

E1039 Polarized Target Monitoring & Maintenance Guide

Link to the spreadsheet to record the values:

<https://docs.google.com/spreadsheets/d/1EDTHSeUDGJ9b6beYizHEAJ8-Z1rAiQbZMgKhmlPLw8/>

(navigate to the tables using the labels at the bottom)

Checking the gHe bottles' levels on the west-wall of the cryoplatform



Location: Hall

You will need FN000213/CR training to do this

1. Close the regulator (by turning this handle anti-clockwise until you feel it freely rotating)
2. Open the Gas bottle using the **rotating knob** on the top of the bottle (turning anti-clockwise) to read the value of this **meter** on the right hand-side. Close the rotating knob (turning clockwise). once you are done reading the pressure.
3. If this level is below 100psi then replace this bottle with a new one.



Check the number of LN2 portable dewars
outside the loading dock

Record the number of gHe and gN2 bottles at the outside rack



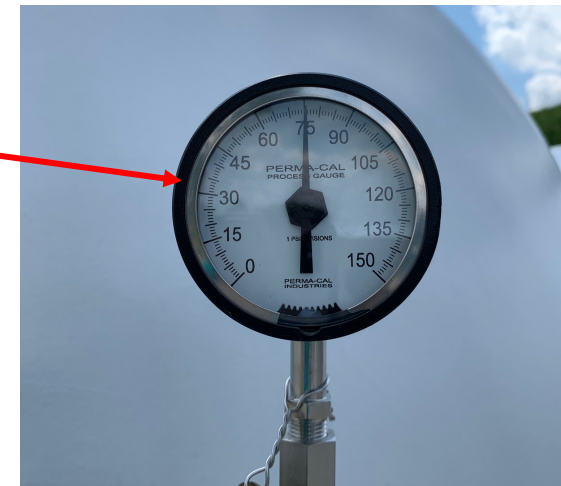
- Read the labels on each bottle to identify for gHe or gN2
- If the number of bottles from either type is less than 4, then please send an email to Kun Liu (liuk.pku@gmail.com) to order more bottles

Check gHe pressure and LN2 pressure of the outside tanks



LN2 Tank Pressure
(Notify Kun if the
pressure is less than
10 psi)

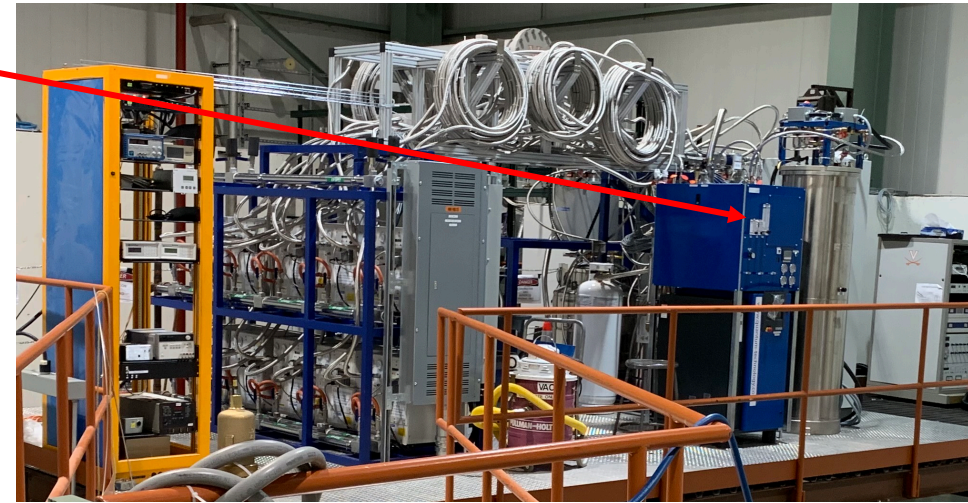
liuk.pku@gmail.com



gHe Tank Pressure
(Notify Kun if the
pressure is less than
25 psi)

Check QT HR3 gauges

Location



Check for the labels P10, P6, P8, P40, P41 and record on the spreadsheet

Check QT liquid (Dewar/purifier) levels

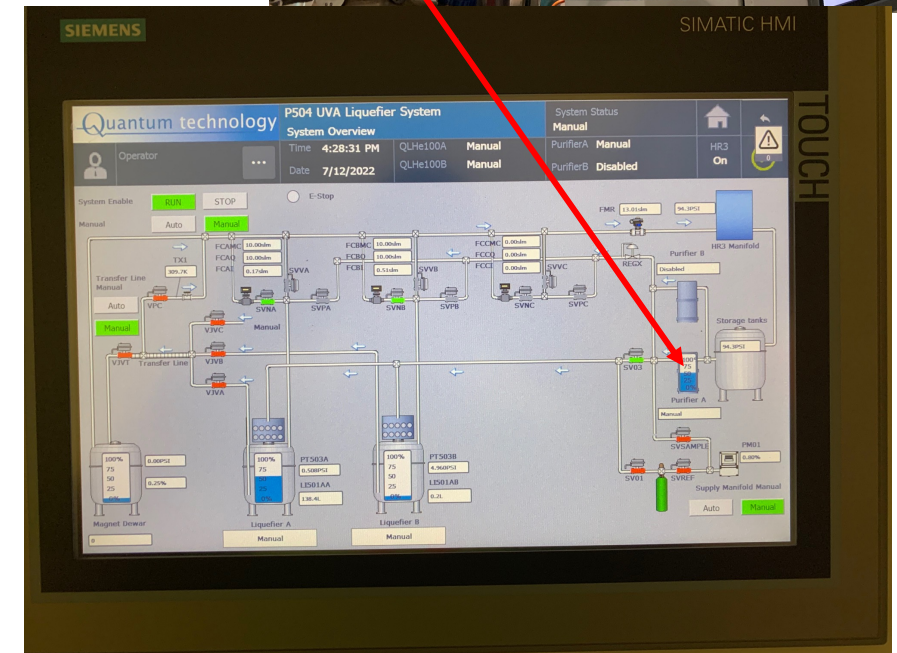
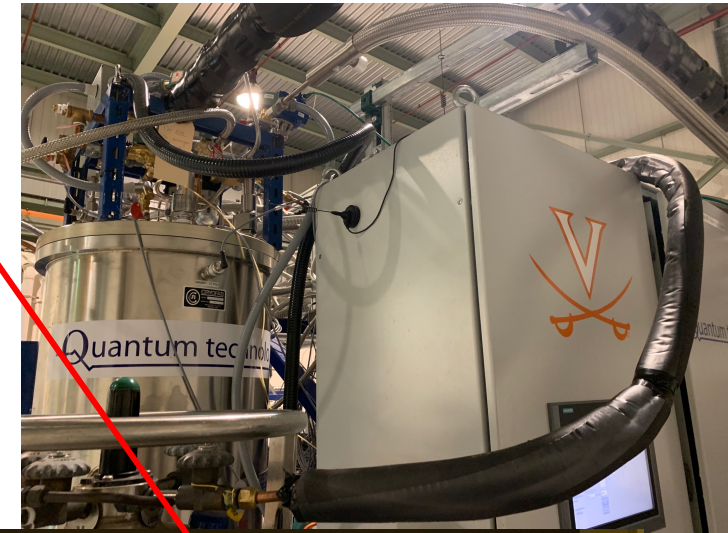
LHe levels

You will need
FN0000473/OJ

Only for filling LN2 or
replacing LN2 large
Dewars

Not required for
reading LHe levels

LN2 level



Steps to fill LN2 to the purifier Dewar if it's below 50%

<https://confluence.its.virginia.edu/display/twist/Filling+LN2+on+Purifier+Dewar>

Please contact Target Expert shift contact before performing fill/replace LN2 Dewar

★ LHe Dewars A and B

Liquid levels can be read using this meter
on each Dewar separately

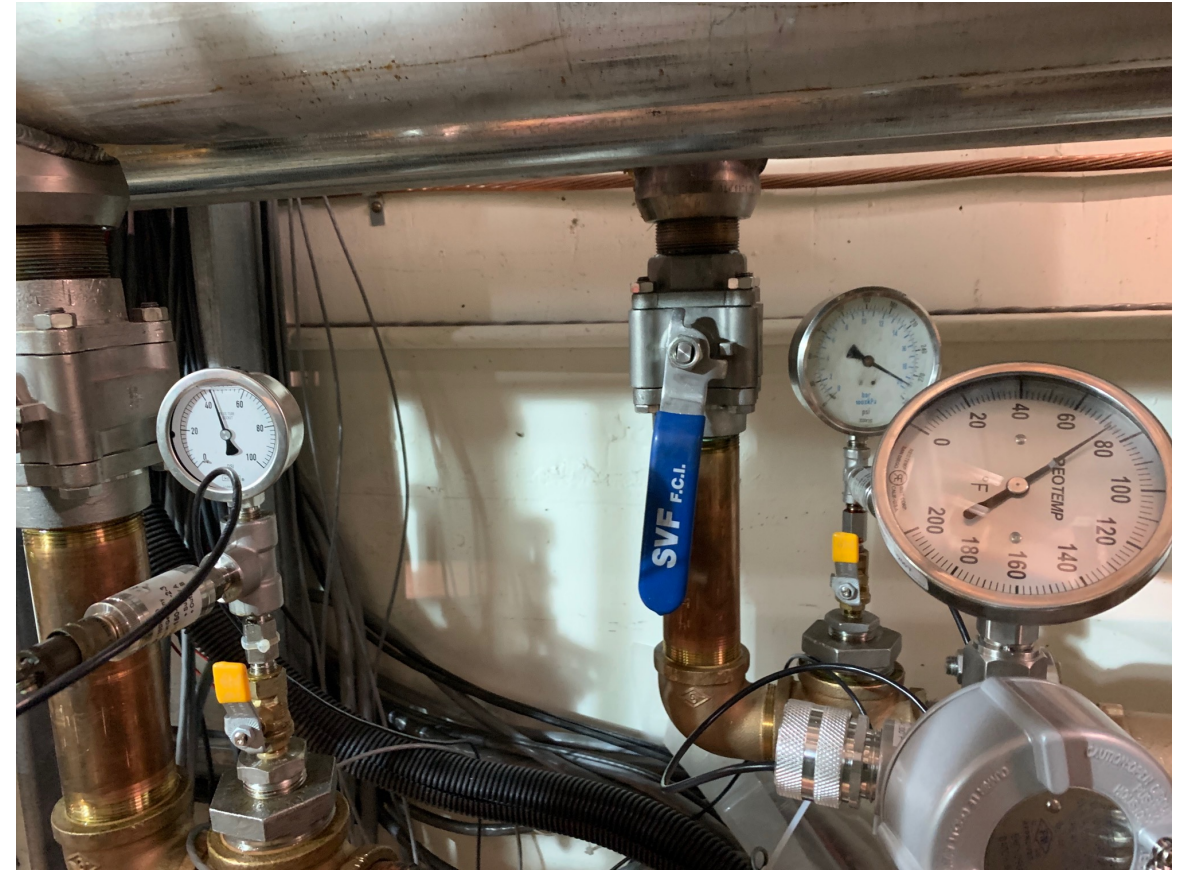
Monitoring QT compressor LCW temperatures

Filling gHe outside tanks using tube-trailer



Check LCW main inlet, an outlet to NM4

If you are on the cryoplatfrom, take the stairs (towards the lower level) and stop mid-way when you see these gauges towards the East-wall of the hall. You will see labels "LCW Supply" and "LCW Return" on those two separate piping.



Both "LCW Supply" and "LCW Return" has a pressure gauge and a temperature gauge. Mark those values on the spreadsheet.

Check LCW inlet and outlet parameters to the ROOTS

When you are on the cryoplatfrom proceed to the end of the wall on the west-side as shown on the pictures.

You will see two water panels (top & bottom). There are 5 yellow handles on each panel.

Read the values on each meter

Inlet meters: manual

Outlet: digital

Also, read the main supply pressure gauge towards the left of the panels.

Mark the vales on the spreadsheet



Check ROOTS pumps pressure and temperature using HMI

Location(s)

1. At the control-room
2. On the cryoplatfrom



Mark these pressure and temperature values on the spreadsheet as shown in the display

Check oil levels of all 4 pumps

There are 4 pumps in the ROOTs pumps setup

- Check the oil level on each pump
- Oil-level indicators
- When the pumps are running
 - > Level should be around the middle
- When the pumps are not running
 - > Level should be close to “full”

Notify Target Expert shift contact if the levels are different from the above mentioned levels.

