

Valve Cables Maintenance Check

If checking if the valves are functioning using the PuTTY software, always make sure that the tubes are filled with water

After each step/check, test out the valves again

If the valves are not working:

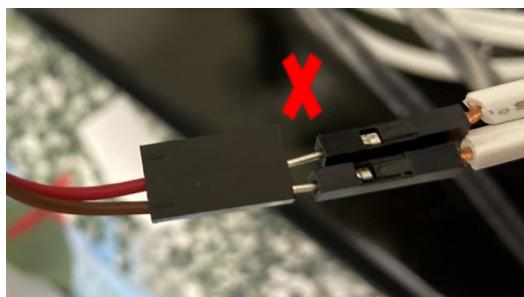
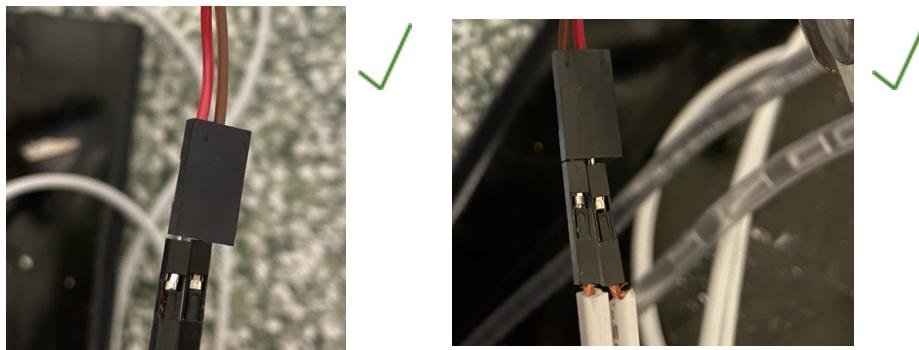
1. Check to see that everything is properly turned on and connected
 - a. MCUs turned on (USB tower lit up blue)
 - b. Power Strip on
 - c. Noldus Box plugged in
 - d. Green light on MCU- if a red light appears instead of a green light then stop using that MCU and let someone know



If everything is properly connected and turned on and the valves are still not working then check wires:

2. Check that wires are properly connected to valves

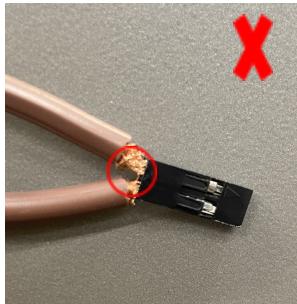
Make sure that the adaptors are fully inserted into the wires that connect to the valves



3. Make sure that none of the copper wires are frayed or touching each other

i. If the wires are frayed or touching:

- Make sure connector is fully inserted
- Wrap electrical tape around one or both of the wires on the exposed copper wire part



If the wires are properly connected and not frayed and the valves are still not working:

4. Check the connector that connects to the MCUs -Check that there are no frayed or open/ exposed copper wires in connection most near MCU

ii. If the wires are frayed or touching:

- Make sure connector is fully inserted
- Wrap electrical tape around the exposed copper wire part

5. Check that none of the wires on the end of the cable came off

iii. If the wires came off then use soldering iron to reconnect

*IF YOU ARE NOT SURE ON HOW TO USE THIS/ DO THIS-
ASK FOR HELP* (i.e. Andrea M., Neftali R., Karen A.)

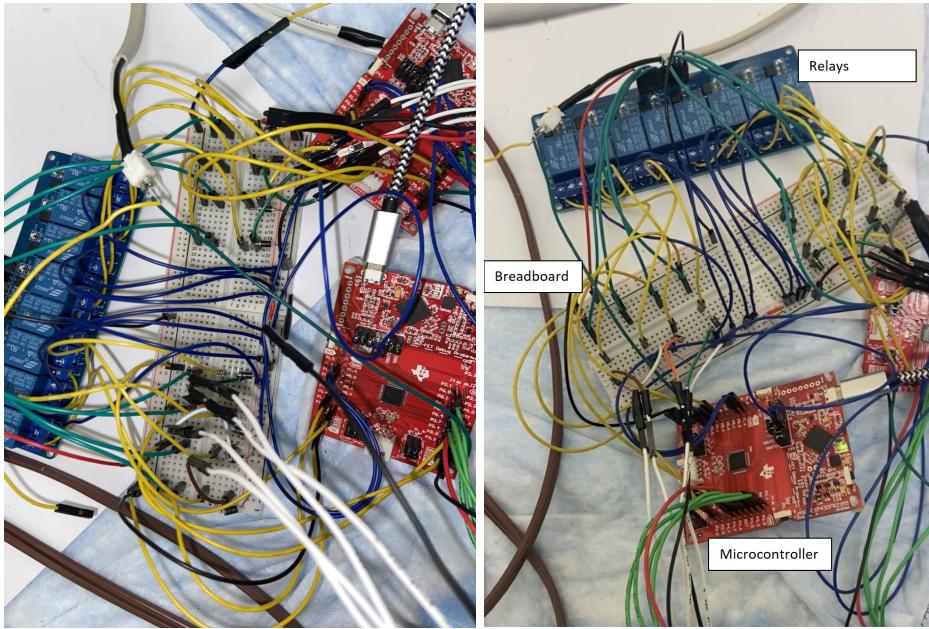


If the connector to the MCU is fixed and the valves are still not working then:

6. Check the connections on the MCUs

(NOTE: If you are not sure about where the connections go- do NOT attempt to fix it and ask for help- we don't want to mess too much with the MCUs)

These images show everything properly connected- if possible use them as a reference:



Need to add model number and specifics of how it's connected to computer

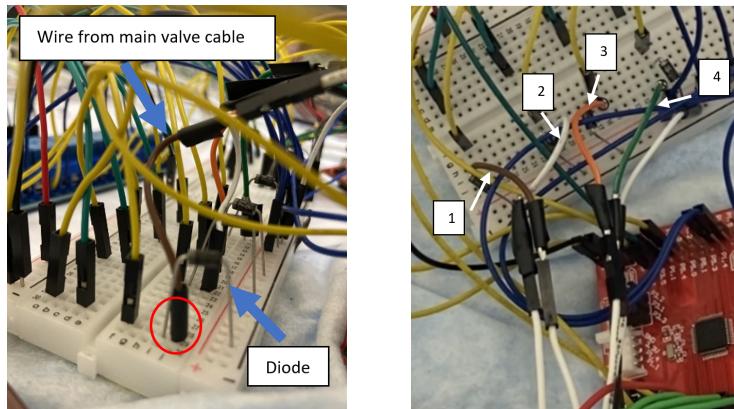
To check:

- Making sure there is water in the tubes and use PuTTY to test each valve

There should be a clicking noise from the MCU and from the valves- the clicking noise from the valves is a little more faint so go near them and try to listen for a click or put your hand on the valve and feel if it clicks

- If you do not hear any clicking sounds then something might be disconnected from the Left side of the Breadboard (labeled in the picture above)
- If you hear only one clicking noise coming from the MCUs then something might be disconnected on the Right side of the Breadboard
 - If you cannot identify what is not connected properly using the reference images then ask for help
 - If you are going to reconnect a wire from the main valve cable make sure you connect it in the right position
 - It should be connected next to the left leg of the diode (as seen on the left image)
 - The position/ order of the wires matters-keep the wires in the right order (image on the right)

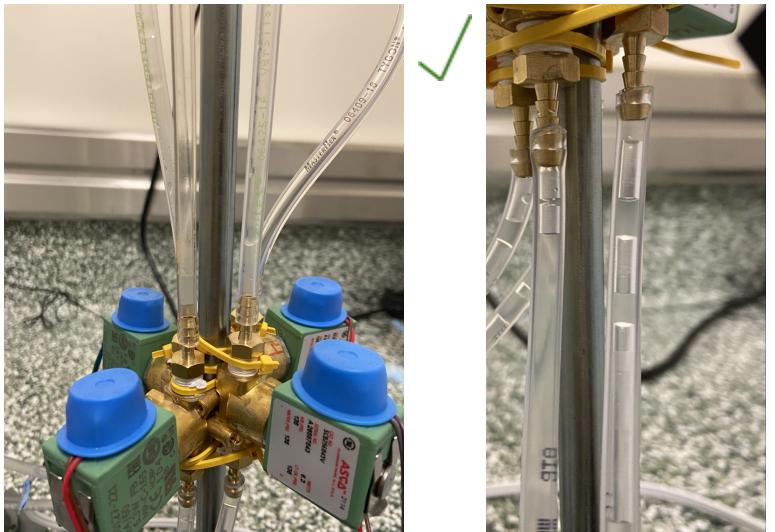
Make schematic drawings (a1 connects to x1, b1 to y1, etc.).



If the valves are working but the water is not running through properly:

7. Check the tubings and make sure they are properly inserted

- For the tubing attached to the valves, makes sure that they are parallel/ straight



If the valves are still not working or the solution is not properly running through and you've checked anything let a team lead know.

If you have any questions feel free to contact Andrea Macias on Slack