

TA3 Pumping Procedure

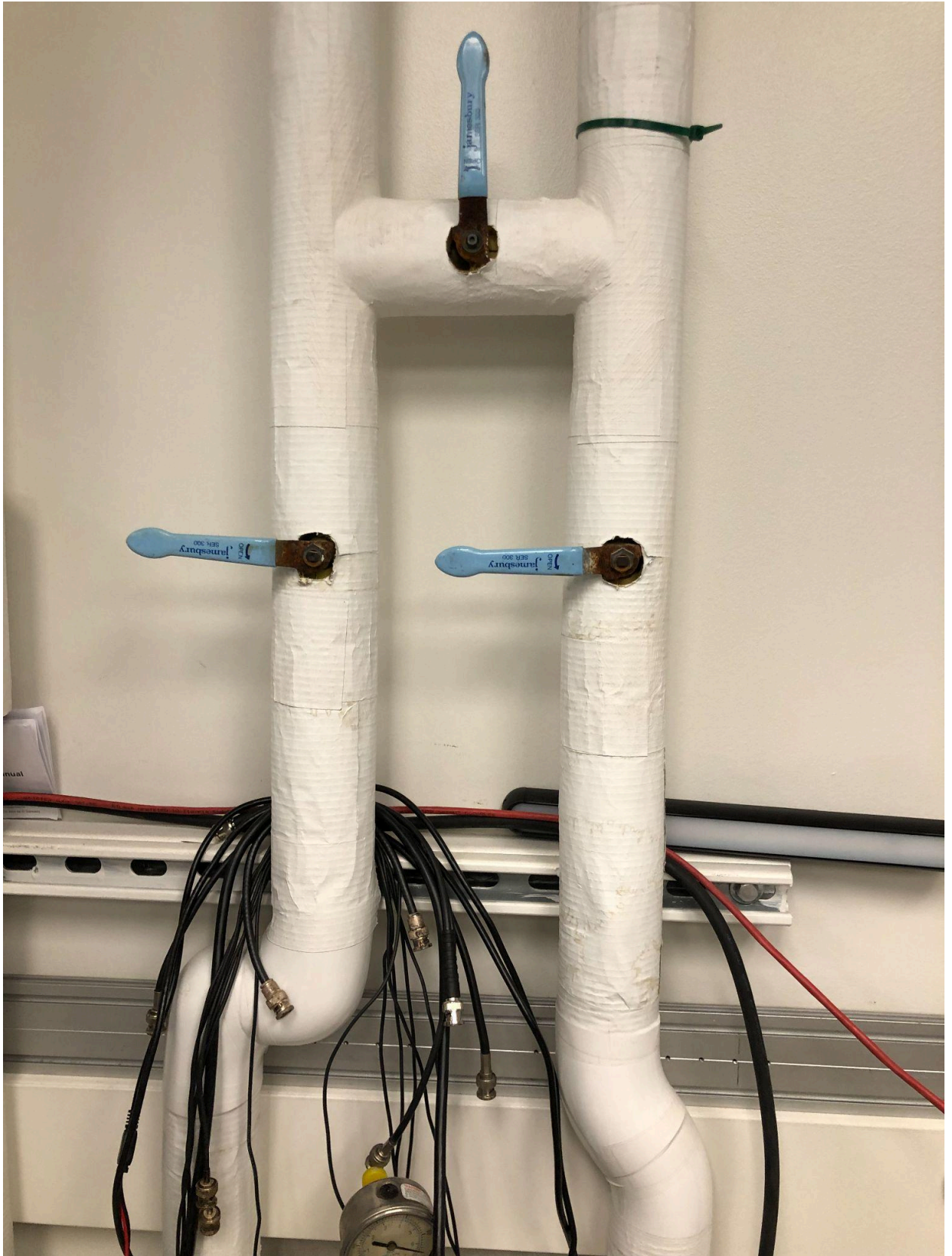
Warnings:

- Shimadzu turbo pumps must never be turned on while pressure is above 1 torr.
- Shimadzu turbo pumps require backing pumping by Kashiyama roughing pumps.
- 3000L Kashiyama used to rough the chamber must be isolated with block valve prior to pumping with Shimadzus.

Start Up At Atmosphere

1. Open cooling water loop to Kashiyama roughing pumps. The valves for both individual pumps should already be open, you will just need to open the main

water valves shown below.

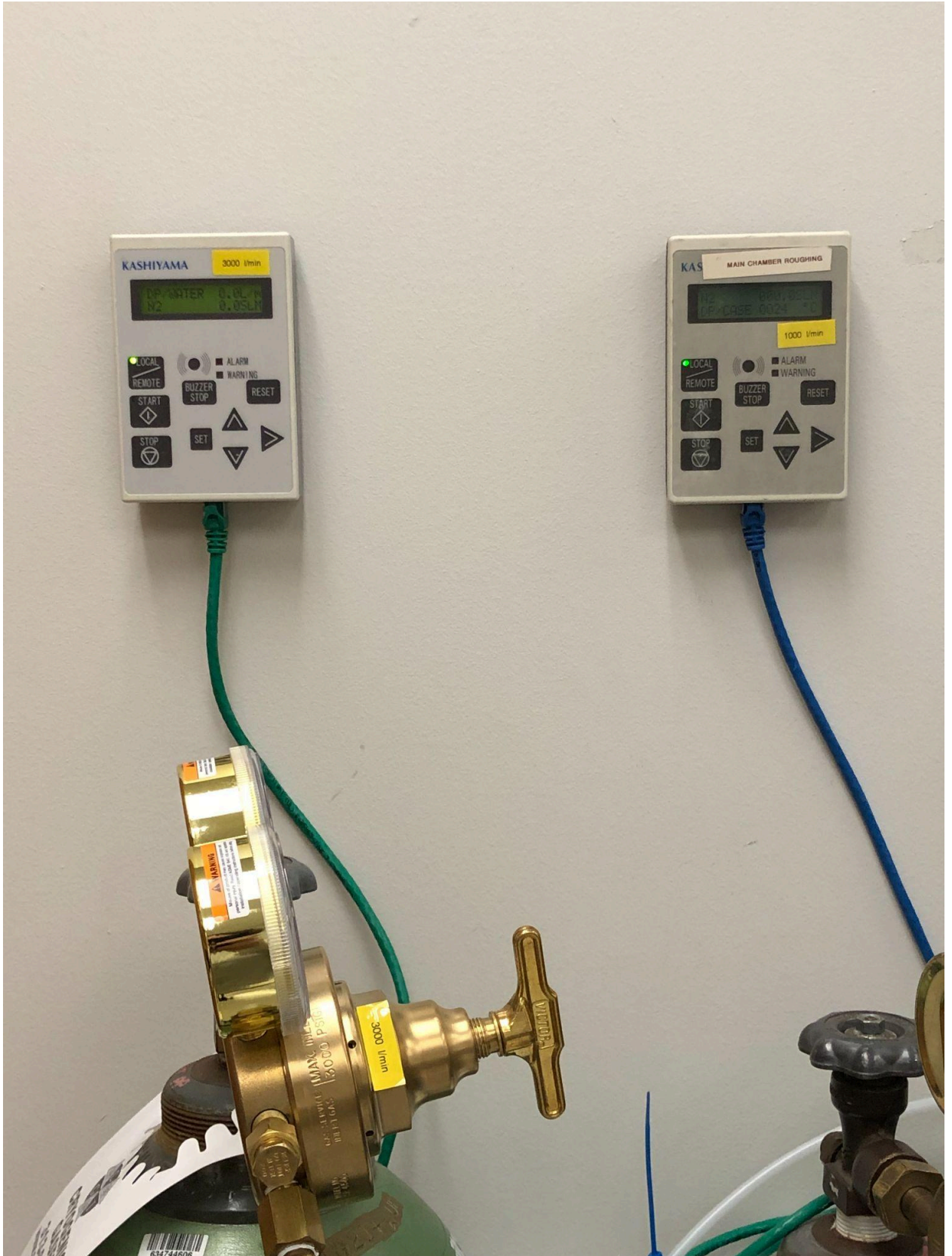


2. Open Nitrogen cylinders using knobs on top of the cylinders shown below.

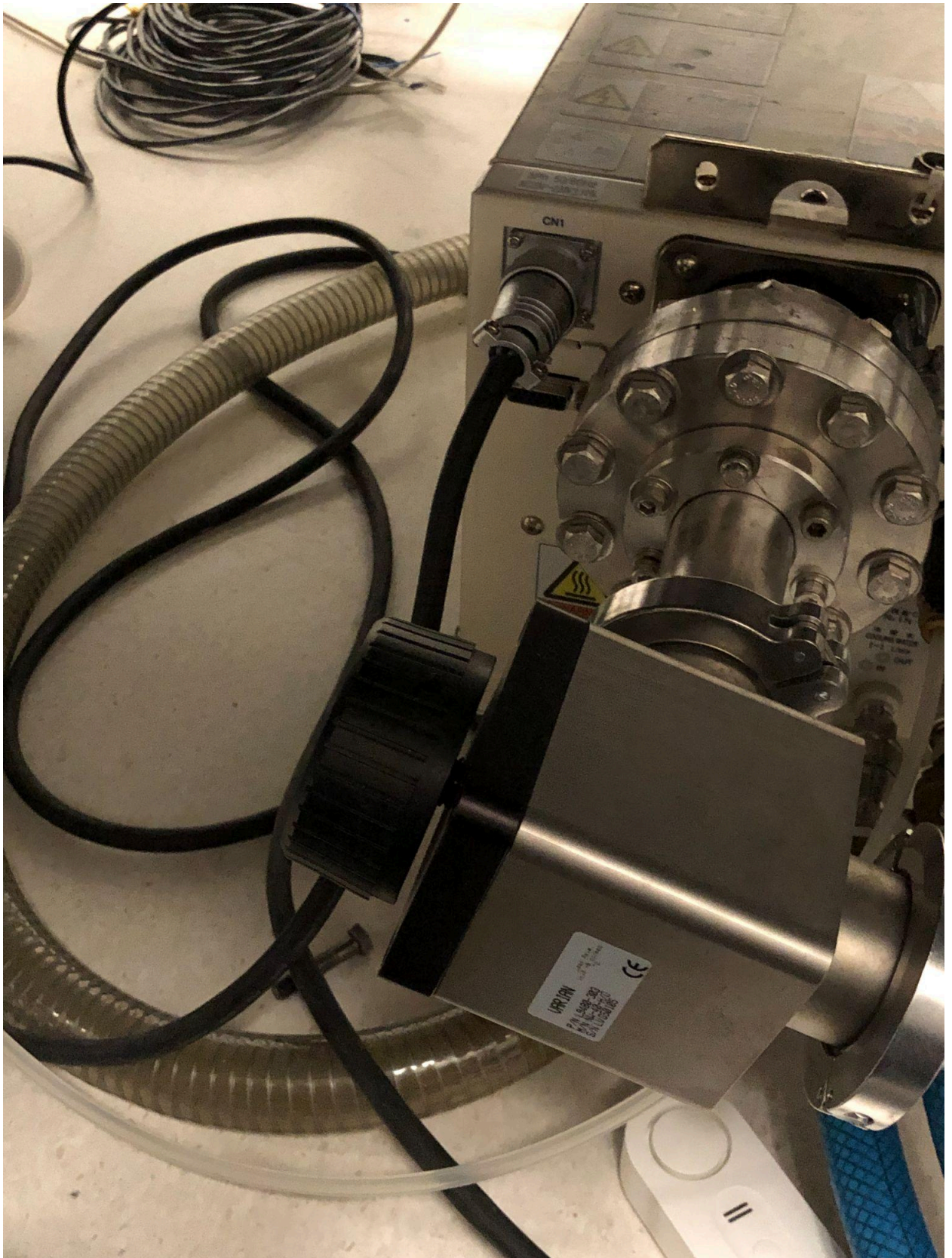


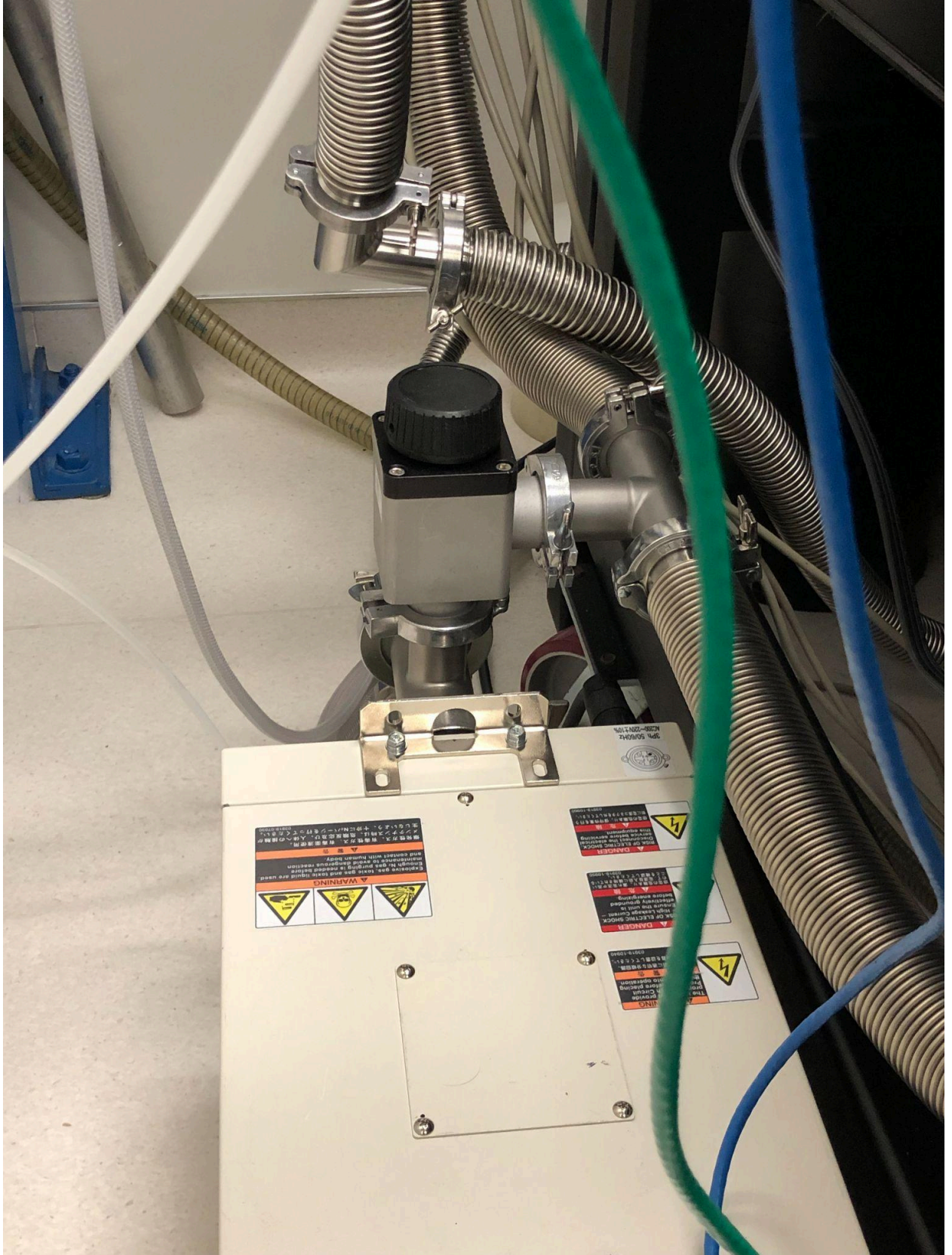
3. Start Kashiymas using controllers located on the wall above the nitrogen cylinders. For the warm up period, set Nitrogen flow rate to ~2.5L/min using the knobs located on the regulator. Allow Kashiymas to warm to 40 degrees celsius

before pumping the chamber.



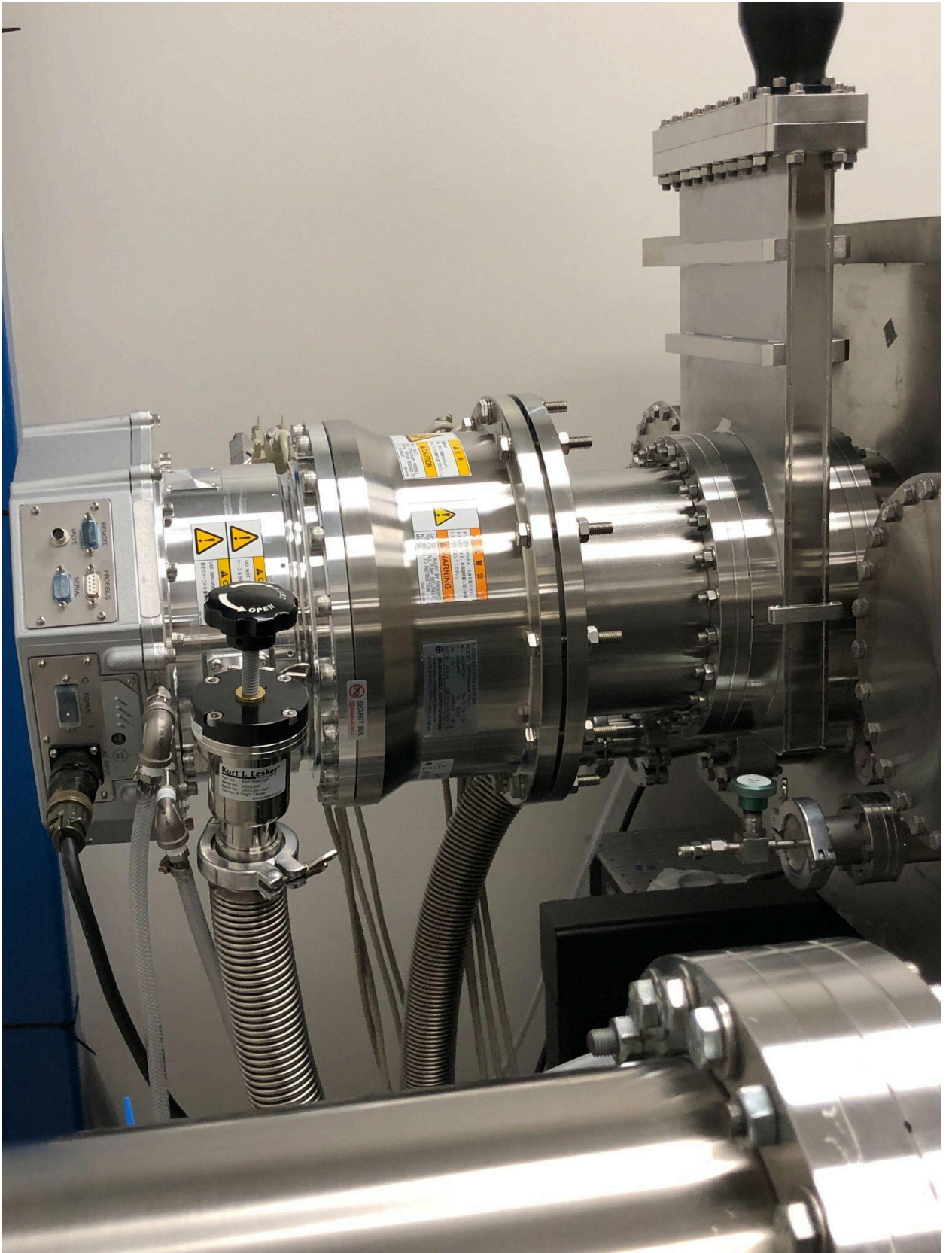
4. Open the block valves on both Kashiymas shown bellow.





5. Allow Kashiyamas to pump chamber down below 1 torr.

6. Switch on Shimadzu pumps using power switch on their control panels shown below. One is located behind the chamber in target area and the other is located on the parabola chamber in the clean room.





7. After power is switched on, the “Net” light indicator will blink orange once then it will begin to blink green. Once it is blinking green, press and hold the “Reset” button until the power light begins to blink as well.
8. Once both lights are blinking, press and hold the “Start/Stop” button until the “Rotation” light turns green and the “Status” light blinks green.
9. Turn on water for both Shimadzu pumps located below the main water valves. Open the water out side all the way, open the water in side with ~30 degrees rotation.
10. Once the status light turns a solid green the pump has reached full speed. Close the block valve on the 3000L Kashiyama but leave the 1000L Kashiyama open.
11. Open gate valves on both Shimadzu pumps.
12. Allow for some pumping time before turning on the Ionization gauge.

Shut Down

1. To shut down the Shimadzu pumps, press and hold the “Start/Stop” button until the status light turns off. The pumps require a few minutes to brake the rotation. During this time the “Rotation” light will remain on.
2. During the spin down period close the gate valves for both Shimadzus.
3. Once the rotation light turns off switch off the main power.
4. Close block valve on the 1000L Kashiyama.
5. Turn off Kashiyamas by pressing the stop button on the controllers.
6. Turn off the nitrogen by turning the knob clockwise on the cylinders.
7. Turn off water to Shimadzus on their individual lines.
8. Turn off main water valve.