

# D-Deltec aquarium solutions Ltd.

## Installation and Operating Instructions for D-D Compact R.O. Unit.

### Applies to model Numbers RUW049 and RUW099

Capacity: RUW049 – 50 US Gallons, (41 UK Gallons / 189 lts) per day. (At full mains water pressure)  
RUW099 – 100 US Gallons, (82 UK Gallons / 375 lts) per day. (At full mains water pressure)

Congratulations on your decision to purchase one of our quality **D-D Reverse Osmosis Units**.

### Basic Principles

Reverse osmosis is a method of purifying water by forcing it under pressure past a semi permeable membrane and reversing its natural osmotic pressure. The membrane is designed such that small molecules of pure water can pass through it but larger particles or molecules with specific chemistry, e.g. phosphates or nitrates, can not and therefore pass by the membrane to waste. The membrane will increase in removal efficiency at higher fluid pressures will never remove 100% of all contaminants.

The membrane will have a varying output according to water pressure and temperature.

The compact units are provided with a sediment pre-filter pod as standard which is supplied loose, (Part no. RUW026). This should be fitted in line before the carbon filter (Part no. RUW025).

### Please read the following instructions carefully before installing your unit.

The main unit comes fully assembled, but you will need to install the membrane and the coloured water pipes as described below.

### To install the membrane

Detach the pod housing from the carbon filter and unscrew the lid by rotating the body.

Remove the membrane from its protective bag and install it as supplied so that the end with the two black sealing rings is inserted into the housing first. This should be pushed into the tube until the other end of the membrane is almost level with the top of the threads. It should be a snug fit.

Screw the cap back onto the housing ensuring first that the O-ring, (4), is in position and tighten by hand. Clip the housing back onto the unit.

### There are three push fit connections for the attaching the coloured pipework to the RO unit;

1 - The feed pipework is coloured white and enters the unit at one end of the smaller carbon filter housing. This pipe should be connected to the mains water supply by utilising the tap connector, (supplied) or via a permanent connection to an optional self-piercing tap, (Optional part no. RUW101).

In situations where the mains pressure is low or where additional output is required it is advantageous to fit an optional D-D booster pump to increase the water pressure at the membrane, which additionally improves the water quality. (See diagram). This is available from your *D-Deltec* retailer.

If the unit is to be connected directly to another piece of equipment such as an auto top up system we would suggest the installation of a solenoid valve in line. (See diagram).

2 - The pure water flows from the blue pipe, which is connected to the centre of the membrane and should be run to a suitable collecting container or to other process as required.

3 - The waste water will contain an increased concentration of contaminants and is bypassed to the red / orange pipe, which should pass directly to drain or be collected for use in processes that do not require pure water, e.g. watering the garden - **Not suitable for drinking water**.

Before running the unit for the first time ensure that the lid on the membrane pod is screwed on tight and that all fittings are connected. Turn on the mains. Note that at the beginning that water will only exit the unit through the red / orange pipe. Some minutes later a slow flow will commence at the blue water exit pipe. This water is still not pure and contains anti bacterial chemicals. It is therefore necessary to fully purge the membrane for at least 20 minutes before use to prevent potential problems.

It is usual to hear a hiss from the backpressure valve that is built into the waste water outlet coupling.

### Maintenance

The membrane will eventually become blocked and should be replaced. This is determined by periodically monitoring the water quality with standard water test kits.

The pre-filter, if fitted, and carbon filter elements should be replaced regularly as they become blocked and show a subsequent reduction in output volume.

The membrane should not be allowed to dry out and should be flushed at least once per week to prevent a build up of bacteria in the stagnant water.

