

UNIVERSAL MARINE INDUSTRIES

1)



This is the main equalization valve located inside the reservoir.

- Close this valve and fill top tank until water line is 2 inches high in tank.

2)



- After filling the top tank 2 inches high, open the main equalization valve and let all the water drain into the reservoir.

- There should be only enough water in the reservoir to cover the coil located in the bottom of the reservoir.

- Close the main equalization valve and fill the top tank until water is flowing into reservoir through pipe located in the left corner of the top tank

- Turn off water

**** CAUTION: FILLING SYSTEM ANY MORE MAY LEAD TO AN OVERFLOW IN THE EVENT OF A POWER OUTAGE AS ALL THE WATER IN THE TOP TANK WILL AUTOMATICALLY DRAIN INTO THE RESERVOIR**

3)



From left to right. In this picture you see the suction valve, drain spigot and U/V.

- The suction valve is always open.
- The drain spigot is always closed unless draining.
- Valves coming off the U/V are always open.

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This is a picture from the end of the system. Here you can see the main valve which discharges water into the top tank. This valve is adjustable and regulates the flow of water into the top tank. This valve is never completely closed although it may be adjusted after the system is running

You should have water in the tank and enough water in the reservoir to cover the coil. Look through the porthole to visually check that the water covers the coil



4)

At this point you are ready to start your system.

- Plug in the cords labeled **controller & pump** into the power bar accessed via the end gate. There is no need to plug in the U/V until biological filter is fully operational. Arox 1 month
- With the system running open the MAIN EQUALIZATION VALVE and adjust it to where the water level in the top tank is constantly rising a bit to allow water to drain throught the vertical pipe in the top tank.

This picture of the main equalization valve is a good indicator of where the normal operating position of the valve should be.



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BUILDING YOUR FILTER

4)

DRAINING THE SYSTEM

- Attach a hose to the spigot seen here in the middle of the top picture
- While system is running, open spigot.
 - To increase the flow of water draining out of the system locate valve that discharges water into the top tank seen below. This valve is accessed through the end grate and is located to the right of the power bar.
 - Close this valve half way.
 - **CAUTION: SHUT OFF SYSTEM WHEN WATER IS BELOW THE SUCTION VALVE. RUNNING PUMP WITHOUT A FLOW OF WATER MAY BURN OUT THE PUMP.**

5)

This is a picture of your controller.

- The SET POINT is the temperature at which you want your system to stay. This is referred to as SP on the controller. To access SP press the menu key once. You should see SP come up on the screen. To adjust SP click the menu button once more and a number should appear. This is the current SET POINT. To change this simple use the arrow key to scroll up or down depending on your desired temperature.
- To change from Celsius to Fahrenheit press both arrow keys at once.

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•• WASH CORAL/LOBSTER MIX AND CARBON BEFORE PUTTING IN FILTER

STEP 1)

POUR OUT THE CRUSHED CORAL OVER THE HARD NET MAKING SURE TO EVEN IT OUT AROUND THE ENTIRE AREA OF THE HARD NET. YOU SHOULD HAVE AROUND 2 TO 3 INCHES OF CORAL SPREAD AROUND THE BOTTOM EVENLY.

STEP 2)

LAY OUT THE SOFT NYLON NET OVER THE CORAL. YOU WILL NOTICE YOU HAVE AN EXCESS OF NETTING. THIS IS SO YOU CAN FOLD IT BACK OVER THE CARBON MAKING SURE NOT TO MIX THE CORAL AND CARBON, POUR OUT THE CARBON AND SPREAD EAVENLY ON THE SOFT NET MAKING SURE TO COVER THE ENTIRE AREA ABOUT 3/4 OF AN INCH.

STEP 3)

COVER THE CARBON WITH THE EXCESS NETTING.

STEP 4)

PLACE THE GREEN FILTER PAD IN THE TANK FOLLOWED BY THE WHITE FOAM PAD. ALSO REPLACE THE GREY PERF.

YOUR FILTER IS NOW BUILT. PLEASE NOTE THAT IT WILL TAKE TIME TO BUILD UP BACTERIA IN YOUR FILTER. AT OPTIMUM CONDITIONS, THE FILTER SHOULD TAKE UP TO 6 WEEKS TO BE FUNCTIONING PROPERLY. IN THE MEAN TIME YOU WILL HAVE TO CHANGE THE WATER AT LEAST ONCE A MONTH.

REFER TO FILTER MAINTENANCE FOR FURTHER INFO.

Filter Maintenance Instructions

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FILTER DESCRIPTION

The filtration system in your tank consists of three major components. From top to bottom they are as follows: Foam filter pad (a white pad about 1" thick), activated carbon (black pellets or shards), and crushed coral (off-white colored bits of rock). These major elements of the filter are enclosed in various netting and are usually covered by a piece of gray perforated PVC sheeting. To access the filter components you will need to drain almost all of the water from the filter tank and remove the top sheet of perforated PVC sheet, exposing the foam filter pad. After gently removing the pad you will see the activated carbon that is partially wrapped in nylon netting. To remove the carbon, gather the netting in the corners being careful not to spill the carbon into the crushed coral that is exposed after the carbon is removed. The spent carbon has absorbed toxins from the water and after absorbing its limits it will begin to leach them back into the water. If it gets mixed into the coral it will become detrimental to the system.

FILTER MAINTENANCE

The basic filter maintenance cycle is as follows: remove and back wash the foam filter pad monthly, remove and replace the activated carbon semi-annually, knead the crushed coral when replacing the carbon. The coral has a tendency to bind together over time, which restricts the water flow through the filter. The restriction can be so extreme that it appears that the pump has stopped functioning. Water flow restrictions in your system can have serious consequences. Circulation is important for filtration, oxygenation, temperature control, in short everything to do with your system.

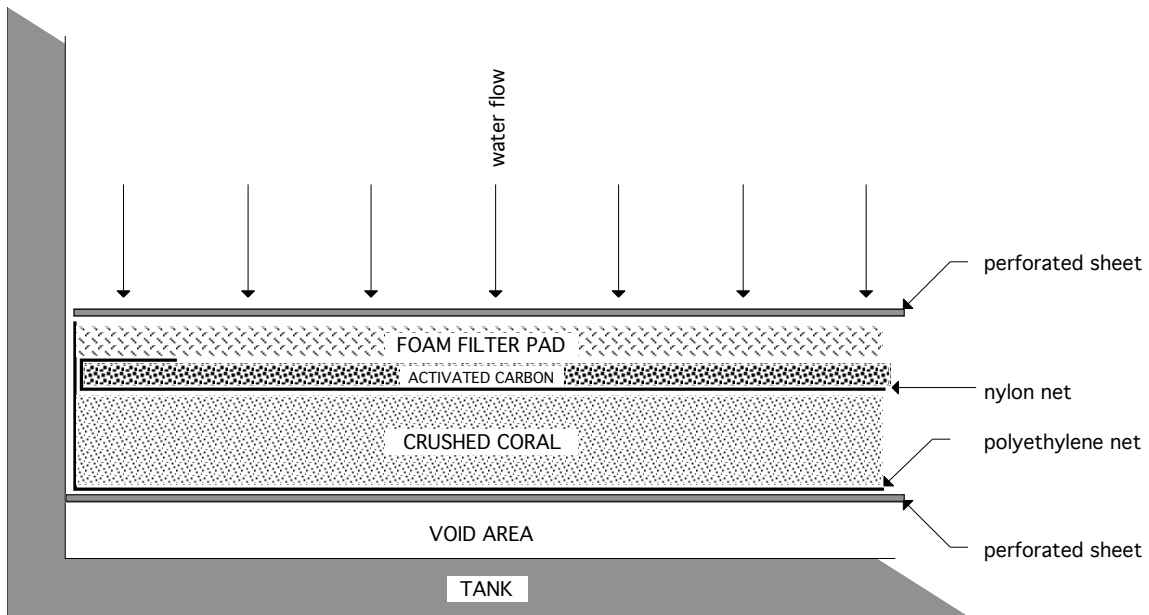
The following page is a cut-away view of the typical Universal Marine Industries installed filter system. If you have any questions regarding this document or the drawing please don't hesitate to contact us.

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Maintenance Schedule for NO-2L

1-3 months

- Gently rinse Filter Pad depending on use
- Change water as indicated for filter break in period

1year

- Replace Carbon –
- Break up and gently rinse crushed coral

3-5 Years

Replace crushed coral,

5 years and on

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Pump may need replacement or repair

Condensing unit may need new fan motor.

Note: water must be changed in relation to biological filter. When first starting up the system, the water should be changed every month. As filter grows, water can be changed every 6 months.

INTER-OCEAN ENTERPRISES D.B.A

UNIVERSAL MARINE INDUSTRIES

Two Year Limited Warranty.

READ CAREFULLY

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Inter-Ocean Enterprises provides a limited warranty for its products for a period of two years. Inter-Ocean Enterprises is doing business as Universal Marine Industries and will be referred to in this document as UMI or Universal Marine.

We stand behind our products and guarantee our custom units to be free of defects for a period of two years starting from date of purchase.

Should you have a question about a product you purchased, or should there be a problem with your product please call UMI at 604-469-6427 for return authorization. Return the product freight prepaid along with proof of purchase to:

Universal Marine Industries

2790 Sunnyside Rd

Anmore, British Columbia, Canada

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Our liability extends to the defective parts only. We reserve the right to deny claims for labour or parts replaced without our knowledge beforehand. All parts must be replaced through UMI or arranged by Universal Marine. Under no circumstances is UMI responsible for costs or damages resulting from product failure. This warranty is considered void if alterations are undertaken without UMI's expressed permission, if the product is used in an improper or unreasonable manner or damaged due to abuse or corrosion. UMI considers damage resulting from freeze-up and/or low flow rates up as improper use and will not cover cracked exchanger shells damaged in this manner. Universal marine is not liable for payment of fieldwork undertaken without prior written authorization.

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