faucet.
 DS-EZW4	4. DS-EZW4 (Drain Saddle) used for tapping into drain line when standard faucet is used. DS-EZW6 (Drain Saddle) used for tapping into drain line when air gap faucet is used.
 INS-TEFLON	5. Teflon Tape: Used on all threaded fittings to prevent water leakage. Eight rotations (layers) are adequate when using Teflon tape to secure any threaded fittings. The LCRO® RO already has Teflon tape on all of its fittings.
 JGV-PPSV501222W	6. JGV-PPSV501222W: (Storage Tank Ball Valve Quick Connect 3/8''). In normal operation, the Storage Tank Ball Valve must be in the "open" position. Add 8 layers of Teflon tape on top of the threaded tank outlet. Screw tank ball valve securely on threaded 1/4" NPT port. Connect yellow tubing from it to post filter tee.
 WR-BF-20	8. WR-BF-20: Make sure the black rubber o-ring is properly in place in the filter housing after changing filters following any maintenance.
 EZM-LC -14 EZM-LC-38	10. EZM-LC-14: Locking clip for ¼" EZ Fitting, Red EZM-LC-38: Locking clip for ⅜" EZ Fitting, Red
 JGF-PP3212U7W	9. JGF-PP3212U7W: (Faucet Connector) to connect the faucet with blue 3/8'' tubing coming from the post filter labeled to faucet.

NOTE: All local plumbing codes must be followed to ensure proper installation and use of your LCRO® system.

CAUTION: Do not use the LCRO System on feedwater pressure above 40 psi.
If feedwater pressure is above 40 psi, contact your local dealer for an alternative system not equipped with a booster pump.

TAPPING INTO THE COLD WATER LINE

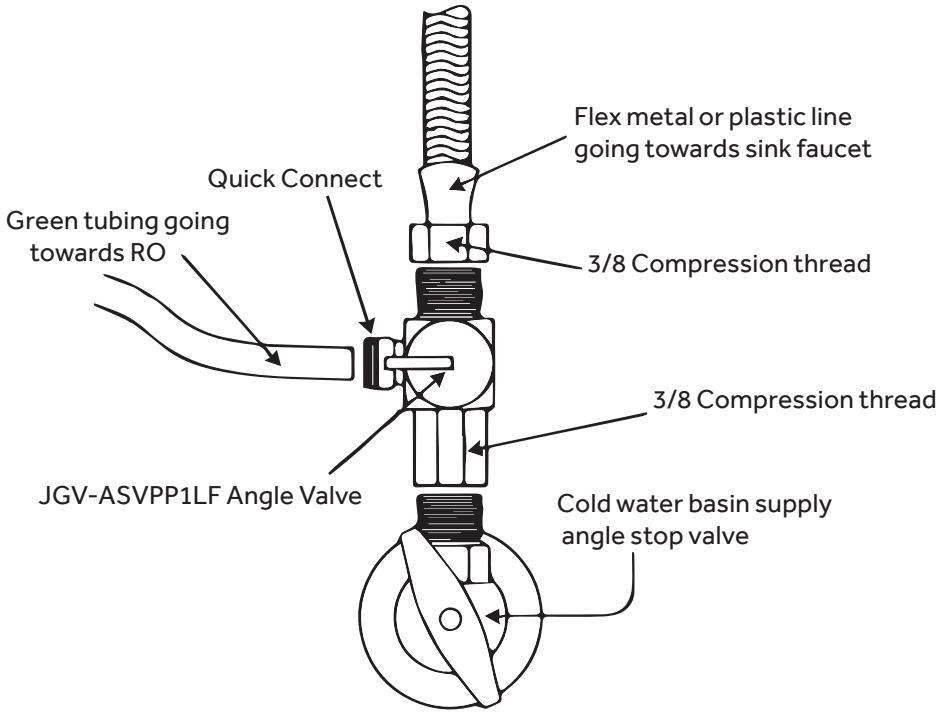
(Using the water supply adaptor Part # **JGV-ASVPP1LF**)
For flex metal or plastic line.

NOTE: The LCRO® RO system must be connected to the COLD water supply only.

1) Turn off the **cold** water supply to the sink faucet by locating the round or oblong handle and turning clockwise until the water supply is off.

NOTE: If the cold water shut off valve fails to turn off the water, the house supply can be turned off at the main water supply.

2) The water supply adapter may be installed at the faucet connection
3) Disconnect the 3/8" flex line from the base of cold water basin supply angle stop valve.
4) Re-connect the 3/8" **JGV-ASVPP1LF** Angle Stop Valve to the basin supply angle stop valve.



5) Re-connect flex line to the **JGV-ASVPP1LF** Angle Supply Valve.
6) Push green tubbing in to Quick Connect fitting up to tube stop. Pull on the tubing to check it is secure. Test the system before use.

NOTE: All local plumbing codes must be followed to ensure proper installation and use of your system.
CAUTION: A pressure regulator is recommended for feedwater pressure above 80psi.

Tools Required:

1) **Hand drill for faucet hole. Use the appropriate bit for the surface you are drilling. (½" for non air gap faucets and - 7/8" drill bit for air gap ones).**
   - **A) Titanium bit for metal sinks.**
   - **B) Glass and tile bit or Relton cutter for porcelain sinks.**
   - **C) Diamond core bit for granite.**
2) **Phillips head screwdriver.**
3) **Adjustable crescent wrench.**
4) **Basin wrench.**
5) **¼" drill bit for drain clamp.**

DRILLING THE HOLE FOR THE FAUCET

NOTE: SAFETY GLASSES SHOULD BE WORN TO PROTECT YOUR EYES WHILE DRILLING THE FAUCET WHOLE.

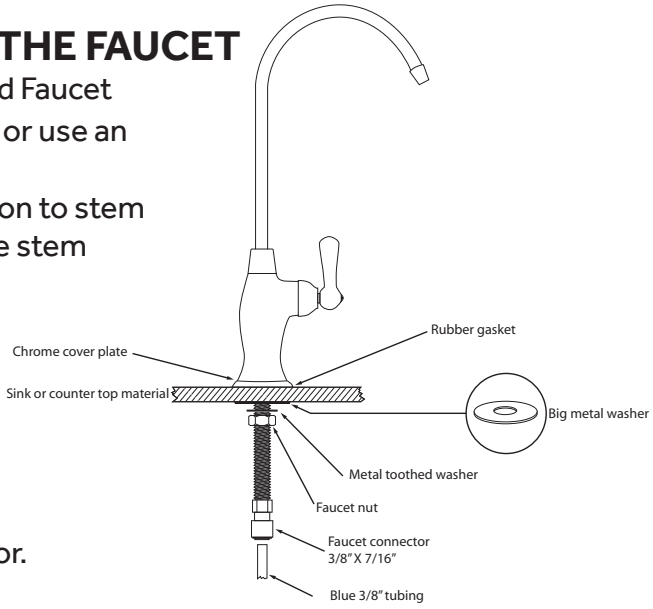
1) For best results, a ½" drill bit for a non air gap faucet or 7/8" dill bit for an air gap faucet should be used to drill a hole into your sink for the auxiliary faucet.
2) Carefully select the faucet location making sure it will have a neat water fall pattern and that the faucet stud will be accessible from below once the whole is completed.
3) **For Porcelain Sink:** Before starting the drill motor, apply firm downward pressure on the bit until a crunching occurs. This will help keep the drill from moving when starting the hole. Use a special porcelain hole cutter.
4) **For Stainless Steel Sink:** Before using the selected bit, an indent should be made with a center punch to keep the drill bit from moving. A small pilot hole will also aid the drill process.
5) For best results, keep steady firm pressure while drilling the hole. Too little pressure during the start will cause excess wear on the bit and progress will be slow.
6) Once the hole is complete, clean the area of metal chips and roughness around the hole. Metal chips will stain porcelain.

Warning: It is highly recommended for granite slate countertops, to use the assistance of a trained professional to drill the hole for the faucet. Serious damage can occur to the counter if done by an inexperienced person.

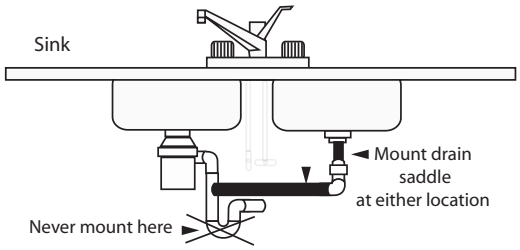
MOUNTING THE FAUCET

Standard Faucet

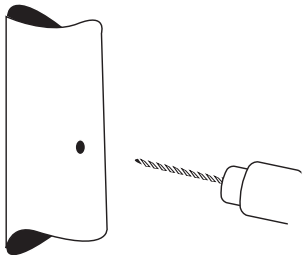
1) Drill a ½" hole in the sink or the counter top, or use an existing hole.
2) Slide chrome cover plate and rubber gasket on to stem of faucet and place faucet onto sink, with the stem going through the hole.
3) Place metal slotted washer over threaded stem of faucet.
4) Tighten nut from under the counter surface to lock the faucet into place.
5) Thread the faucet connector onto threaded stem of faucet. Do not use Teflon tape.
6) Connect blue 3/8" tubing to faucet connector.



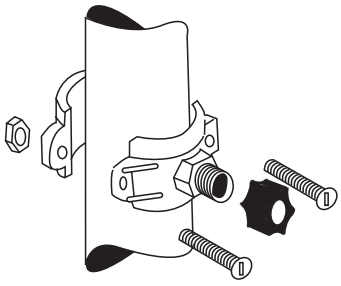
DRAIN CLAMP INSTALLATION



1) The drain clamp assembly should be installed above the trap and on the vertical or horizontal tail piece (Fig. 5)



2) Mark the hole position on the pipe and drill a 3/8'' hole through one side of the pipe. Be careful **not** to drill the hole through both sides of the pipe.

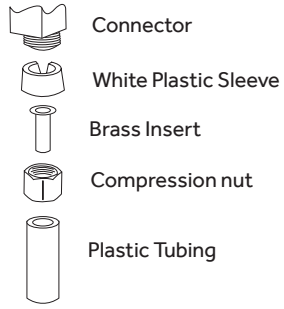


3) Affix sponge provided with the drain clamp onto inside of clamp piece matching the holes. The center hole on the sponge must be removed.
4) Make sure to align drain saddle to drilled hole. Attach drain clamp to drain pipe and tighten the two screws evenly.
5) Connect the 3/8" red tubing to the drain clamp.

POSITIONING THE SYSTEM

1) The head assembly will stand up in the sink cabinet or can be hung on screws.
2) The storage tank may be laid on its side. The bladder tank will function both ways horizontal and vertical.
3) The head assembly and/or storage tank may be placed up to 20 feet from the point of use with some pressure loss.
4) Make sure to run at least 3/8" tubing to feed other applications such as ice-maker, coffee maker, etc.
5) The total product water output must not exceed 1/3 of the systems GPD rating in an 8 hour period.
6) Each water using appliance connected to the system must have an independent in-line ball valve installed to cutoff product water for service or maintenance purposes.

CONNECTING THE SYSTEM

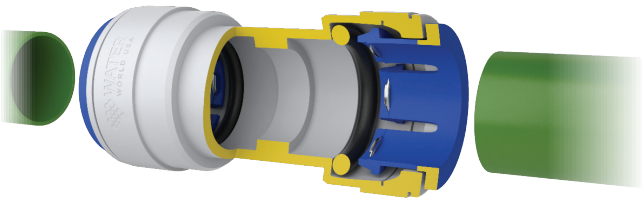


1) Compression fitting may be found on the water supply adapter. To make the connections, slide a compression nut onto the tubing. Slip the white plastic sleeve onto the tubing with the beveled end towards the end of the tubing. Insert a brass or plastic insert into the tubing, bottom the tubing into the fitting, slide the nut up and tighten with a wrench. **DO NOT OVER TIGHTEN. Do not use the brass sleeves on plastic tubing, use only plastic sleeves on plastic tubing.**
2) The plastic fitting on the drain clamp is connected by slipping the plastic nut onto the tubing. Bottom the tubing into the drain clamp and tighten firmly without tools.
3) See page 2 for connection diagram on color coded tubing on LCRO system.

EZ FITTINGS- QUICK CONNECT

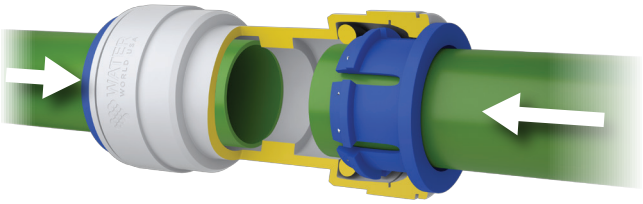
Your LCRO® RO system is equipped with EZ fittings. The quick connect fittings feature leak proof installations. EZ Fittings provide efficient quick connection and disconnection resulting in reduction of service time and labor cost.

1 Cut tubing square



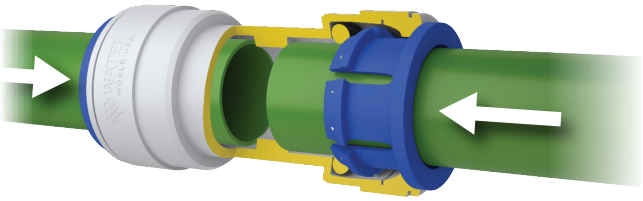
Cut the tube square. It is essential that the outside diameter be free of score marks and that burrs and sharp edges be removed before inserting into fittings. For soft thin walled plastic tubing, we recommend the use of a tube insert.

2 Insert tube



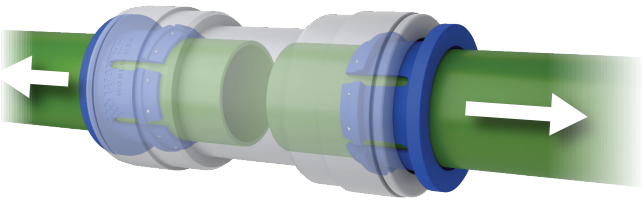
Fitting grips before it seals. Ensure tube is pushed into the tube stop.

3 Push up to tube stop



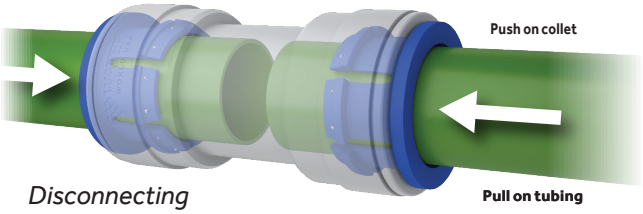
Push the tube into the tube stop. The collet (gripper) has stainless steel teeth which hold the tube firmly in position while the o-ring provides a permanent leak proof seal.

4 Pull to check secure



Pull on the tube to check that it is secure. It is a good practice to test the system prior to leaving site and/or before use.

Push in collet and remove tube



Disconnecting

To disconnect, ensure the system is depressurized before removing the tube. Push in collet squarely against face of fitting. With the collet held in the position, the tube can be removed. The fitting can there be re-used.

START UP PROCEDURE

1) Check to see all connections are made
2) Check that the pre-filter and pre-carbon sumps are secure with "O" rings in place using the housing wrench provided.
3) Make sure all ball valves feeding pure water to other appliances are in the closed position.
4) Slowly turn on the water by turning the needle valve counterclockwise or ball valve 1/4 turn, where handle is parallel to the tubing line.
5) The valve handle on bottom of the tank should be in the open position, parallel to the valve body.
6) The handle of the faucet should be in the closed position.
7) Check for leaks.
8) The LCRO-200 drinking water system makes 8.5 gallons of drinking water per hour and requires few hours before water is readily available depending on the size of the storage tank used.
   The LCRO-300 drinking water system makes 12.5 gallons of drinking water per hour and requires few hours before water is readily available on the size of the storage tank used.
   The LCRO-500 drinking water system makes 20 gallons of drinking water per hour and requires few hours before water is readily available on the size of the storage tank used.
9) During this initial fill period, you will hear water being discharged through the red drain line. This is normal as the contaminated water is being rejected by the reverse osmosis membrane. Wait a few hours until system shuts off completely.

WARNING: DO NOT DRINK WATER FROM THE FIRST TANK PRODUCED BY THE SYSTEM. COMPLETELY DRAIN IT FROM THE STORAGE TANK BY OPENING THE FAUCET. DISCHARGING MIGHT TAKE UP TO 15 MIN. TIME WILL DEPEND ON SIZE OF STORAGE TANK USED.

10) Storage tank must be filled again before opening the ball valves feeding external appliances. It is also recommended to flush out the first few gallons from each external appliance before use.

Remember to connect the transformer for the booster pump to a dedicated GFI electrical outlet.

CAUTION: ALWAYS CONSIDER ELECTRICAL SHOCK HAZARD WHEN WORKING WITH AND HANDLING ELECTRICAL EQUIPMENT. IF UNCERTAIN, CONSULT AN ELECTRICIAN. ELECTRICAL WIRING SHOULD ONLY BE DONE BY A QUALIFIED ELECTRICIAN PER LOCAL AND STATE ELECTRICAL CODES.

If you have any difficulties with the installation, or require additional information on your unit please consult your local dealer.

We thank you for purchasing our LCRO® Reverse Osmosis drinking water unit. In order to maintain high quality pure water, it is important that scheduled maintenance be followed.

CAUTION: DO NOT USE THE LCRO SYSTEM ON FEEDWATER PRESSURE ABOVE 40 PSI. IF FEEDWATER PRESSURE IS ABOVE 40 PSI, A PRESSURE REGULATOR MUST BE INSTALLED BEFORE THE SYSTEM. THE PRESSURE REGULATOR MUST BE SET AT 40 PSI.

IMPORTANT NOTES-MUST READ:

1) Your LCRO® system has been thoroughly tested and inspected for production, leaks, and shut-off functions at our factory. Therefore, it might have some water in it.
2) Do not use this system on feed water that has biological contamination or if feed water is of unknown source.
3) All local plumbing codes must be followed to ensure proper installation and use of your LCRO® RO System.
4) Should you require additional information or need further technical assistance on LCRO® system, contact your local dealer.

RECOMMENDED MAINTENANCE

1) Sediment Pre-filter: The Pre-Filter protects the system and should be maintained regularly. The Pre-Filter should be changed when the outside discolors to a cardboard brown color and before the inner core discolors. The life of the Pre-Filter will depend upon condition of your water supply and should be checked at 2 month intervals until a filter life is established (average life 3-6 months). Always make sure that o-rings are seated properly inside sumps before tightening canisters.
2) Carbon Blocks: Designed to remove chlorine from the water supply, as well as organic and inorganic substance before entering the TFC membrane (average life 6 months).
   Always make sure that o-rings are seated properly inside sumps before tightening canisters.
3) Post-Carbon: The post-filter should be changed when you experience an unusual taste and/or odor to the water and has a nominal life of 6-12 months.
4) Membrane: The high quality Thin Film Composite membrane should last between 2 to 3 years depending on the quality of your local water & water usage.
5) Drain your storage tank frequently to ensure the freshness of the water in the storage tank by lifting the faucet handle into the open position until water flow stops from the tank. Return the faucet handle to the closed position and the tank will refill in a few hours. It is best to drain the system before retiring for the evening.

CHANGING THE FILTERS

CAUTION: ANY REPLACEMENT FILTERS OR MEMBRANES NOT RECOMMENDED BY THE FACTORY CAN CAUSE SEVERE DAMAGE TO THE SYSTEM AND VOID ALL WARRANTIES.

MAINTENANCE

Before starting maintenance, check the reverse osmosis system for TDS reduction to determine if membranes will or will not need to be changed.

If TDS reduction is less than 90% concentration, then the membrane should be replaced.

1) Shut off the water supply to the system.
2) Close storage tank ball valve and ball valves feeding the external water using appliances.
3) Open the dispensing faucet to depressurize the system. (Allow 2 to 3 minutes).
4) Remove the filter housings by turning counter-clockwise.
5) Remove old filters and clean housings with a mild soap and water solution.
6) Check o-rings for deterioration and lubricate with an approved FDA silicone lubricant for o-rings or replace if needed.
7) Insert the appropriate new filters inside housings and replace them by mounting them in to position. Make hand tight plus 1/8 to ¼ turn with housing wrench. DO NOT OVER-TIGHTEN. Over-tightening will cause cracks and leaks if not careful.

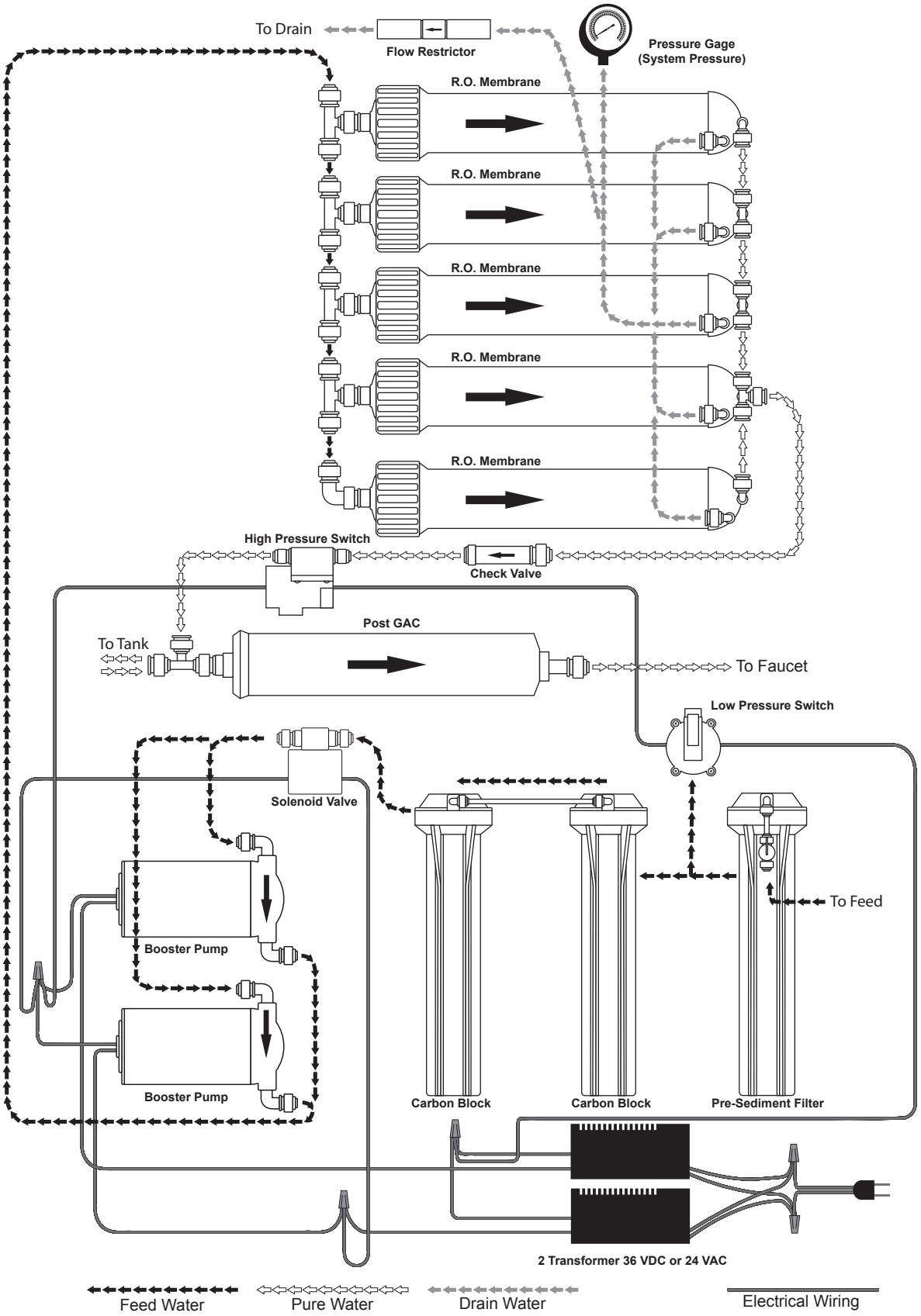
CAUTION: ALWAYS MAKE SURE THAT "O"-RINGS ARE SEATED PROPERLY INSIDE SUMPS BEFORE TIGHTENING CANISTERS.

8) If a membrane needs changing, remove the inlet tubing to the housing, unscrew the cap, and pull the membrane out using a needle nosed pliers. Clean the inside of the membrane housing with a mild soap and water solution.
9) Lubricate the o-rings on the membrane permeate tube with an approved FDA silicone lubricant. Insert into the housing with brine seal towards the opening. Make sure membrane is fully inserted and seated into place.
10) Reseal the membrane housing with the cap and reconnect tubing.
11) To replace the carbon in-line post filter, remove the tubing and fittings at either end. Clean the old Teflon tape off the threads and apply new tape. Screw the fittings into the new cartridge paying close attention to the flow direction. Reinsert tubing.

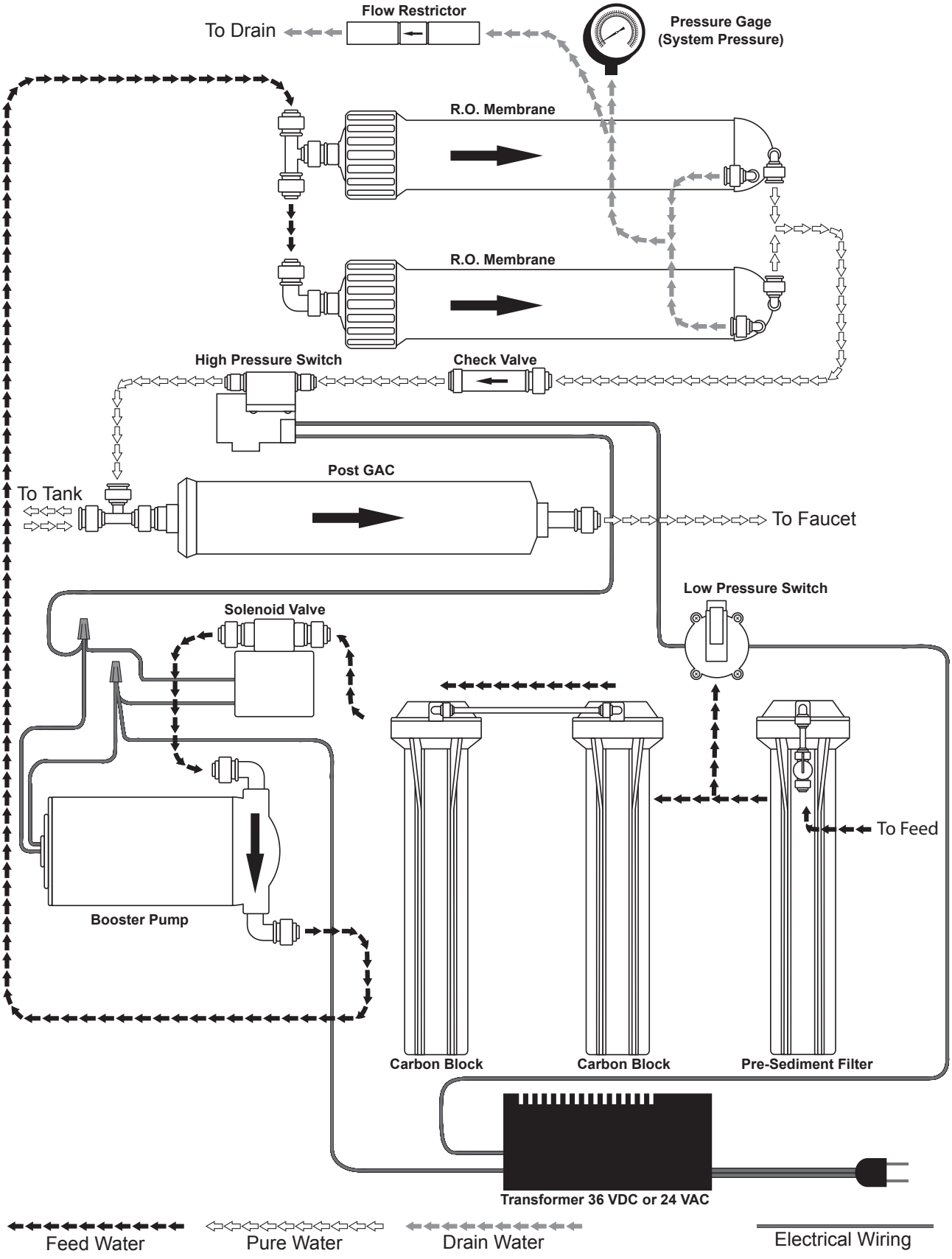
REPLACEMENT FILTERS:

STAGE	PART #	DESCRIPTION	QTY		
			LCRO-200	LCRO-300	LCRO-500
1st	DB-20-05	Sediment filter, 5μm, 20"	1	1	1
2nd/3rd	CTX-20-5	Carbon Block Cartridge, 5μm 20"	2	2	2
4th	PTRO-1812-100	Thin Film Composite membrane, 100 GPD	2	3	5
5th	IL-2512GAC-14F	GAC Inline post filter	1	1	1
Notice: Replace entire system every 7 years to prevent consequential damage.					

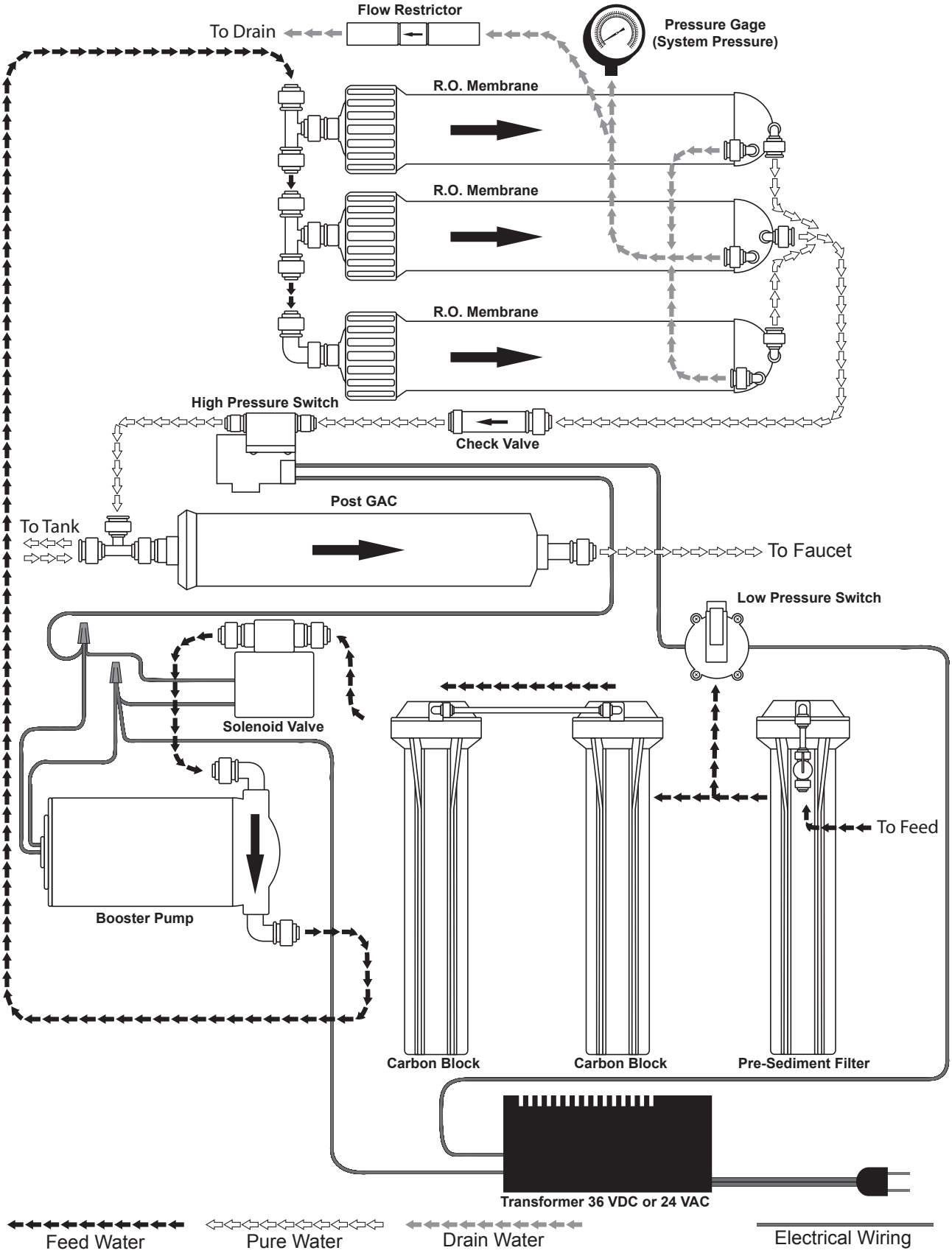
LCRO-500 FLOW AND ELECTRICAL DIAGRAM



LCRO-200 FLOW AND ELECTRICAL DIAGRAM



LCRO-300 FLOW AND ELECTRICAL DIAGRAM



TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTIONS
UNIT FAILS TO PRODUCE WATER	1) WATER SUPPLY IS TURNED OFF.	1) TURN WATER SUPPLY ON. 2) CHECK TO MAKE SURE FEED VALVE IS NOT CLOGGED.
	2) NOT ENOUGH WATER PRESSURE TO SYSTEM.	1) CHECK FEED WATER PRESSURE. MUST BE AT LEAST 10PSI.
	3) PREFILTERS CLOGGED.	1) CHANGE PREFILTERS.
	4) FLUSH VALVE ON UNIT IS IN THE OPEN POSITION.	1) CLOSE THE FLUSH VALVE.
	5) PUMP NOT WORKING	1) MAKE SURE TRANSFORMER IS PLUGGED TO ELECTRICAL OUTLET 2) REPLACE TRANSFORMER IF BURNED 3) REPLACE HI AND/OR LOW PRESSURE SWITCHES
	6) SOLENOID VALVE NOT WORKING	1) REPLACE SOLENOID VALVE
MILKY COLORED WATER	1) AIR IN SYSTEM	1) AIR IN SYSTEM IS A NORMAL OCCURRENCE WITH INITIAL STARTUP OF THE RO SYSTEM. THIS MILKY LOOK DISAPPEARS DURING NORMAL USE WITHIN 1 TO 2 WEEKS.
UNIT PRODUCES WATER BUT ONLY GETTING A SMALL AMOUNT OUT OF TANK.	1) TANK BALL VALVE IS IN THE CLOSED POSITION.	1) OPEN THE TANK BALL VALVE.
	2) PREFILTERS ARE CLOGGED.	1) CHANGE PREFILTERS.
	3) MEMBRANE IS FOULED.	1) CHANGE MEMBRANE. 2) FIND REASON FOR FOULING. TO PREVENT FUTURE OCCURRENCE.
	4) SYSTEM JUST STARTING UP	1) NORMALLY IT TAKES 3-5 HOURS TO FILL THE STORAGE TANK. LOW WATER PRESSURE AND/OR TEMPERATURES CAN REDUCE PRODUCTION RATE.
	5) AIR PRESSURE IN STORAGE TANK IS LOW	1) ADD PRESSURE TO STORAGE TANK. THE PRESSURE SHOULD BE 8-10 PSI WHEN THE TANK IS EMPTY.
SLOW PRODUCTION	1) LOW WATER PRESSURE	1) MAKE SURE PUMP IS WORKING.
	2) CRIMPS IN TUBING	1) MAKE SURE TUBING IS STRAIGHT.
	3) CLOGGED PREFILTERS	1) REPLACE PREFILTERS.
	4) FOULED MEMBRANE	1) REPLACE MEMBRANE.
WATER TASTE OR SMELL OFFENSIVE	1) POST CARBON IS DEPLETED	1) REPLACE POST CARBON.
	2) FOULED MEMBRANE	11) CHANGE MEMBRANE. 2) FIND REASON FOR FOULING. TO PREVENT FUTURE OCCURRENCE.
	3) SANITIZER NOT FLUSHED OUT	1) DRAIN STORAGE TANK AND REFILL IT OVERNIGHT.
NO DRAIN WATER	1) CLOGGED FLOW RESTRICTOR	1) REPLACE FLOW RESTRICTOR
LEAKS	1) FITTINGS ARE NOT TIGHTENED	1) TIGHTEN FITTINGS AS NECESSARY.
	2) MISSING O-RING	1) CONTACT LOCAL DEALER.
	3) MISALIGNMENT OF HOLE IN DRAIN SADDLE	1) REALIGN DRAIN SADDLE
SYSTEM DOES NOT TURN ON.	1) NO POWER TO SYSTEM.	1) CHECK PLUG AND CIRCUIT BREAKER.
	2) LOW-PRESSURE SWITCH IS NOT ACTIVATING.	1) CHECK FEED WATER SUPPLY. 2) CHECK PRE-FILTERS FOR CLOGGING. 3) CHECK LOW-PRESSURE SWITCH FOR FAILURE BY MAKING A JUMPER WIRE AND ISOLATE THE SWITCH FROM THE CIRCUIT. IF BAD, REPLACE SWITCH.
	3) CLOGGED PREFILTERS	
	4) TANK MAY NOT BE EMPTY TO THE POINT OF HIGH-PRESSURE SWITCH ACTIVATION.	1) EMPTY TANK.
	5) HIGH-PRESSURE SWITCH FAILURE.	1) MAKE A JUMPER WIRE AND ISOLATE THE SWITCH FROM THE CIRCUIT. IF BAD, REPLACE SWITCH.
	6) TRANSFORMER(S) FAILURE.	1) REPLACE TRANSFORMER(S).
WATER RUNS TO DRAIN ALL THE TIME	1) AUTO SHUTOFF NOT CLOSING.	1) REPLACE AUTO SHUTOFF.
	2) CHECK VALVE ON PRODUCT SIDE NOT HOLDING	1) REPLACE CHECK VALVE.
UNIT PRODUCING WATER TOO RAPIDLY	1) TUBING CONNECTED INCORRECTLY	1) MAKE SURE DRAIN AND PRODUCT LINES ARE CONNECTED PROPERLY.
	2) MEMBRANE FAILURE	1) CHLORINE MAY HAVE PASSED THROUGH TO MEMBRANE. REPLACE MEMBRANE AND CHANGE PREFILTERS. 2) MEMBRANE MISHANDLED OR STORED IMPROPERLY. REPLACE MEMBRANE.
SYSTEM RUNS CONTINUOUSLY.	1) SOLENOID VALVE NOT CLOSING.	1) OPEN SOLENOID VALVE AND CHECK FOR DEBRIS.
	2) CHECK VALVE ON PRODUCT WATER NOT HOLDING.	1) REPLACE CHECK VALVE.
	3) HIGH-PRESSURE SWITCH FAILURE.	1) REPLACE HIGH-PRESSURE SWITCH.
	4) TANK IS NOT FULL.	1) ALLOW ENOUGH TIME FOR TANK TO FILL.
	5) DEMAND IS TOO HIGH FOR SYSTEM.	1) RE-EVALUATE SYSTEM SIZING.

Your Reverse Osmosis system is a highly sophisticated machine. We strongly recommend using only trained & experienced technicians for installation and troubleshooting. To locate the closest authorised service technician contact your dealer or visit us at www.waterworldusa.com.

LCRO LIMITED WARRANTY

Congratulations on the purchase of your WW-USA Water System. WW-USA warrants that the Products identified below are free from material defects in materials and workmanship. Any defective part will be replaced at no charge for the part if any failure caused by the defect occurs within the following time periods originating from the date of original system installation. This Limited Warranty does NOT include freight or labor charges. To place your system under this Limited Warranty, you or your authorized WW-USA dealer must register your equipment with WW-USA within 30 days of the installation date. For service under this Limited Warranty, contact your authorized WW-USA dealer. Retain your receipt along with this Limited Warranty for reference if service is necessary.

The LCRO reverse osmosis system is warranted to be free from defects in materials and workmanship under normal use within the operating parameters listed below. For a period of two years from the date of purchase LCRO will repair or replace any part of the reverse osmosis system with the exception of the filters and electrical components (pump, transformer and switches are only covered for one year).

CONDITIONS OF WARRANTY:

Factory assumes no responsibility for incidental or consequential damages; for damages arising out of misuse of the product or the use of any unauthorized attachment; for damages resulting from improper installation or for damages resulting from the use of the product with a defective plumbing system.

In no event shall the factory be liable for any direct, indirect, special, punitive, incidental, exemplary or consequential damages, attorney's fees or any damages whatsoever, even if LCRO has been previously advised of the possibility of such damages, whether in an action under contract, negligence, or any other theory, arising out of or in connection with the use, inability to use, or performance of the LCRO system.

Factory is not responsible or liable for damage to any part of the LCRO system because of misuse; misapplication; negligence; alteration; accident; installation; neglect; misapplication; physical damage; fouling and/or scaling of the membrane by minerals; sediment; bacterial attack; or operation contrary to our instructions, incompatibility with accessories not authorized for use with the system, or damage caused by freezing, flood, fire, or Act of God.

In no event shall Factory its subsidiaries or affiliates, or their respective officers, directors, employees, representatives, dealers or agents be liable for special, incidental, consequential, punitive, indirect, or other special damages, including but not limited to, loss of data, use, or profits, however caused, whether for breach of contract, negligence or otherwise, and whether or not LCRO has been advised of the possibility of any such damages.

Factory assumes no warranty liability in connection with this reverse osmosis system other than that specified herein. This warranty is in lieu of all other warranties, expressed or implied, including warranties of fitness for a particular purpose.

WARRANTY SERVICE:

Factory will provide warranty service under the following conditions:

1) Contact your local dealer who will obtain return authorization instructions.
2) Ship the unit or part freight prepaid for warranty evaluation or service with RMA # written on package. Systems or parts covered under the warranty shall be repaired (or, at our option replaced) and returned without charge.

CONDITIONS FOR OPERATION
TFC- Thin Film Composite

Source Water Supply

Community/Private	Non-Chlorinated
System Pressure	30-100 psi
Temperature	4°-38° C (40°-100° F)
pH Range	3.0-11.0
Maximum Supply TDS Level	2000 mg/L
Turbidity	<1.0 Net Turbidity (NTU)

Chemical Parameters – TFC

Hardness ($CaCO_3$)	<350 mg/L (<20 gpg)
Iron (Fe)	<0.1 mg/L
Manganese (Mn)	<0.05 mg/L
Hydrogen Sulfide (H_2S)	0.00 mg/L
Chlorine (Cl_2)	0.00 mg/L

Do not use the LCRO System on feedwater pressure above 40 psi. If feedwater pressure is above 40 psi, contact your local dealer for an alternative system not equipped with a booster pump.

Although TFC membranes are designed for non chlorinated feed supply, your LCRO RO system is equipped with double carbon pre-filtration for chlorine reduction prior to the TFC membrane.

LCRO Series

DRINKING WATER SYSTEMS

WATER® WORLD USA

Member WATER QUALITY ASSOCIATION

Assembled in USA