DIAPHRAGM PUMP TROUBLESHOOTING
100-220PSI

Electrical Safety Warning

Before performing any work, unplug the machine from its power source. All steps involving tools must be done with the power off and the machine unplugged.

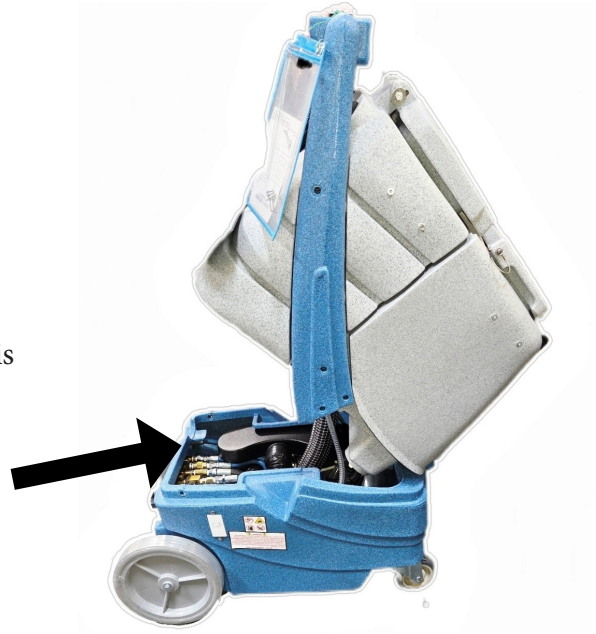
Only Step 6 should be performed with the machine powered on.
If you are unsure or uncomfortable working around electrical components, consult a qualified technician.

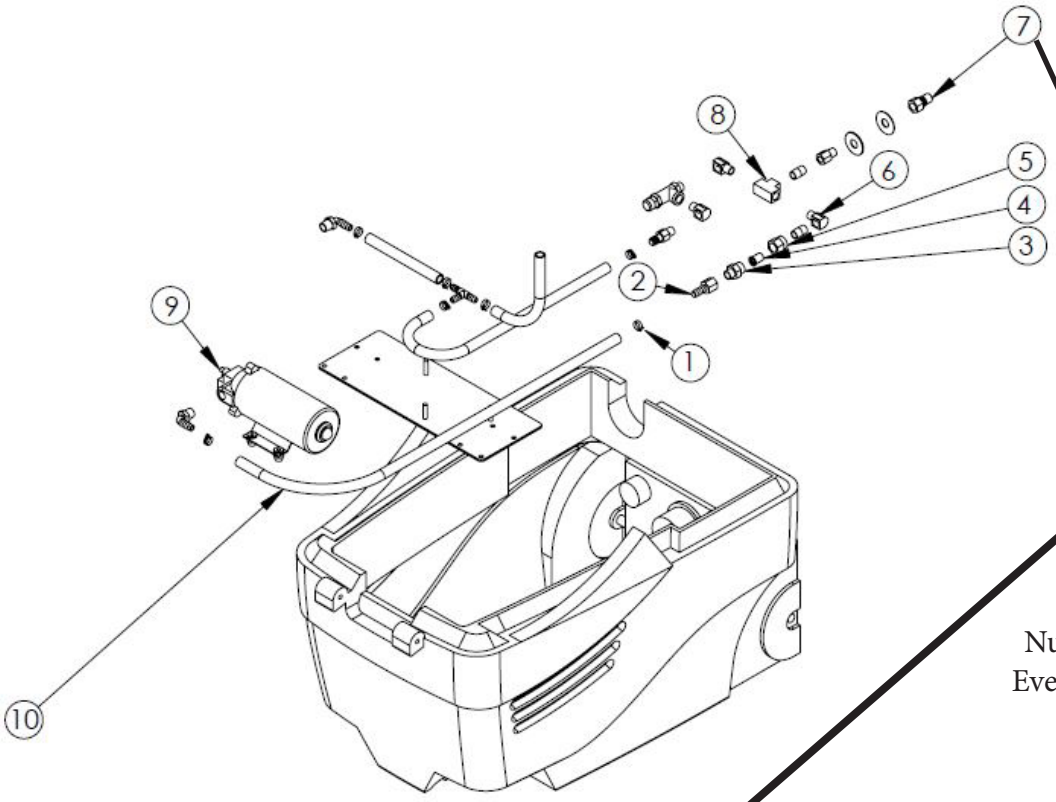
DESCRIPTION OF ISSUE:

When a machine sits unused for too long, the check valve can get stuck and block water flow. This can make it seem like the pump is malfunctioning, even when it is working properly. Follow the steps below to determine whether the issue is with the pump or the check valve.

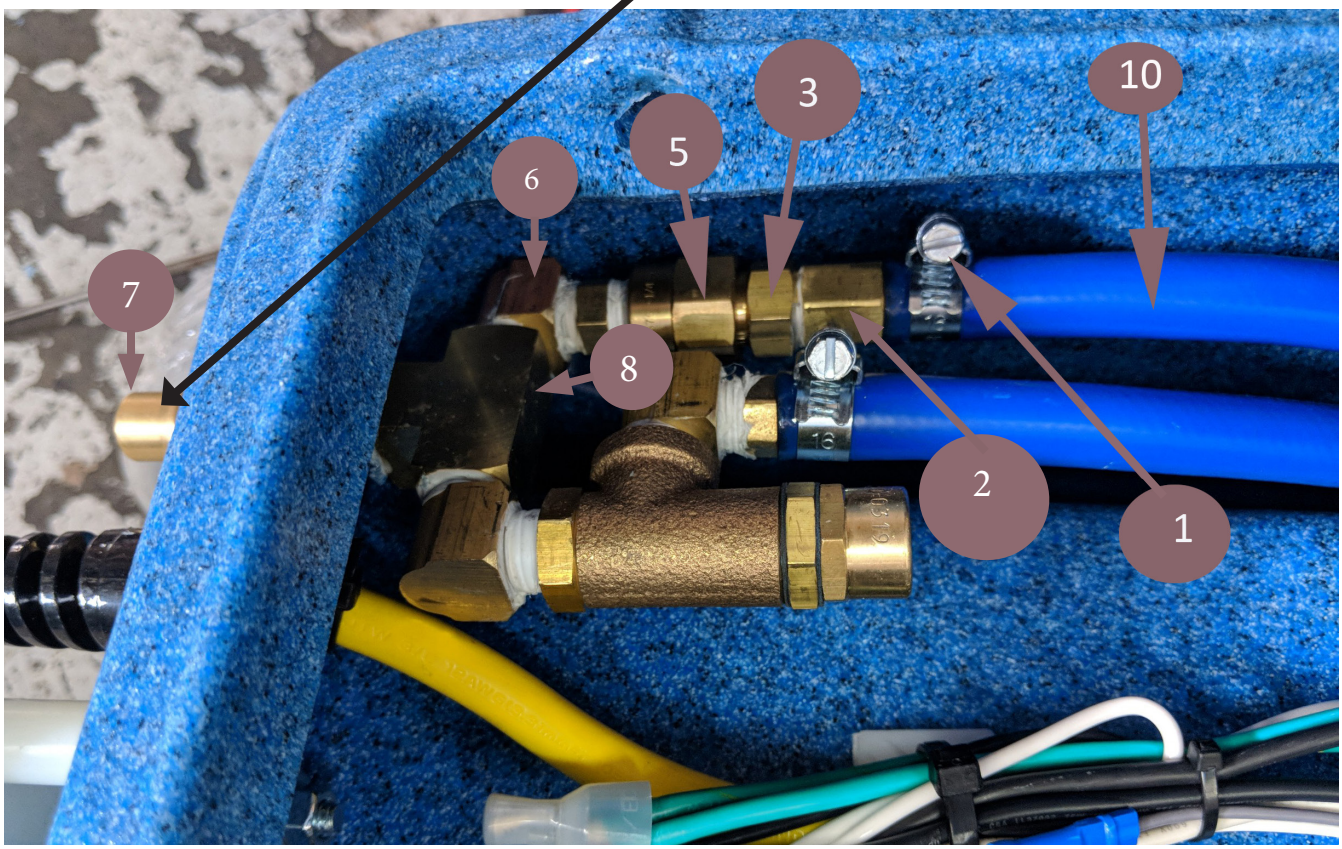
Accessing the Machine:
Locate and remove the two access bolts, one on each side of the machine, using a Phillips screwdriver.
Once removed, lift up on the handle and prop the top tanks up so you are able to work on the internal components. If a heater is mounted, you will need to remove it to be able to open the machine.

You will be working in this area where the arrow is pointing. For reference, it is by the rear left wheel.





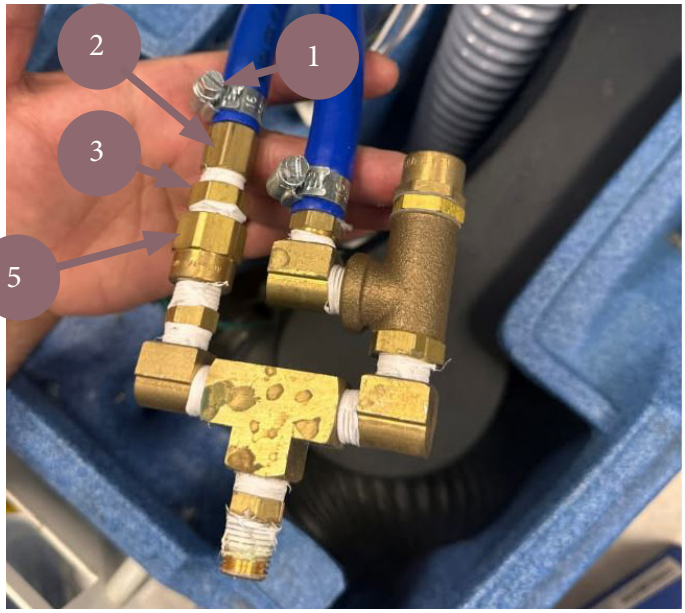
Number 7 is on the outside.
Everything else will be inside.



Steps to Diagnose the Issue

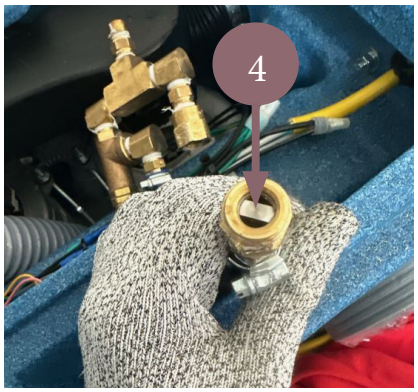
Step 1. Remove the male quick connect (#7) at the rear of the machine. While removing it, hold the brass components on the inside to prevent binding or damage to the hoses.

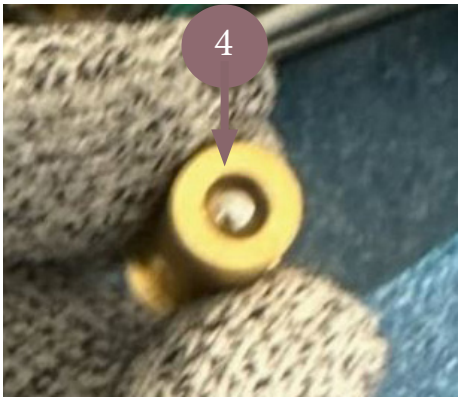
Step 2. Push the threaded pipe fitting through the plastic housing and set aside any washers. This step gives you full access to the manifold area. Without doing this, it will be too tight to work with wrenches comfortably.



Step 3. Loosen the hose clamp (#1). Once loose, grip the hose and gently work it back and forth until it moves freely on the barb fitting (#2). Only the hose should turn at this point. This step is important because in the next step, when you turn fitting #3, which is threaded into the barb, the barb needs to rotate freely inside the hose. This prevents the hose from twisting or kinking.

Step 4. You will need two adjustable wrenches. Hold #5 while you turn #3 counter-clockwise to loosen and expose the check valve (#4). Remove the check valve and set it aside for now.





Step 5. Swing the open end of hose #10 to the outside of the machine and place it into a bucket. At this point, hose #10 should still have the #1 hose clamp (loose) and the #2 barb fitting attached. Secure the hose so it stays in place and allows you to perform the next step completely hands free.

Step 6. Take care not to touch any electrical components during this test. Plug the unit back in. Make sure the hose is securely positioned outside the machine and placed into the bucket in a stable, hands-free manner. With water in the solution tank, turn the machine on using the pump power switch and check whether water comes out of the end of hose #10. You do not need to run the vacuums. After the test, turn the machine off and unplug it before continuing with any further steps.

Diagnosing Based on Results

If water does not come out:
The issue is likely with the pressure valves inside the pump head or the pressure switch outside the pump head. Replace pump or consider a seal rebuild kit if pump motor is working.

If water does come out:

Clean the check valve of any noticeable debris or build up.

Push on the ball bearing inside the valve using something like a ballpoint pen to ensure it moves freely. Avoid sharp objects that can scratch the surface of the ball bearing. Use a thin layer of Silicone based grease (Plumber's Grease) and roll it around the check valve ball bearing. Thin layer is best- no globs.

Reassemble all fittings and securely tighten the hose clamp.

Test the system again.

If water does not come out after reinstalling the check valve:

Repeat Steps 1 through 4 and remove the check valve completely.

Reassemble the fittings without the check valve and test again.

If water flows now, replace the check valve.

If water still does not flow, this could be an indicator that a quick connect or hose is clogged.