REVERSE OSMOSIS SERVICING

SUITS RON, RONS, ROP AND ROPS UNITS

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IMPORTANT

Read through the <u>entire instruction manual before beginning installation.</u> Sentry is not responsible for any damage, injury, or monetary loss incurred from failure to read and follow the instructions explicitly. The installation of your system must be done by a local certified plumber who has knowledge of your water conditions and local council bylaws if applicable.

<u>IMPORTANT NOTES [REQUIRED BY AUSTRALIAN AND NEW ZEALAND STANDARDS:</u>

- **For the correct operation of this appliance it is essential to follow these instructions during servicing.**
- **We strongly recommend that all systems are serviced by a licensed plumber.**
- **To be AS3497 compliant this system needs to be installed using a Watermark/AS3497 pressure limiting and backflow prevention device. Leak detection shut-off devices are also strongly recommended.**
- **This system should be mounted <u>vertically</u> and be positioned to allow easy access for servicing and filter changes.**
- **Once the servicing is complete the operator should inspect for leaks at threads and tube fittings.**
- **Flush system and drain tank after a period of non-use exceeding 7 days.**
- **Use only cartridges suitable for this appliance and tighten housings very firmly using spanner provided.**
- **Systems installed under constant feed water pressure have a recommended maximum service life of 10 years.**
- **Do not use with water that is microbiologically unsafe or with water of unknown quality without adequate disinfection before or after the system. Systems certified for cyst reduction may be used on disinfected water that may contain filterable cysts.**
- **Where advertised that a system has a standard 12 or 24 month warranty, the following applies:**
    - **System must be installed by a licenced plumber.**
    - **System must be installed with a certified pressure limiter.**
- **Where advertised that a system has a life-time warranty, the following applies:**
    - **System must be installed by a qualified and licensed plumber according to the above.**
    - **Wherever the term “lifetime” is used it is based on the maximum lifetime of 10 years.**
    - **System must be installed with a certified pressure limiter and leak detection device.**
    - **Unit to be serviced with our filters at least annually and evidence of purchases shown.**

TIPS

- In most instances you will be able to order replacement filters and spare parts for your unit by simply quoting or searching your systems model number which can be found printed on a sticker on the front of the bracket or membrane housing.
- Change only one filter cartridge at a time, this way you are less likely to become confused about how the system was originally assembled.
- If you are unsure about how the filters should be connected, take photos of the unit before disconnecting any fittings or tubing so that you can be sure of how the unit should be assembled when you are putting it back together, alternatively marking tubing with masking tape tags before disconnecting can help.
- Always inspect all parts and O-rings/seals before re-fitting them to the unit. Check for cracks or damage to housings, O-rings, fittings and tubing. If any parts appear to be damaged, they will need to be replaced, they can be ordered through us over the phone.
- It is recommended that you use a silicone based O-ring lubricant on all seals before re-assembling you unit. The lubricant will protect the O-rings and will help with tightening housings. Do not use petroleum based products such as Vaseline as these will damage the rubber and may cause future leaks.

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USING QUICK-FIT FITTINGS

Quick-fit fittings are a simple and quick way of creating secure, leak-free connections between tubing and system parts. Quick-fit fittings do not require the use of olives or inserts like most compression style connection fittings and are much faster to connect and disconnect when required.

CONNECTING

Connecting tubing to a quick-fit fittings is about as simple as it gets. Simply follow the below instructions and should be able to quickly and efficiently form a connection without any trouble.

1. Cut your tubing to the length you need it. You should always cut your tubing with a razor blade/Stanley knife or similar so that you have a clean, straight cut with no burrs. Once you have cut the tube, if the end of the tube has flattened out at all, roll the end between your fingers until it is round again. Make sure there is no scoring or cuts down the side of the tube.

2. Push the tubing into the quick-fit fitting as per **Figure 1**. You will feel the tube hit resistance about 1cm into the fitting, this is the sealing O-ring. Push the tube a little harder and you will feel the tube push through the O-ring about another 5mm and hit the stopper inside the fitting. Your connection is now made and sealed.

3. Check for leaks when you turn your water back on. If the fitting leaks the tube may not be pushed in enough, or the end of the tube may be damaged/not cut properly.

DISCONNECTING

Disconnecting tubing from a quick-fit fitting isn't quite as simple as connecting the tubing, however it is still a simple process once you know what you are doing. Simply follow the instructions below and you should be able to quickly and easily disconnect tubing from a quick-fit fitting.

1. Locate the locking collar on the quick-fit fitting. The locking collar is the small round collar that the tubing goes into on the end of the fitting as per **Figure 2**.

2. Push the locking collar flush against the fitting as per **Figure 3** and whilst firmly holding the locking collar back against the fitting, gently pull the tube out from the fitting. The tube should slide easily from the fitting. If you find yourself using quite a bit of force, try pushing the tubing back into the fitting, holding the collar back against the fitting even firmer and pulling the tube out again. Sometimes you can use a pair of pliers or a fork to hold the collar back if your find it difficult to do with your fingers.

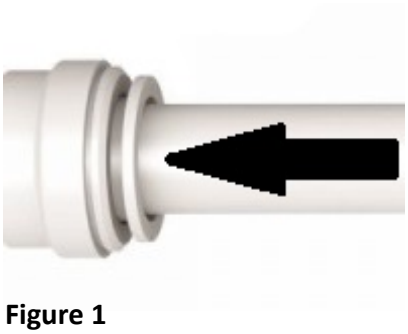

Figure 1

Figure 2

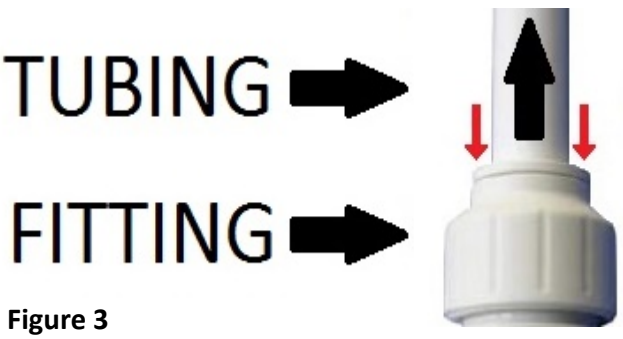

Figure 3

PRE-MEMBRANE FILTERS

TURNING OFF UNIT:

1. Close the inlet ball valve on the feed water line so that there is no water running to the system.
2. Close the blue and white ball valve on the top of your storage tank.
3. Open the small faucet on your bench-top so that the system depressurises.

REMOVING PRE-MEMBRANE FILTERS:

1. Unscrew the vertical pre-membrane filter housings. Use the housing spanner that is included with your installation kit (**Figure 6**). If the unit is mounted vertically you should be pushing the spanner to the left to loosen the housings, or to the right to tighten – it is a standard right hand thread.
2. Pour the water that is in the housings down the drain and remove the old cartridges. Discard the old cartridges – filter cartridges are generally not considered to be recyclable, dispose of in a regular bin.
3. Check the inside of the housing sump and the housing cap for any signs of cracks or damage that may warrant replacement and also check all of the rubber O-rings to ensure that they are still in a usable condition. O-rings that show cracks or that colour your fingers black when touched should be replaced.

FITTING PRE-MEMBRANE FILTERS:

1. Unwrap the SEDIMENTARY and CARBON pre-filters (**Figure 4**). Check that the two flat rubber/silicon washers at either end of the carbon filter/s are in place and have not fallen out during unwrapping.
2. Insert the SEDIMENTARY and CARBON pre-filters into the pre-filter housings (**Figure 5**). Make sure the filters sit on the central locating ring at the bottom of the housings.
3. Screw the housing sumps onto the housing caps on the unit. This should be done whilst the housings are vertical to make sure that the filters locate centrally within the housing. Installing whilst laying flat can cause the filters to jam in on an angle and not seal properly. Take note of the labelling on the system, the sedimentary filter should be in the left hand housing and the carbon filter/s should be in the right hand housing/s (**Figure 5**). You should be able to screw the housings most of the way by hand, if you are unable to screw the housings by hand it may indicate that one of the filters is not straight.
4. Tighten the housings **firmly** with the housing spanner (**Figure 6**). If the housings are not tightened properly you risk an O-ring failure, the sump and cap should be no more than 1mm apart.

Figure 4

Figure 5

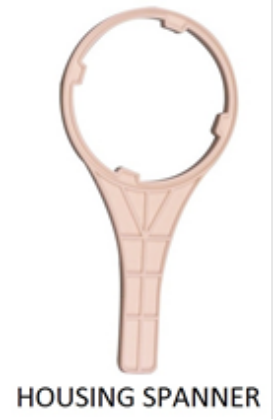

Figure 6

MEMBRANE

TURNING OFF UNIT:

1. Close the inlet ball valve on the feed water line so that there is no water running to the system.
2. Close the blue and white ball valve on the top of your storage tank.
3. Open the small faucet on your bench-top so that the system depressurises.

REMOVING MEMBRANE:

1. Disconnect the tube that runs to the inlet of the membrane housing, the inlet fitting is the one located on the screw cap on the end of the membrane housing (**Figure 7**).
2. Unscrew the cap of the membrane housing, the cap should be turned counter-clockwise to loosen.
3. Remove the membrane element by gripping the plastic core with a pair of pliers and pulling. If the membrane is stuck tight, try twisting/rotating the membrane whilst pulling.
4. Check the inside of the housing cap for any signs of cracks or damage that may warrant replacement and also check all of the rubber O-rings to ensure that they are still in a usable condition. O-rings that show cracks or that colour your fingers black when touched should be replaced.

FITTING MEMBRANE:

1. Remove the new RO membrane from its bag. **DO NOT REMOVE THE BLACK RUBBER SKIRT/RING.**
2. Insert the membrane into the housing in the same orientation that the old membrane came out, so that the end with small O-rings goes in first and the end with the rubber skirt goes in last (**Figure 8**).
3. Push the membrane so that the core seats within the end of the housing, you will know that the membrane is fully seated when the plastic core is level with the rim of the membrane housing.
4. Re-fit the cap and tighten the housing **firmly** by hand. If the housing is not tightened properly you risk an O-ring failure. Always make sure that the O-ring is in place before re-fitting the cap.
5. Re-connect the tube to the inlet of the membrane housing.

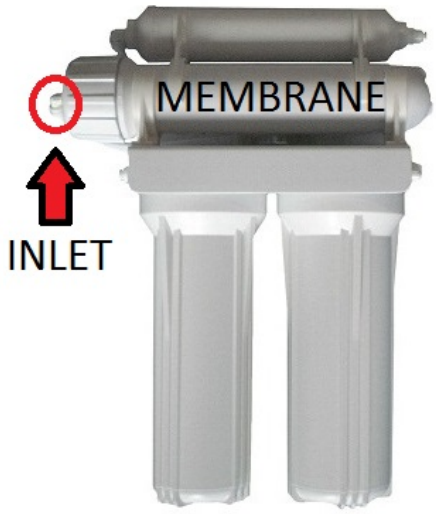

Figure 7

Figure 8

POST-MEMBRANE FILTERS

NOTE: ONLY ONE CARTIDGE SHOULD BE CHANGED AT A TIME TO PREVENT ERRORS WHEN FITTING.

TURNING OFF UNIT:

1. Close the inlet ball valve on the feed water line so that there is no water running to the system.
2. Close the blue and white ball valve on the top of your storage tank.
3. Open the small faucet on your bench-top so that the system depressurises.

REMOVING THE POST-MEMBRANE FILTERS:

1. Disconnect the tubes from both ends of the filter.
2. Take note of the flow direction of the filter, a flow arrow should be stamped onto the filter. If the filter has right angle fittings at either end, take note of the direction that these point.
3. Pull the filter from the clip brackets that hold it to the system, being careful that the brackets remain clipped to the system and not the filter.
4. Unscrew the tube connectors from both ends of the filter. Note that if you ordered new fittings with your filters that this step is unnecessary and the fittings may be discarded with the filter.

FITTING THE POST-MEMBRANE FILTERS:

1. Apply thread tape to the connector fittings and screw them into the new filter. Be careful that you do not over tape them or over tighten them as it can crack the thread on the filter or fitting.
2. Push the new filter back onto the clip brackets on the system so that it is positioned in the same way that the old filter was, taking note of the flow direction and where the connectors are pointing.
3. Re-connect the tube to both ends of the filter.

UV STERILISER LAMP

Always use caution when servicing UV units, the light from these units can seriously harm your eyes. **NEVER** look at a UV lamp when it is operating the light emitted from these units can cause permanent eye damage, even with eye protection you are not safe, always unplug these units before servicing.

Do not touch the glass on the new lamp, oil from your skin will cause hot spots on the glass surface and cause the lamp to fail prematurely. Always hold the new lamp by the end cap or by the wires when handling, if possible leave the lamp in its plastic sleeve until you have to fit it to the housing. If you touch the glass of the lamp it can be cleaned with an isopropyl alcohol wipe before use.

REMOVING THE UV LAMP

1. Turn off the power to the unit and unplug it from the wall socket, allow 30 seconds to ensure that the unit is fully discharged.
2. Slip the lamp out of the stainless steel reactor housing. Pull the rubber boot off of the end of the housing and slide the bulb out.
3. Unplug the lamp socket from the end of the lamp. Some lamps will have a single 4 pin plug on one end, some will have two pins at either end, for these units simply pull each wire from each pin.

FITTING THE UV LAMP

1. Plug the lamp socket/s into the end of the new lamp
    a. For lamps with 4 pins at one end, simply push the socket onto the end of the lamp, the pins are arranged in a rectangular pattern, the socket will only fit in one of two orientations, either orientation is fine. Make sure the pins line up with the socket before pushing them in.
    b. For lamps with 2 pins at both ends, simply push the sockets on the wire ends onto the pins on the lamp. The wires will be arranged into pairs, one pair for each end of the lamp, it doesn't matter which socket goes onto which pin in each pair.
2. Slip the lamp into the stainless reactor housing. Push the rubber boot onto the end of the housing to seal the lamp in and to prevent light from escaping.
3. Plug the unit back into the power supply and turn the power back on, if the lamp is operating properly the LED on the power pack should illuminate, alternatively after an hour of operation the housing should feel warm.

FLUSHING THE SYSTEM

Before the system can be used the filters and housings must be flushed. Failure to flush the system may result in a poorer than expected water quality and can affect the taste/appearance of the water. This is also a good time to check for leaks and the system should be closely monitored during this flushing period.

1. Double check all of the tube connections, ensure they are all connected and secure in the quick-fit fittings, and that all compression fittings are done up firmly.

2. Ensure all of the pre-filter housings are fitted and tightened firmly using the plastic housing wrench included with the system. The gap between the sump and the cap of the housing must not be more than 1mm.

3. Open the valve on the faucet. On a standard black-lever style faucet this can be achieved by lifting the lever up. On premium 90 degree turn type faucets simply turn the lever.

4. Close the plastic ball valve on-top of the holding tank so that the lever is across the tubing NOT in-line with it.

5. Slowly open the steel ball valve on the feed water connection/slip-joint. Water will begin to flow into the system and fill the pre-filter housings. After a minute or so water should start flowing from the waste line into the drain, water should start flowing from the faucet at a slow trickle soon after.

6. Allow the system to run/flush like this for 60 minutes if the membrane is new, or for 20 minutes if the membrane has not been changed. During this period check all connections for leaks. If any leaks become apparent, turn off the water and fix accordingly.

7. After 60 or 20 minutes, open the plastic ball valve on-top of the holding tank so that the lever is in-line with the tube, this will allow the tank to drain and will flush out the post-membrane filter/s. Wait until the tank is empty. When the water first comes out it may be black/grey as the carbon fines in the post-membrane filters rinse out, this is normal.

8. Close the faucet and allow the system some time to fill the holding tank. Depending on the size of the tank and the feed water pressure it normally takes between 30 and 120 minutes to fill the tank. The easiest way to tell If the tank is full is that it is heavy and the waste water stops flowing down the drain.

9. If there is still black carbon fines in the water the tank may need to emptied one more time.

Once the tank has fully refilled and the waste water has stopped flowing, the system is ready for normal use. Simply open and close the faucet as you need water.

Over the coming days periodically check the unit for any slow leaks, if any become apparent shut-down the unit and repair accordingly.

SYSTEM MAINTENANCE

Your unit will require periodic filter changes and servicing to maintain an optimum water quality. These filter changes must also be undertaken at specified maintenance intervals as described in the system manual. You should not stray from the recommended intervals as this could void your warranty, unless otherwise directed by one of our sales representatives. If you are unsure about your usage and best service interval, give us a call and we can advise you on any changes that need to be made.

1. **PRE-FILTERS**
   The pre-filters are the two or three vertical housings on the bottom of your unit. Pre-Filter maintenance will vary depending on water quality and water usage. We recommend changing pre-filters every 6 months with normal system use on average town water.
   Pre-filters may last longer if your system sees low usage or has exceptionally good feed water quality. Filters must be changed no less frequently than once every 12 months to maintain warranty. Failure to change pre-filters early enough can damage your RO membrane.

2. **RO MEMBRANE**
   The RO membrane is the larger horizontal housing mounted on-top of the unit. RO membrane maintenance will vary depending on feed water quality and water usage. We recommend changing the membranes every 3 years with normal system use on average town water.
   The RO membrane may last longer if your system sees low usage or has exceptionally good feed water quality. The RO membrane must be changed no less frequently than once every 4 years to maintain warranty. Reduced water production or quality may indicate a fouled or ruptured membrane. A TDS meter can be used to monitor the health of the membrane.

3. **POST-FILTERS**
   The post-filters are the thinner horizontal filters mounted on-top of the unit. We recommend changing pre-filters every 12 months with normal system use on average town water. Filters must be changed no less frequently than once every 12 months to maintain warranty.
   System with UV sterilisers fitted should also have the UV bulbs changed as soon as they blow or every 12 months to maintain effectiveness.

4. **CLEANING**
   It is recommended that the filter housings are cleaned/sanitized when filters are changed to help prevent bacterial build up or colonisation within the housings and to ensure a clean system after every service.

Replacement filter kits are available through our shop front and through our online store. Simply search or quote your systems model number which can be found on both your invoice and on a sticker on the front of your unit, and we will direct you to the suitable filter kit for your unit.
We offer these kits in 6 and 12 monthly service kits, as well as complete filter change kits. We also sell the filters and RO membranes individually if only one filter should be required.

We also offer a number of different specific manuals including trouble-shooting, part replacement and accessory manuals that are also available on request.

SYSTEM SCHEMATIC

Below is a typical system lay-out. Note that this may vary from your unit and this schematic is a representation of the most common lay-out for a system.