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SAFETY INFORMATION

WARNING: Reef Pure RO/DI Systems are designed for connection to your homes water supply. Failure to adhere to the below points could lead to flooding or system damage.

- Prior to operation check all connections are secure
- Inspect all connections, fittings and tubes for cracks, leaks and bulging hourly for the first 6 hours of operation following installation. Inspect every 6 months thereafter and after any system adjustments, replacing as necessary
- Always turn off the source water connection to the RO/DI system when not in use to prevent flooding in the event of a leak
- Connecting this system directly to your aquarium or aquarium sump is not recommended. Doing so may result in the flooding of your aquarium and harm to your aquarium's inhabitants.
- It is recommended to install the system in an area with appropriate drainage to avoid flooding in the event of a leak
- Do not leave the RO/DI system running and unattended for long periods of time
- Before changing filters or making any adjustments to the system, disconnect the source water connection

SYSTEM OPERATION & IMPORTANT INFORMATION

Reef Pure 4 Stage Nano RO/DI Systems have been designed to produce up to 50 Gallons Per Day (189 Litres Per Day) That is approximately 7.8 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 required to operate correctly is 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 rate of RO/DI water production and a lower salt rejection from your RO membrane, resulting in faster deionisation resin consumption.

Likewise, higher pressures can result in increased water production rates and better system performance. The maximum acceptable pressure for your RO/DI system is 100 psi.

If your home's water pressure is below 50 psi, we strongly recommended the installation of a HF-8367 RO Booster Pump (sold separately).

Most RO/DI systems are designed to work with a 4:1 to 2:1 wastewater to production water ratio. This means that for every 1 litre of RO/DI water produced, 2 to 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.

However, the Reef Pure RO Systems Premium range of systems halve the amount of wastewater produced and almost double the amount of RO/DI water produced. This is achieved by adding an additional RO membrane in series. The second membrane is fed the wastewater from the first membrane, which would have otherwise been discarded by the system.

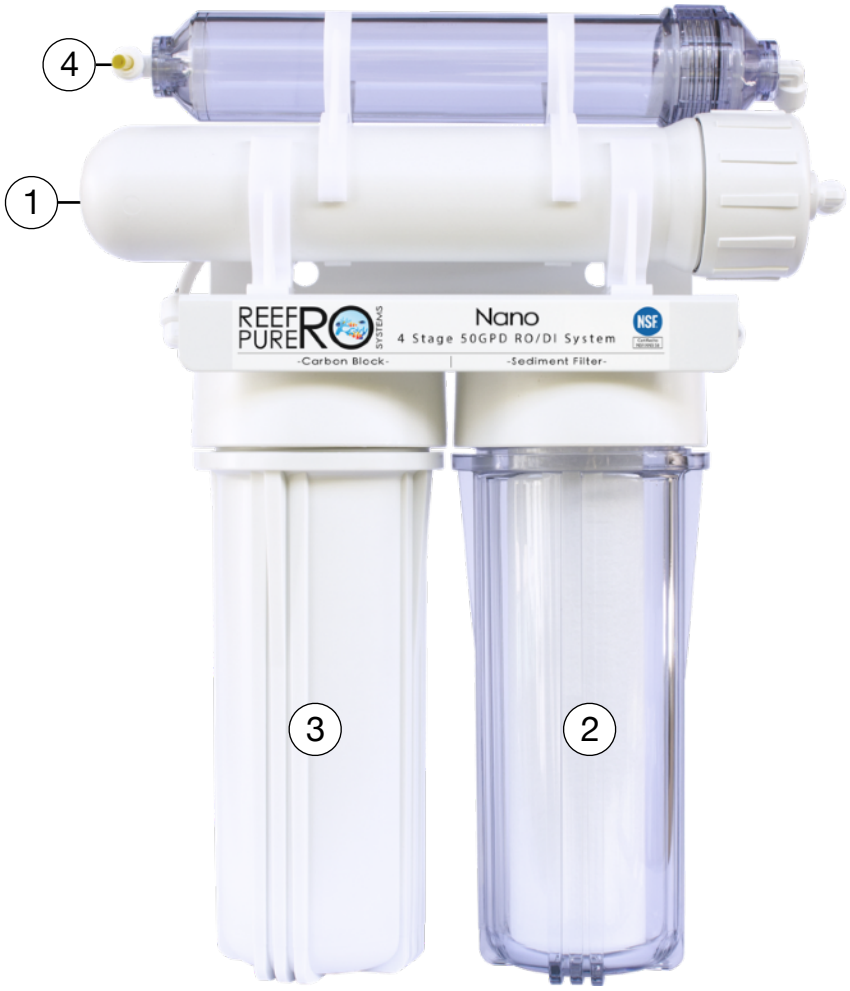
Step-by-step tutorial videos can be found at https://reefpurero.com.au/user-manuals-downloads/ or by searching for the Reef Pure RO System channel on YouTube.

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.

Do not use the system in direct sun as it will deplete deionisation resin cartridges and can quickly heat the system causing permanent damage to the RO membrane.

SYSTEM LAYOUT

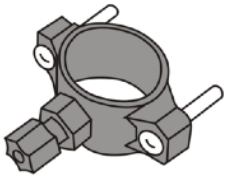
1. 50GPD RO Membrane
2. 5 Micron Sediment Filter
3. 5 Micron Carbon Block Filter
4. Deionisation Resin Cartridge



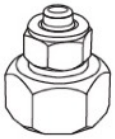
INCLUDED PARTS

Housing Wrench

Colour Coded Tubing



Wastewater Drain Connector



Feed Water Connector

50GPD Thin Film Composite Reverse Osmosis Membrane

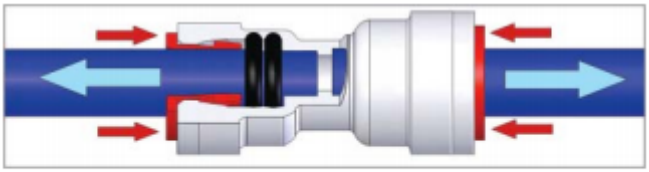
Please ensure that all included parts have been received. In the unlikely event that any parts are missing or have been damaged, please contact us immediately.

FILTER INSTALLATION INSTRUCTIONS

CONNECTING AND DISCONNECT QUICK CONNECT FITTINGS

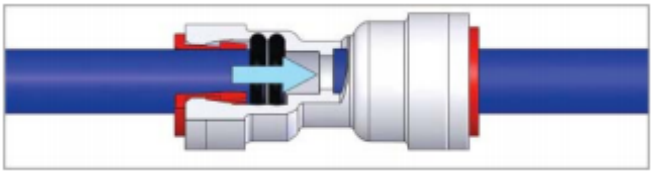
Quick connect fittings can be found throughout the RO/DI system and can be connected and disconnected by following the below instructions. We recommend familiarising yourself with them before moving on.

Disconnecting Tube From Quick Connect Fittings:



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

Connecting Tube To Quick Connect Fittings:



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

REVERSE OSMOSIS MEMBRANE INSTALLATION

1. Begin by disconnecting the 1/4" tube from the connector attached to the membrane housing cap or pressure gauge, depending on your model. Note: Premium systems feature two RO membranes, one with a pressure gauge, and one with a quick-connect fitting.
2. Unscrew the cap from the membrane housing and insert the membrane firmly into the housing ensuring that the end with the 2 rubber o-rings is inserted first. Twisting the membrane slightly while inserting can assist the connector to seat properly in the housing. Once fully inserted, no part of the membrane will protrude from the membrane housing.
3. Once the membrane has been firmly seated, seal the membrane housing by replacing the cap and tightening.
4. Reconnect the RO tube(s) ensuring they are connected back to their original connectors. Note: Typically tubes that were connected to pressure gauges can be easily identified by the distinct groove left by the connector. If unsure refer the the flow diagrams on pages 9 and 10.

The frequency at which you will need to replace your RO Membrane(s) will vary 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 RO Membrane every 18 months to 2 years as a general rule.

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.

FILTER INSTALLATION INSTRUCTIONS

REFILLABLE DEIONISATION CARTRIDGE

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 replaced, about half a centimetre.
5. Make sure the threads are clear of any resin beads before replacing the foam insert and 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 rubber seal is on the top facing up.

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 the resin during water production.

The frequency in which you will need to replace your Carbon & Sediment 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 6-12 months as a general rule.

SYSTEM INSTALLATION

1. Start by positioning your RO/DI system in the location it will be utilised in, close to an available water source and drain connection, making sure to keep it out of weather and direct sun.
2. The **white** tube is the tap or source water line. Start by connecting one end of it to a tap water source using the included feed water connector. The other end is then connected to your systems Sediment filter inlet, identifiable by the small piece of white tube which comes pre-inserted (this is just for your reference and can be discarded).
3. The **red** (or black) tube is the wastewater line. Connect one end of it to the RO membrane housing's wastewater connector, identifiable by the small piece of red (or black) tube which comes pre-inserted (this is just for your reference and can be discarded). The water this tube produces contains all of the contaminants that your system has rejected and should be disposed of. We recommend directing it to a drain utilising the Wastewater Drain Connector if necessary.
4. The **yellow** (or blue) tube is the production water line.
    A. This will be connected to the DI resin stage, identifiable by the small piece of yellow tube which comes pre-inserted (this is just for your reference and can be discarded). This tube can then be directed to your RO/DI water storage container.
5. Once all connections have been made, you can turn on the feed in tap.
6. 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.

Step 6 will need to be repeated each time carbon filters or membranes have been replaced.

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

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 65 PSI, DO I NEED A BOOSTER PUMP?

Your system will operate with water pressure below 65 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 50 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 for a single membrane or 65 psi for 2 membranes installed in series. 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 membranes on this system are rated at 50 Gallons Per Day (189 Litres Per Day) for Essentials/ Essentials+ systems and 100 Gallons Per Day (378 Litres Per Day) for Premium systems. That is approximately 7.8 litres per hour for Essentials/Essentials+ systems or 15.8 litres per hour for Premium systems. If your system is producing less than this, please consider that your water pressure may be below the required 65 psi, which is what is required to achieve the specified water production rates.

Need More Help? We are here for you! Please get in touch and let us know how we can assist you…
1300 110 805
contact@reefpurero.com.au