

SYSTEM FEATURES



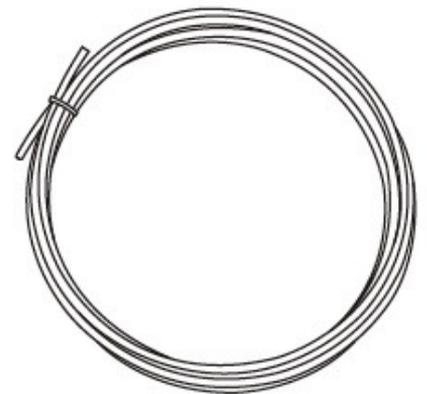
INCLUDED PARTS



Housing Wrench



Feed Water
Connector



Colour Coded Tubing

Please ensure that all included parts have been received. In the unlikely event that any parts are missing or have been damaged, please contact us immediately.

SYSTEM OPERATION

The Reef Pure RO Systems - 5 Stage Essentials RO/DI System has been designed to produce up to 50 GPD (189 LPD). That is approximately 7.9 litres per hour.

There are a number of environmental factors that can vary the amount of water being produced by your system and these include; tap water pressure, water temperature and the TDS of your tap water.

The recommended minimum water pressure should be a minimum of 50 psi. If the feed in water pressure is below 50 psi, you will experience a reduction in overall performance. This will include a reduced amount of RO/DI water and a lower salt rejection from your RO membrane, resulting in a higher TDS reading.

If your home's water pressure is below 35 psi, we strongly recommended the installation of a HF-8367 RO Booster Pump (sold separately).

The system is designed to work with a 4:1 wastewater to production water ratio. This means that for every 1 litre of RO/DI water produced, 4 litres will be diverted to the wastewater line. This water is not suitable for use in your reef aquarium as it contains all of the rejected salts that your RO membrane has filtered out.

It is possible to halve the amount of wastewater produced by your system and almost double the amount of production water. This can be done by upgrading your system to the '5 Stage 100 GPD Premium RO/Di System' by using our '100 GPD Premium Upgrade Kit' - SKU: PRM-UPG-KIT

CAUTION:

- Never use hot water (water warmer than 45°C). Using warm or hot water will cause permanent damage to your RO membrane, requiring the membrane to be replaced.

FILTER INSTALLATION INSTRUCTIONS

REFILLABLE DEIONISATION CARTRIDGE INSTALLATION

1. Begin by removing the cap from the cartridge and setting the cap & foam insert aside.
2. With the cartridge on a flat working surface, begin filling the cartridge with DI resin by slowly shaking and tapping the bag, avoiding any spills.
3. Once you have filled the cartridge 3/4 of the way, stop and give the cartridge a few gentle taps on a bench top to make sure that the resin is packed as tight as possible.
4. Continue filling the cartridge. Once completed, tap it a few more times to ensure it is packed tightly, making sure that you have left enough room for the foam insert and cap to be replaced.
5. Make sure the threads are clear of any resin beads before replacing the cap. This will make it easier to screw the cap back on as well as ensure a water tight seal.
6. Using the palm of your hand, apply even pressure to the cap whilst screwing it back on.
7. When installing the DI cartridge into the housing, ensure that the cap is on the top with the rubber seal facing up.

IMPORTANT: Packing the resin as tightly as possible is critically important to reduce the risk of channelling during the production of water. Channeling will allow high TDS water to bypass the resin during water production.

REVERSE OSMOSIS MEMBRANE INSTALLATION

1. Begin by disconnecting the 1/4" tube from the connector attached to the membrane housing cap.
2. Unscrew the cap from the membrane housing and insert the membrane into the housing.
3. Ensure that the end of the membrane with the black rubber seal is on the open end of the membrane housing.

IMPORTANT: It is critical that the membrane is pushed in firmly and as far as it can possibly go. Not doing so could allow high TDS water to bypass the membrane and make its way into your product water, exhausting your DI resin prematurely.

4. Once the membrane has been firmly seated, seal the membrane housing by replacing the cap and tightening.

INSTALLATION

1. Connect your RO/DI system's white inlet tube to a tap water source using the included feed water connector.
2. Direct the red or black wastewater tube to a drain. This water contains all of the contaminants that your system has rejected and should be disposed of.
3. The yellow or blue tube will link the RO system to the input of your DI resin stage and also deliver the filtered RO/DI water from the output of your DI resin and should be directed to a suitable storage container.

We strongly recommend the use of plastic containers made from HDPE as these are known to be reef aquarium safe. Look for the following symbol:



4. Once all connections have been made, you can turn on the feed in tap.
5. The system will now need to run for 1 hour and all water produced during this time must be discarded. This is a good time to check for any leaks and ensure that all connections are sealed.

This process allows the system to flush out any trapped air, preservatives used in manufacturing and fine particles from carbon filters. The system can be used as normal after this process has been completed.

IMPORTANT:

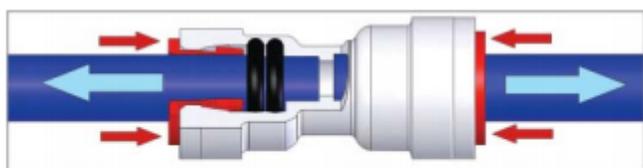
Step 5 will need to be repeated each time carbon filters or membranes have been replaced.

MAINTENANCE

The frequency in which you will need to replace your pre-filters will vary dramatically based on the the quality of your home's tap water and how much water you have produced/filtered with the system. We recommend changing your pre-filters every six months as a general rule.

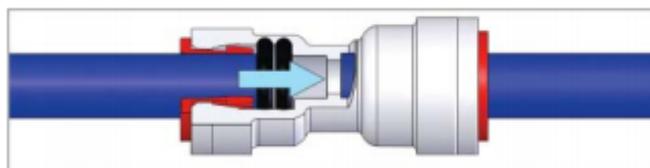
From time-to-time, it may be necessary to remove or replace tubing into push-connect fittings. The diagrams below illustrate how to do this.

To Remove Push-Connect Tubing



Remove the tube by holding the round retention ring tightly against the fitting then pull the tubing away from the fitting while twisting and the tubing should slowly release from the fitting.

To Connect Push-Connect Tubing



Push connect fittings are connected by firmly pushing one end of the tube into the fitting. It is important to push the tubing all the way into the fitting for a complete seal.

5 Stage Replacement Filter Kit - SKU: 5ST-FILT-KITR

This replacement filter kit includes the following:

- 10" x 2.5" 5 Micron Sediment Filter
- Granular Activated Carbon Filter 10" x 2.5"
- Carbon Block Filter Cartridge 10" x 2.5"
- 540g Mixed Bed Colour Changing DI Resin



5 Micron Sediment Filter - SKU: SED-CART-1025

We recommend that sediment filters be changed every 6 months. Due to their very low cost, this is best practice and will ensure that your system is always performing as expected.

If your system has a pressure gauge, monitoring the operating pressure is a great way to know when it is time to replace your sediment filter. As it becomes clogged, the pressure will drop. If the pressure is normal, then you most likely don't need to replace the filter.



5 Micron Carbon Block Filter - SKU: CBF-CART-1025

PurePro carbon blocks are manufactured with high purity coconut shell activated carbon. With high performance, exceptional dirt-holding capacity and the absence of carbon fines, they are perfect for use in reef aquarium RO/DI units, where high chlorine removal is needed.

Granular Activated Carbon Filter - SKU: GAC-CART-1025

PurePro granular activated carbon cartridges are highly effective at removing high levels of chlorine and chloramines. They ensure that even the highest levels of chlorine and chloramine are removed from your tap water.



TW30-1812-50 – 50GPD RO Membrane - SKU: PPM-50-MEMB

Your RO membrane should only require replacement every 2-3 years. It will become evident once your RO membrane needs to be replaced as the TDS reading of the RO/DO water being produced will begin to rise in a noticeable manner.

This can be monitored with an inline TDS monitor such as the HM Digital® DM-1: In-Line Dual TDS Monitor.



Mixed Bed Colour Changing DI Resin - SKU: 570-MBCC-RESI

If your system has a TDS meter installed you can use it to confirm when the DI resin cartridge has been exhausted. The "out" setting on the HM Digital® DM-1: In-Line Dual TDS Monitor measures DI resin performance.

If the TDS measures anything higher than zero, it is time to replace the resin. Remove the cartridge from the RO canister, discard the exhausted resin and reload the cartridge with fresh DI resin. We sell resin in both single use and bulk buy options.

Please note: The colour change is an indicator of the depletion of your DI resin. However, in some cases, certain water parameters can interfere with the colour changing process of this resin. For this reason, it is critical to monitor the TDS of your product water with a TDS meter to ensure that you are aware, once it has become exhausted.



OPTIONAL UPGRADES

Essentials To Essentials+ Upgrade Kit - SKU: ETEP-UPG-KIT

This kit will give you everything you need to upgrade your RO/DI system from an Essentials system to an Essentials+ system.

The kit includes the following items:

HM Digital® DM-1: In-Line Dual TDS Monitor

Pressure Gauge 1/8" M Connection 0-10 Bar



5 Stage To 6 Stage Upgrade Kit - SKU: 5T6-UPG-KIT

This kit will allow you to easily upgrade your Reef Pure RO Systems 5 Stage system to a Reef Pure RO Systems 6 Stage system.

This is done by expanding the existing single DI resin stage bracket to a dual bracket and adding an additional DI resin stage to the system. As a 6 Stage System, you can always be sure that you have a full, non-exhausted stage of DI resin as a final stage, removing all traces of contaminants and impurities from your product water.



50-100GPD Membrane Flush Valve Upgrade Kit - SKU: MEM-FLSH-KIT

This kit will help to significantly increase the usable life of your RO membrane and ensure that it is always working optimally.

Over time, deposits become lodged in the RO membrane and if these deposits are not flushed from the membrane, they will reduce the RO membrane's overall life and performance.



100 GPD Premium Upgrade Kit - SKU: PRM-UPG-KIT

The 100 GPD Premium Upgrade Kit will give your system the ability to produce twice as much water as a system running a standard 50 GPD membrane and will also cut the amount of wastewater in half.

The 100 GPD Premium Upgrade Kit will increase the production of any 50 GPD reverse osmosis system to 100 GPD without having to use any additional water.



FREQUENTLY ASKED QUESTIONS

Why is the TDS coming out of my RO membrane really high when I first turn my system on?

This is perfectly normal and is called TDS creep. This occurs once the system has been turned off and wastewater tries to equalise with pure water in the RO membrane chamber. Once the system has been running for about 5 minutes, this should no longer be observed.

My home's water pressure is below 50 psi, do I need a booster pump?

Your system will operate with water pressure below 50 psi, however it will not function optimally. You will produce more than usual wastewater and your product water will have a higher TDS, which in turn will exhaust your DI resin much sooner. If your home's tap water pressure is closer to 35 psi, then these effects will be significant and troublesome. In this case we would highly recommend the addition of a booster pump.

What TDS reading should I expect out of my RO membrane?

There are a number of environmental variances that will affect the TDS that you will achieve after your RO membrane, before the DI resin stage. The largest factor is the beginning TDS of your tap water, followed by the feed in water pressure. Pure-Pro RO membranes will achieve a 98% salt rejection rate when provided with 50 psi in pressure. This means that if your starting tap water TDS is 200 ppm, then the TDS after your RO membrane would be 4 ppm.

The DI resin on my system seems to become exhausted very quickly, why is this happening?

The rate at which your DI resin will become depleted will vary depending on 2 major factors. The most significant factor is the TDS value of the water being fed into the DI resin stage. The higher the TDS reading of the water coming out of your RO membrane, the more remaining contaminants your DI resin will need to filter, thus exhausting it sooner. Secondly, high levels of dissolved carbon dioxide in your home's water supply will also exhaust DI resin much sooner.

My system is not producing much water or it is taking too long, why?

The RO membrane on this system is rated at 50 GPD (189 LPD). That is approximately 7.9 litres per hour. If your system is producing less than this, please consider that your water pressure may be below the required 50 psi, which is what is required to achieve the 50 GPD (189 LPD).

NEED MORE HELP?

We are always here to help! Please get in touch and let us know how we can assist you...



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