

# In-line Valve with Drain Installation

## Air Conditioner fresh water in-line strainer In-line Valve installation

After installing my repaired Smart Talk computer I noticed the fresh water in-line strainer to the air conditioner looked dirty. We had used the air conditioning over a year without checking the strainer. I now check this every couple months to make sure the system gets the proper water flow.

This looked like a pretty straight forward and easy maintenance project. Just for reference the strainer on our boat was positioned next to the engine water strainer which is below the aft berth access boards. Yours might be in a slightly different location since our dealer installed the air conditioner after we purchased the boat.

So I took the plunge and disassembled the strainer, cleaned and replaced everything. After reopening the seacock valve, I turned the air conditioning system on. Everything sounded fine until my wife said there was an error message on the digital screen. After about 45 minutes of trying to figure out the problem the captain, my wife Kathy, talked me into getting help. I finally ate my pride and asked the service technician, Jason, at our marina, to check out the air conditioner. When the tech took a look at the problem he knew right away what was wrong. He had a funny grin on his face and told me he had seen this same problem many times and often the owner would work hours and sometimes a whole day and still not solve the problem. I watched him cut off a small piece of rubber pipe near the out flow side of the pump. As soon as the pipe was removed the strainer filled, and water began to flow through the pump. He had to cut off the pipe since it is nearly impossible to just pull it off the fitting leading out of the pump. If you continued doing this each time you cleaned the strainer the pipe would become too short. The service technician suggested a simple solution that would simplify the process.

The solution is to install an in-line valve with drain. So the next time you decide to clean the fresh water strainer or if this the first time, I highly suggest to spend a little extra time and install an in-line valve with a drain, to save time and head aches in the future. (See Pic. 1)



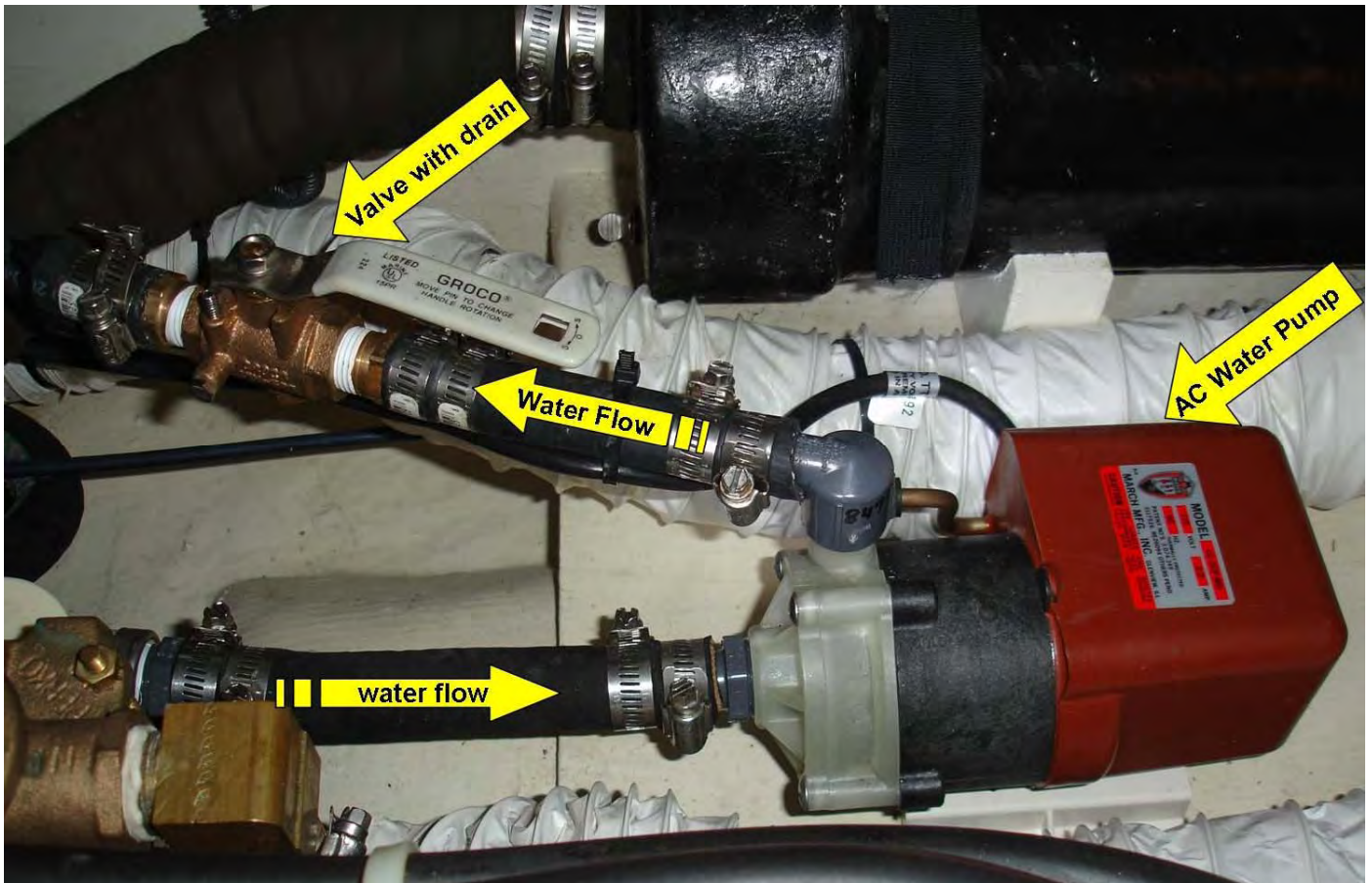
Just a few tools and supplies required: utility knife, Teflon tape or pipe compound, single lever valve with drain, 2 hose adapters, 4 hose clamps (2 for each side of the valve), screw driver or a 5/16 socket (to tighten hose clamps. Total cost was under \$45 (purchased from West Marine) but probably could be purchased for less at a hardware store. I opted for a solid brass valve but if you wanted to save money you might find a plastic valve would work. (See Pic. 2)



### **Step by step**

1. Close the seacock valve.
2. Remove strainer bowl and clean inside and strainer screen.
3. Reinstall making sure the O-ring is replaced on top of bowl.
4. Measure about 6” from the out-flow side of the water pump and cut through the hose (see photo)
5. Now screw the left and right brass adaptors to both sides of the new valve using Teflon tape or pipe compound on threads.
6. Slip two each pipe clamps over both sides of the pipe.
7. With the adaptors attached to the valve, install the pipe to both sides with the valve handle facing up and the drain pointing down.
8. Tighten the two pipe clamps to both sides of the valve.
9. Open the drain on the valve that you just installed.
10. Open the drain on the valve.
11. You should see the fresh water strainer fill. The strainer and water will flow out the drain of the new valve.
12. Close the valve and turn on your AC system and check for leaks.

Last but not least, remember to clean the return air filter on a regular basis. If the filter is not clean the air flow will be restricted reducing the efficiency and could cause damage to the circulation fan (See Pic. 3).



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