

Troubleshooting A Water System That Does Not Deliver (Enough) Water To the Faucet

The normal steps to troubleshooting an RO system with a product delivery issue are:

1. Is the feed line providing sufficient water to the unit?
2. Is the Automatic Shut Off Valve Working?
3. Is the membrane producing water correctly?
4. Is the storage tank working correctly?
5. Is the postfilter clogged?
6. Is the air gap clogged?

If everything was working well and all of a sudden there was no water at all then number **2** is the most likely candidate. If everything was working well and the volume of water that the system would deliver was drastically reduced then number **4** is the most likely candidate.

1. Is the feed line providing water/pressure to the unit? Turn off feed water. Disconnect the green tube from the feed valve on the RO system side of the valve. Direct the valve into a bucket and open the feed valve. You should get a strong stream without interruption. If you do not get a strong stream, your RO system is not getting the flow and pressure it needs. Find out if your feed connection is clogged or if there is something wrong with your plumbing or installation. If you do have a good, strong, stream, turn off the feed valve. Reconnect the green feed tubing to the valve.
2. Is the Automatic Shut Off Valve (ASOV) working? Is there water going down the drain? If there is, then the ASOV is not likely to be the problem. If no water is flowing through system, none down the drain, turn feed water off. Close tank valve. Open faucet until no water comes out then close faucet. Disconnect membrane vessel from frame. Open feed water slowly. If water does not come out of fitting where membrane vessel was connected, ASOV needs to be replaced. On a PS-5 the water should come out of the fitting at the top.
3. Is the membrane producing water? If water is going down the drain but very little is coming out of faucet, it could be that membrane is not producing sufficient water. Test the flow by closing the tank valve and then opening the faucet. Use a measuring cup. A healthy membrane with good feed pressure should output approximately four ounces (or 130 ml) per minute (60 seconds). If it is less than 2 ounces (60 ml) per minute, disconnect the system drain line from your sink drain saddle and check brine flow rate. System drain line flow rate should be approximately 7 ounces (220 ml) per minute, if it is less than 4 ounces (120 ml) per minute, either your house pressure is below 40 psi or your membrane vessel is clogged. If brine flow is between 5 and 9 ounces (150 - 265 ml) per minute, it is probably time for a new membrane.
4. Is storage tank operating correctly? Open the faucet until the water stops flowing in a stream. Try to pick up storage tank. If it is heavy like a bowling ball, it may not be working correctly. If it is light like a basketball, make sure that the tank valve is open.

To test a heavy tank, close feed water supply, close valve on top of tank, open and then close the faucet to relieve any pressure in the system. Unlock the strap buckle. Disconnect the tubing from the tank valve. To disconnect the tubing the collet (colored ring that tubing goes through) needs to be pushed towards the valve until it bottoms while simultaneously pulling the tube out of the fitting. This may take some effort, especially if it has been some time since it was installed. Make sure that the collet stays fully depressed, all the way around into the fitting. Some jiggling and/or twisting of the tubing or tank may help. After the tubing has been disconnected from the tank valve, point the valve opening into a bucket. Open the valve but be prepared for a discharge similar to a fire hose. If you get a high pressure output for more than 1 gallon, your tank is probably healthy. If you do not get a high pressure output or if only a small amount of water is discharged and your tank is still heavy, then your tank has failed. Adding air pressure at the Schraeder valve (an empty tank should be pressurized to 5 psi) may be tempting and it might get the tank to behave correctly temporarily if the bladder has developed a slow leak. This is not recommended since it only very rarely works at all and is only a temporary improvement, if any.

5. Is the postfilter clogged? If the tank is full and delivers water when it is not connected to the postfilter but very little or no water is delivered to the faucet, the postfilter may be clogged. Replace the postfilter.

6. Is the Air Gap Clogged? If the system is not producing any water and you have determined the Automatic Shut Off Valve is working properly, chances are the air gap inside the faucet is clogged. To determine if your air gap is clogged, shut off the feed valve, close the blue shutoff valve on top of the bladder tank, and disconnect the bladder tank from the white hose. Then disconnect the black drain line from the elbow on the back of the 4-stage filter, between the plastic shroud and the bladder tank. Take the flow control out and blow through the black line, if you can't blow through it there is a blockage in your air gap. On the faucet, disconnect the blue feed line, the black drain line, and the white drain line and remove the faucet from the counter. Open the air gap by gently pulling on the drain nozzles, ensuring not to break them, and expose the inner workings of the airgap. Take an allen wrench or something similar and shove it through the drain nozzles to rid the debris. Test by reassembling the faucet and blowing through the black hose.