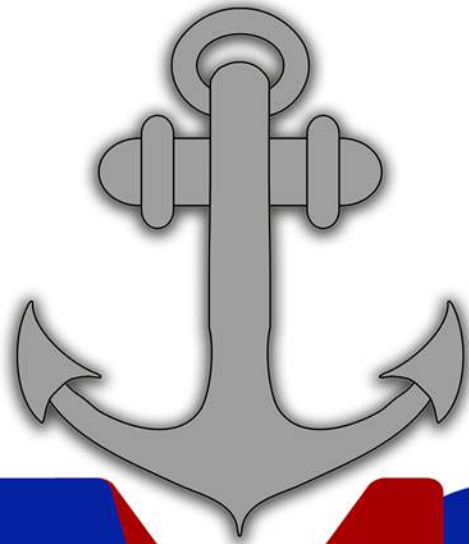


Condensator Kit
Installation, Maintenance,
& Troubleshooting Guidelines



FMS
FREEDOM MARINE
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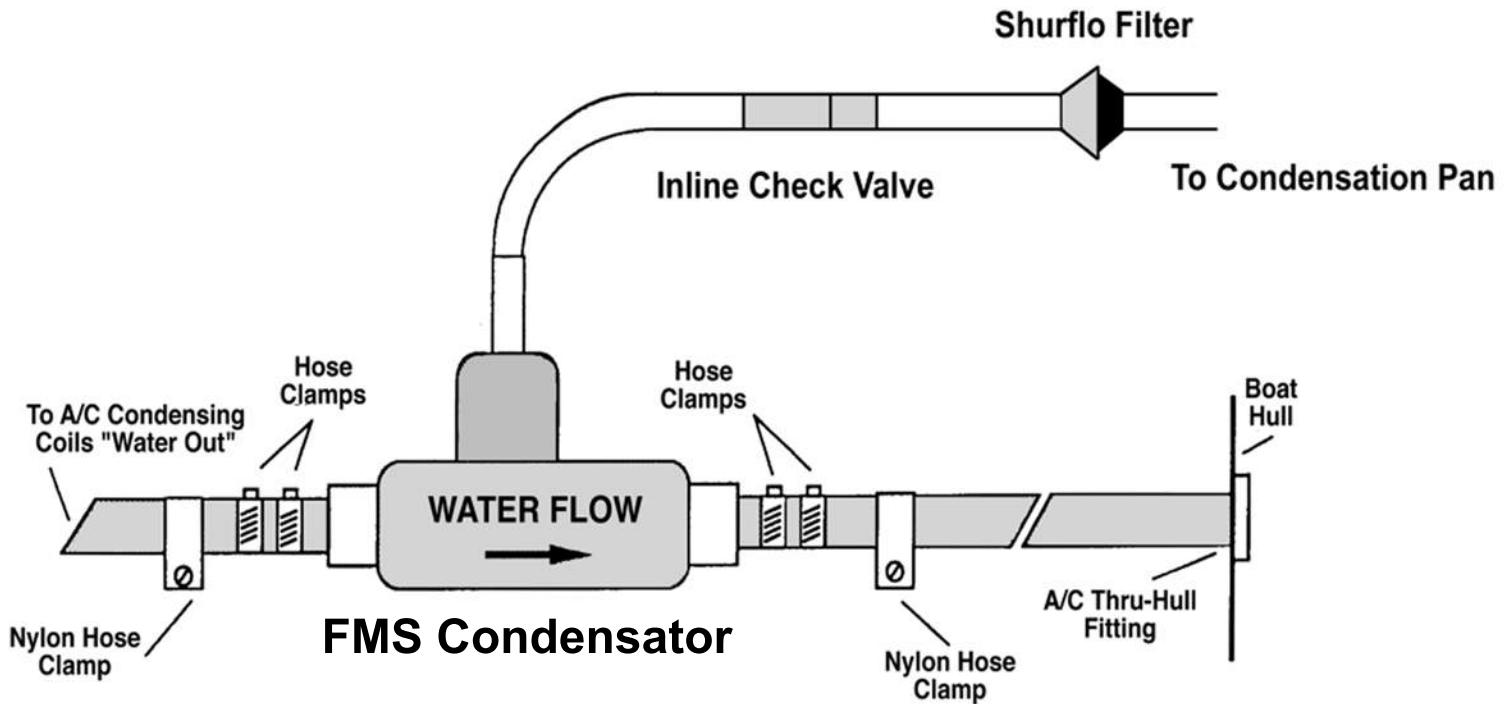
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Warranty Information

Freedom Medical & Marine Solutions, LLC (DBA Freedom Marine Solutions, hereafter “FMS”) offers a 1-year warranty of the Condensator Kit from the date of purchase. Warranty covers defects in workmanship and material. Please contact FMS if you have any questions.

Limitation of liability:

FMS is dedicated to manufacturing high quality custom marine and dehumidifier units. FMS makes this limited warranty expressly in lieu of all other warranties, expressed or implied, including but not limited to, the expressed warranties of merchantability and breach of any warranty the liability of FMS shall be limited to repairing or replacing the non-conforming goods. In no event shall FMS be liable for any indirect, incidental or consequential damages arising out of any sale or operation of the products sold and/or installed. The purchaser of the unit will hold FMS harmless of any incident caused by the failure of the FMS product up to and including injury or death. And in no event shall FMS’s obligation exceed the value of the product(s) sold.



Contents:

- Condensator Kit
- Filter and Check Valve Assembly
- (4) #8 Stainless Steel Hose Clamps
- (4) 3/8" Nylon Hose Clamps
- (2) 1" Nylon Hose Clamps
- (8) 1/2" Stainless Steel Screws
- 8' of 1/4" Clear Drain Hose
- 1' of 1/2" Clear Drain Hose

Tools Required:

- Knife (pocket or utility)
- Flat Blade Screwdriver (Flathead)
- Phillips Screwdriver

Power Tools Not Recommended

Installation Instructions

Warning

This condensator must be installed above the water line or flooding may occur

First, review the contents of the Condensator Kit and then make sure you recognize all the parts. We suggest you read the complete installation instructions before you start. Next, go to your circuit breaker panel and switch your air conditioner circuit breaker to the "OFF" position. If you do not have a circuit breaker panel, make sure the power has been removed from the air conditioner from operating during the installation. At this time, close the seacock to prevent any water flow into the boat while you have the water hoses disconnected.

Warning

Failure to close the seacock before disassembling the water hoses could result in water entering the boat and causing water damage or flooding.

Failure to disable the air conditioner and preventing it from operating may allow the air conditioner to turn on. If this happens, the water pump will operate with no source of water which can cause the pump to overheat and fail. If the air conditioner runs with no water it will also overheat and could lead to damage.

Go to the air conditioner and trace the water-out line from the air conditioner to the thru-hull discharge. Determine where in the water-out line you are planning to put the Condensator. Insure that it can't move while the boat is underway. Remember, you will need to have access to the Shurflo filter to clean it, so check your placement position carefully. As always, a few minutes of planning may save hours of labor.

Installation Steps:

- 1.) Cut the 5/8" water-out hose between the air conditioner and the thru-hull water discharge.
- 2.) On the body of the Condensator, you will note an arrow. This arrow designates the water flow direction through the Condensator. Water flow must be towards the thru-hull discharge. Slide two of the large stainless steel hose clamps onto each side of the cut hose ends. The condensator will not work if installed with the arrow in the direction back to the air conditioner.
- 3.) Slide the two ends of the hose over the barbs on the Condensator body. Insure that you have positioned the Condensator with the correct water flow direction.
- 4.) Secure each side of the Condensator to the hose using the two stainless steel hose clamps.
- 5.) Using the two 1" nylon hose clamps and two of the 1/2" #8 screws, secure the condensator to a bulkhead. **DO NOT SCREW INTO THE HULL!** If no bulkhead is available, it may be necessary to "glass in" a shelf to mount the condensator to. The Condensator must not be able to move. If not properly secured, the weight of the condensator could loosen the "water out" hose and cause flooding.

Installation Instructions

- 6.) Connect the 1/2" clear hose on the end of the filter/check valve assembly to the 1/2" nipple on the unit's condensation pan.
- 7.) Secure one end of the 1/4" hose to the 1/4" hose barb on the filter/check valve assembly and the other end of the 1/4" clear hose to the brown nipple on the Condensator.
- 8.) As needed, secure the clear drain hoses with the clamps provided.
- 9.) Re-check all of your stainless steel hose clamps and insure that you have them properly positioned and tightened.
- 10.) Turn the circuit breaker back on (restore power to the air conditioner)
- 11.) Open the seacock.
- 12.) Using the thermostat, adjust the temperature so that the air conditioner comes on.
- 13.) Once the water starts flowing, re-check all of your stainless steel hose clamps again and insure that you have them properly positioned and tightened.
- 14.) With the air conditioner running, pour a glass of clean water into the air conditioner condensation tray. The Condensator will immediately begin removing the water. You should be able to observe this through the clear hose. In-line with the hose is a small white valve. This valve is the check valve for the device and is located between the condensator and the Shurflo filter. This device needs to be kept in line for back-flow prevention and should not be tampered with.
- 15.) Insure you have noted on your regular maintenance schedule that you now need to check the Shurflo filter every time you check your water strainer filter.

Note:

Remember, plan before you start this installation. If you are unsure about any part of this installation, feel free to contact FMS technical support.

Maintenance & Troubleshooting

Your Condensator is **not a maintenance free device**. It is assumed you are regularly checking and cleaning your Shurflo water strainer, the in-line filter between your Condensator and the condensation pan, and the air filter attached to the front of your air conditioning unit.

Note:

From time to time, it is possible for the Condensator to cease functioning. When this happens, your condensation pan may overflow and water may enter your boat. This is not necessarily the “fault” of the Condensator, but rather a result of improper maintenance. Maintenance is the owner’s responsibility.

Should the Condensator “fail”, the first thing to check is the filter screen located in the Shurflo filter between the condensation pan and the Condensator. To clear the filter, twist the bottom of the body to open and then clean the screen. With the screen in place, reconnect the filter bottom to the top. Clean the condensation pan in the air conditioning unit with a vacuum hose. The Condensator should start “working” at this point. Establish a regular cycle to check the filter on the Condensator and the air conditioner. Make sure that after installation of either your air conditioner or the Condensator that the work area has been cleared of debris, which can travel to the filter and block it.

Note:

It cannot be stressed enough how important it is to maintain a clean air filter and clean condensation pan on the air conditioner. Not doing so could mean damage to the Condensator, the air conditioner, and possibly your boat. Also each joint on the Condensator between a hose and barb should be checked for tightness. The addition of stainless steel hose clamps may become necessary.

If you continue to have problems with the Condensator, then it is likely a result of a blockage in the water line. This first item to check is your water strainer. Check your mesh screen to insure that it is intact and seated properly. It is assumed you are cleaning your water strainer on a regular basis. If you are not, you must start now if you are going to use the Condensator and expect it to work properly.

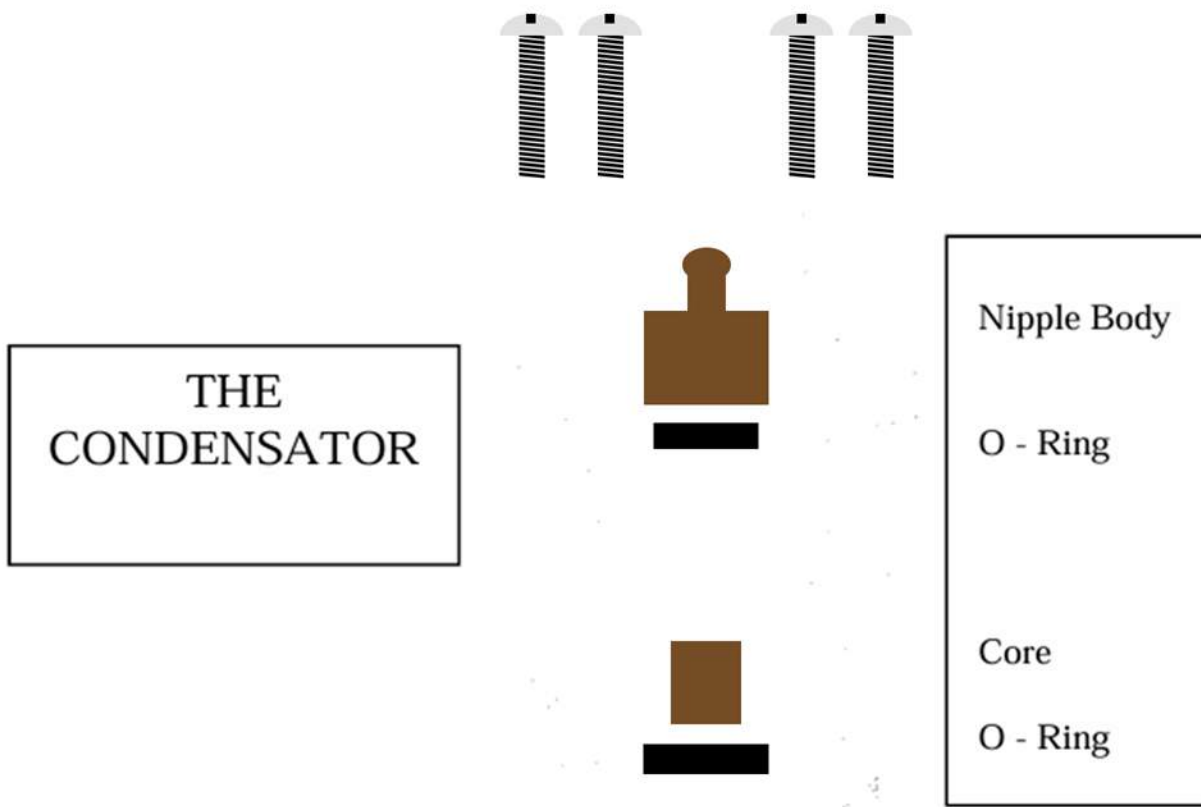
The next thing to do is to close the seacock on your water supply and turn the circuit breaker to your air conditioner off. You do not want the thermostat to inadvertently turn your air conditioner on while you have the water system disassembled.

Warning

Failure to close the seacock before removing water hoses may result in flooding and cause significant water damage or sink the boat. Failure to disable the air conditioner could result in the water pump running with no water and overheating or failing.

Maintenance & Troubleshooting

The next step is to remove the Condensator from your water-out hose. Be careful not to lose or discard the stainless steel clamps, they will be used again for re-inserting the Condensator. Secure the hoses removed from the Condensator so they do not leak while you clean the Condensator. Review the diagram below to familiarize yourself with the internal components of the Condensator.



Condensator Body	Water Nozzle	Washer
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Maintenance & Troubleshooting

Look through the water inlet side of the Condensator and make sure no debris is present in the main water flow as it passes through the nozzle. Then very carefully disassemble the Condensator kit, starting with the nipple body and core by removing the 4 screws holding them in place. Clean the parts and where they attach to the body of the Condensator. Once those are cleaned up, lubricate the o-rings with a small amount of Vaseline or similar compound and reassemble the pieces to the Condensator body. Remove the plastic barb fitting on the “water-in” side of the Condensator body (this is the female barb fitting facing away from the arrow stamped on the side of the body). Remove the gasket from inside the Condensator body and expose the water nozzle. Remove the nozzle with a pair of needle nose pliers by pulling it straight out the “water-in” side of the Condensator. Clean any buildup on the nozzle and where it is seated inside the Condensator body. Lubricate the o-ring with Vaseline or a similar compound and reassemble the Condensator. Once the Condensator is put back together, reinstall it in the water piping making sure to point the arrow towards the “water-out” or water discharge thru-hull. Make sure to tighten the stainless steel clamps to prevent leaks.

It is recommended to put some clean water inside the air conditioner condensation pan before testing the Condensator. Open the seacock and restore power to the air conditioning unit. Set the thermostat so the air conditioner turns on and verify the Condensator is working properly. Make sure that the check valve assembly is not allowing water to flow back into the condensation pan of the air conditioner. It is recommended to set up a repeat schedule for this maintenance procedure.

Note:

During operation of the air conditioner with the Condensator installed, the water exiting the boat may appear milky at times. This is due to air being drawn by the Condensator from the drip pan along with the condensate. This is a normal occurrence and should not raise concern.

Other Suggestions- Sailboats

The Condensator only works when the water is flowing through the air conditioner. Any condensation leftover in the pan or still dripping from the evaporator into the pan can slosh around and go over the sides of the air conditioner and get into the surrounding areas. Preventative measures should be taken for this possibility.

The condensator does not need to draw straight from the condensation pan of the air conditioner. If the risk is high of leftover water in the air conditioner condensation pan sloshing when the boat is at an extreme angle, the condensation can be drained to a sealed tank or container and draw from that instead. Contact FMS technical support for assistance or if you have questions.