D-D aquarium solutions ltd.

Operating Instructions for D-D Multi Function Float Switch System.

RUW12LVP – Top-up System with low voltage Pump.
RUW12LVS – Top-up System with low voltage Solenoid valve.
RUW230MO – Top-up System with mains outlet controller.
RUW2400EX – 2400 mm extension lead for low voltage pump or solenoid.

Congratulations on your decision to purchase a **D-D Multi Function Float Switch System.**

The system is available in three formats as listed above and is suitable for both freshwater and salt water aquariums.

Controlling Evaporative Loss.
In salt water systems the loss of water from the tank is by evaporation is of fresh water only, which will increase the salinity within the aquarium. This can be automatically replenished using a float switch and controller such as the D-D Multi Function Float Switch System. As the float switch rises and falls it switches the controller on and off, which in turn controls a pump or solenoid to top up the lost water. Failure to carry out regular replacement of evaporative loss will result in salinity changes, which will stress the aquarium inhabitants and cause disease.

General Instructions for ALL Float Switch Models.

The float switch can be fitted to either a vertical surface, e.g. a tank wall or a horizontal surface such as a bracing bar.
In all cases the float switch must operate vertically and not at an angle, securing it in place using Screw A. Adjust the height of the float so that it sits at the desired position/water depth and lock using Screw B.

IMPORTANT IMPORTANT IMPORTANT: THE SNAIL GUARD IS AN ESSENTIAL PART OF THE EQUIPMENT AND IT IS THEREFORE IMPORTANT THAT THIS PART IS FITTED TO PREVENT A TRAPPED SNAIL OR WATERBORNE DEBRIS CAUSING A MALFUNCTION OF THE FLOAT SWITCH.

REGULAR MAINTENANCE, (AT LEAST 3 MONTHLY), IS REQUIRED OF THE FLOAT AND SHAFT TO ENSURE THAT NO CORALLINE ALGAE OR CALCIUM DEPOSITS ARE ALLOWED TO PREVENT THE FLOAT FROM MOVING FREELY. THE WHOLE FLOAT SECTION CAN BE FULLY DISASSEMBLED TO CARRY OUT THIS TASK AND SHOULD BE CLEANED IN A SOLUTION OF WEAK ACID.

Top-up System With Low Voltage Pump – RUW12LVP

The unit comes complete with a low voltage controller/mains transformer, 2 pin to 3 pin adaptor (UK Only), low voltage pump, float switch device, snail guard and top up hose. Assemble the components as shown on the attached diagram.

For evaporative top up operation install the pump in a fresh water reservoir or similar container and connect the clear hose to the pump outlet. The other end of the hose should be inserted into the hole that has been provided on the mounting bracket. Ensure during normal operation that this end of the hose does not terminate beneath the water level, as this will cause water to back siphon once the pump is switched off.

Top-up System With Mains Outlet Supply – RUW230MO

This unit can be operated with any suitable 230V pump or solenoid valve in the same way as the low voltage units described in this document. It can also be used in conjunction with other equipment such as an audible alarm or similar.

Top-up System With Low Voltage Solenoid - RUW12LVS

The unit comes complete with a low voltage controller/mains transformer, 2 pin to 3 pin adaptor (UK Only), low voltage solenoid valve, float switch device and snail guard. Assemble the components as shown on the attached diagram.

Important Note: it is possible for any solenoid valve to become blocked by a foreign body from the water supply so that it will not close fully and may still pass water. In order to prevent this occurring it is important that a number of safety systems are put in place as a back up should this occur.

We have shown two methods of operation for the low voltage solenoid valve and have described both systems.

The first method is to use the solenoid valve to control water flow from a reservoir, which is positioned above the tank or sump so that it will naturally siphon out and into the tank/sump. In the case of a solenoid valve or float switch blockage with this installation, the volume of fresh water entering the aquarium is limited by the reservoir volume. (See section on recommended timer backup if reservoir volume is large enough to cause a dangerous salinity drop)

The second method is to connect the solenoid and top up system directly to an R.O. unit to allow continuous replenishment. The volume of water that a mains supply R.O. unit can produce is infinite and therefore potentially disastrous to the aquarium. We would therefore always recommend that the there are at least three safety cut off devices operating on the system. These are:-

1. The float switch and controller itself.
2. The solenoid valve, which should be always fitted between the filter pods and the RO membrane as shown on the diagram.
3. Use of a socket timer prior to the float switch. This is described below and considered essential for mains water feed installations.

Use of a timer as a safety backup should the float switch or controller fail.

To use the timer in this way it is necessary to first determine the duration that the RO unit takes to replenish the evaporative loss from one 24-hour period. Mark the position of the water level at its normal running depth in the sump or aquarium and then leave for a period of 24 hours without adding any more top-up water. Set the top up system running and measure the time taken to refill back to the mark.

With this information, the timer can now be set to just longer than the required time for full top up. If the float switch or level controller now fails, the timer will still switch off the fresh water supply and the aquarium will not become flooded. Be aware that his fill time may vary seasonally with evaporation rate.

Kalkwasser.

One of the uses of the Multi Function Float Switch System can be to administer Kalkwasser through a 'Deltec Kalkwasser Stirrer'.

Kalkwasser, (saturated limewater), is one of the oldest and most widely established methods of adding calcium to the reef aquarium first introduced by Peter Wilkinson a Swiss aquarist. It is made by dissolving calcium hydroxide powder in freshwater to produce a strongly alkaline saturated solution that contains free calcium and hydroxide ions. The solution however is highly reactive with CO2 in the air and must be produced and stored in airtight conditions to prevent a reaction forming insoluble calcium carbonate.

In addition to adding calcium, Kalkwasser also has the benefit of adding hydroxide ions, which react to neutralise organic acids in the aquarium that otherwise would exhaust the buffering capacity of the system. It also helps precipitate phosphates from the water, which fuel nuisance algae growth and inhibits calcification of stony corals and counters the natural tendency within the aquarium towards falling pH.

Please refer to the separate instructions for this equipment, which can be downloaded from our web site in PDF format.

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D-Deltec

Multi Function Float Switch System

Innovators of excellence
Exclusive components for all aquarium enthusiasts

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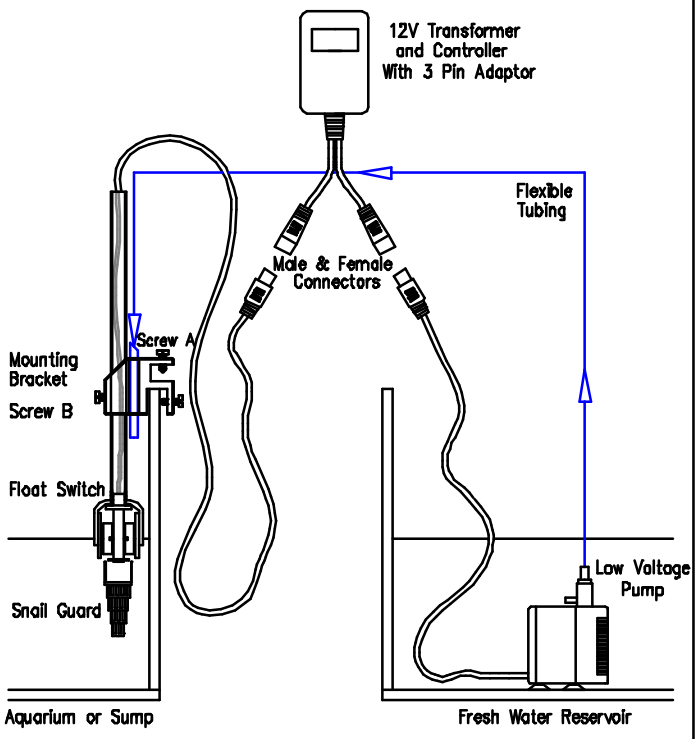
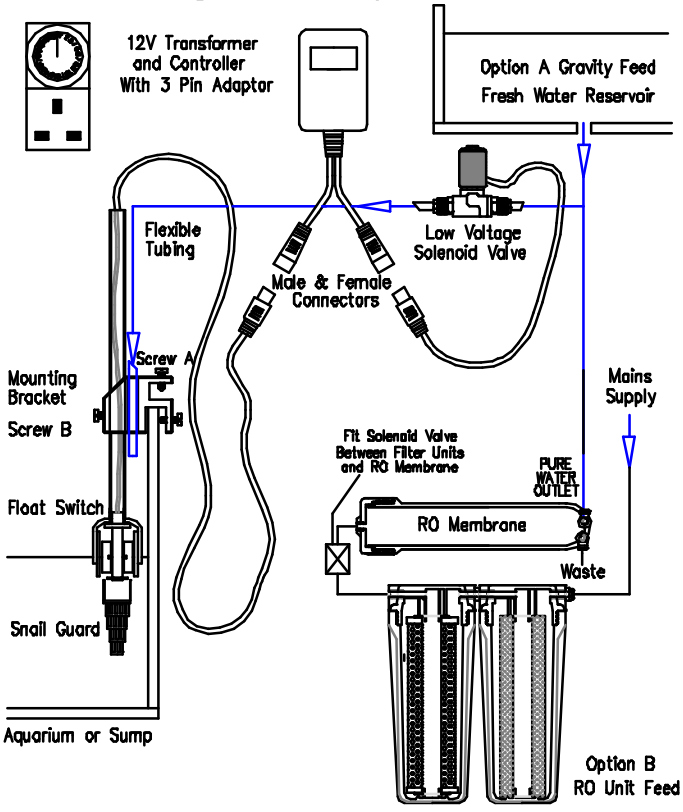
Low Voltage Pump Option - RUW12LVP

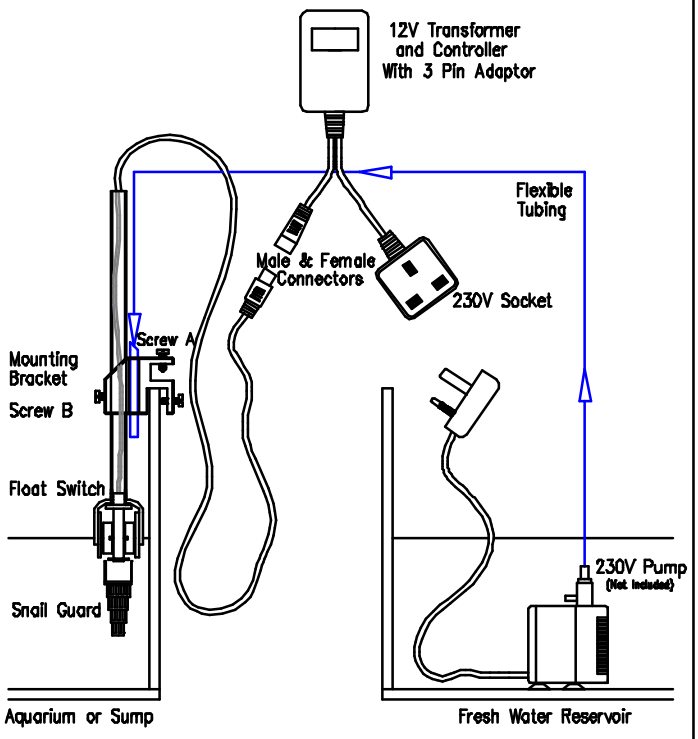


Important Note:
Do not allow clear flexible hose to terminate below the water level in the aquarium due to risk of back syphoning.

Low Voltage Solenoid Option - RUW12LVS



230V Mains Outlet - RUW230MO



Important Note:
Do not allow flexible hose to terminate below the water level in the aquarium due to risk of back syphoning.