

UVA QT System

Operational settings



Operator



Time 2:50:21 PM

QLHe100A

Dewar Cooldown

PurifierA Manual

HR3

Date 5/27/2022

QLHe100B

Liquefy

PurifierB Disabled

Off



Overall System

Liquefiers

Purifiers

System Overview

Liquefier A

Purifier Overview

System Settings

Liquefier B

Purifier Settings

Alarms

Liquefier C

Liquefier A Settings

Liquefier B Settings

Helium Compressors

Analog Scaling

Liquefier A/B

ODH

Purifier A

Overall



User	Password	Group	Logoff time
			1



Operator



Time 11:18:17 AM

QLHe100A

Dewar Cooldown

PurifierA Manual

HR3

Date 5/27/2022

QLHe100B

Dewar Cooldown

PurifierB Disabled

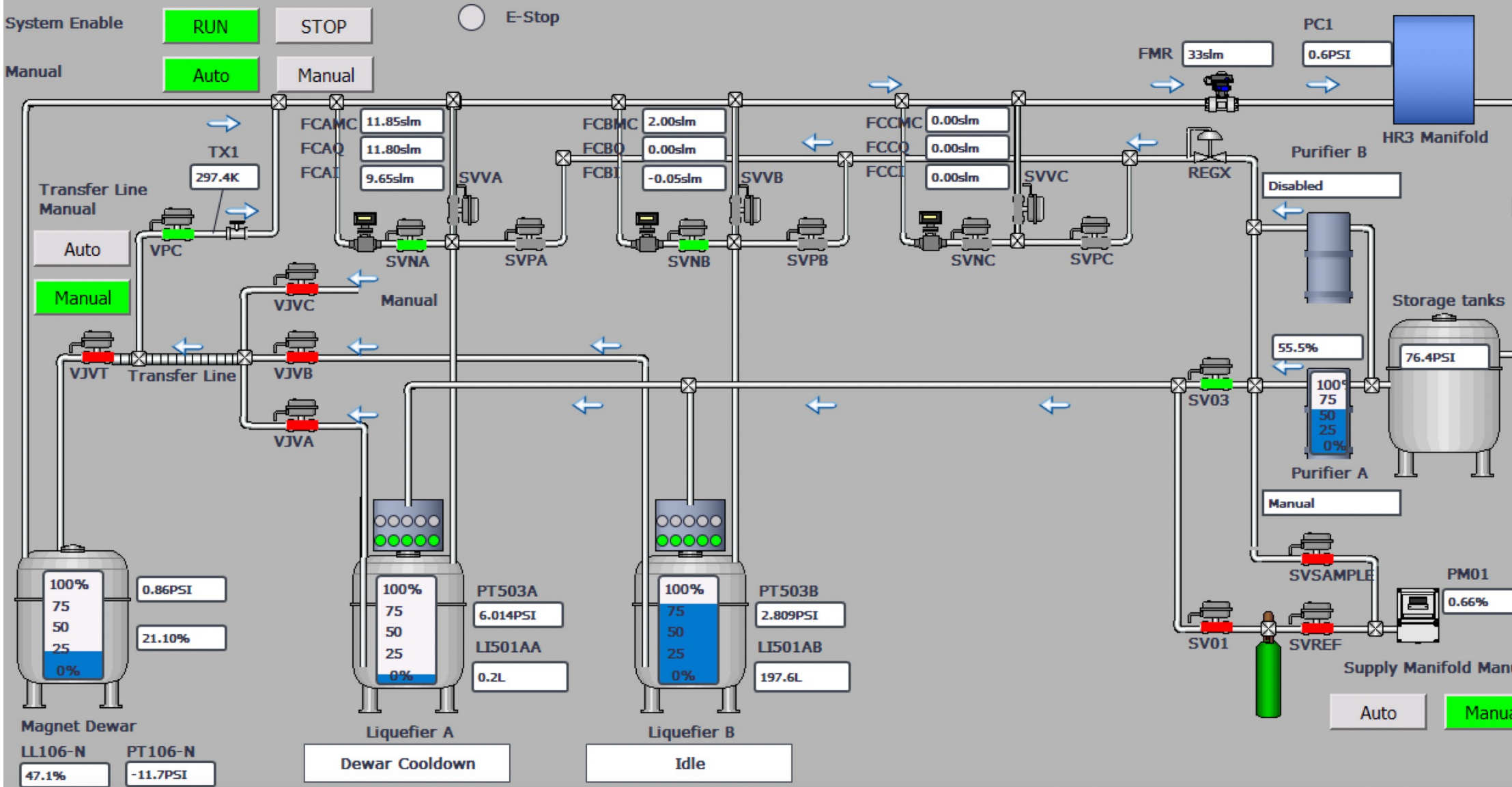
On



	Enabled	Remote	Status	Alarm	Reset Alarm	Heater Status	Current Temp	Manual	Manual Run	Manual Heater	Manual Pause	Total Run Hours
CP501A	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	Reset	<input type="checkbox"/>	80.61K	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.1h
CP502A	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	Reset	<input type="checkbox"/>	76.46K	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.1h
CP503A	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	Reset	<input type="checkbox"/>	80.33K	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.1h
CP504A	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	Reset	<input type="checkbox"/>	89.76K	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.1h
CP505A	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	Reset	<input type="checkbox"/>	76.70K	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.1h
CP501B	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	Reset	<input type="checkbox"/>	73.43K	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.1h
CP502B	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	Reset	<input type="checkbox"/>	76.07K	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.1h
CP503B	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	Reset	<input type="checkbox"/>	82.60K	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.1h
CP504B	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	Reset	<input type="checkbox"/>	73.26K	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.1h
CP505B	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	Reset	<input type="checkbox"/>	74.74K	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.1h



Operator	Time	9:08:01 AM	QLHe100A	Dewar Cooldown	PurifierA	Manual	HR3
	Date	3/14/2023	QLHe100B	Idle	PurifierB	Disabled	On





Operator



Time 6:54:18 AM

Date 4/10/2023

QLHe100A

Liquefy

QLHe100B

Liquefy

PurifierA Manual

PurifierB Disabled

HR3

On



QLHe100A

Liquefy

Liquefier Enable

RUN

STOP

Manual

Auto

Manual

Idle

Liquefy

Idle

Settings

Liquefier Warnings

Dewar Low Pressure



Dewar Level High



Blocking



He Compressor Error



Low Supply Pressure



Liquefier Alarms

Current History

Dewar Low Pressure

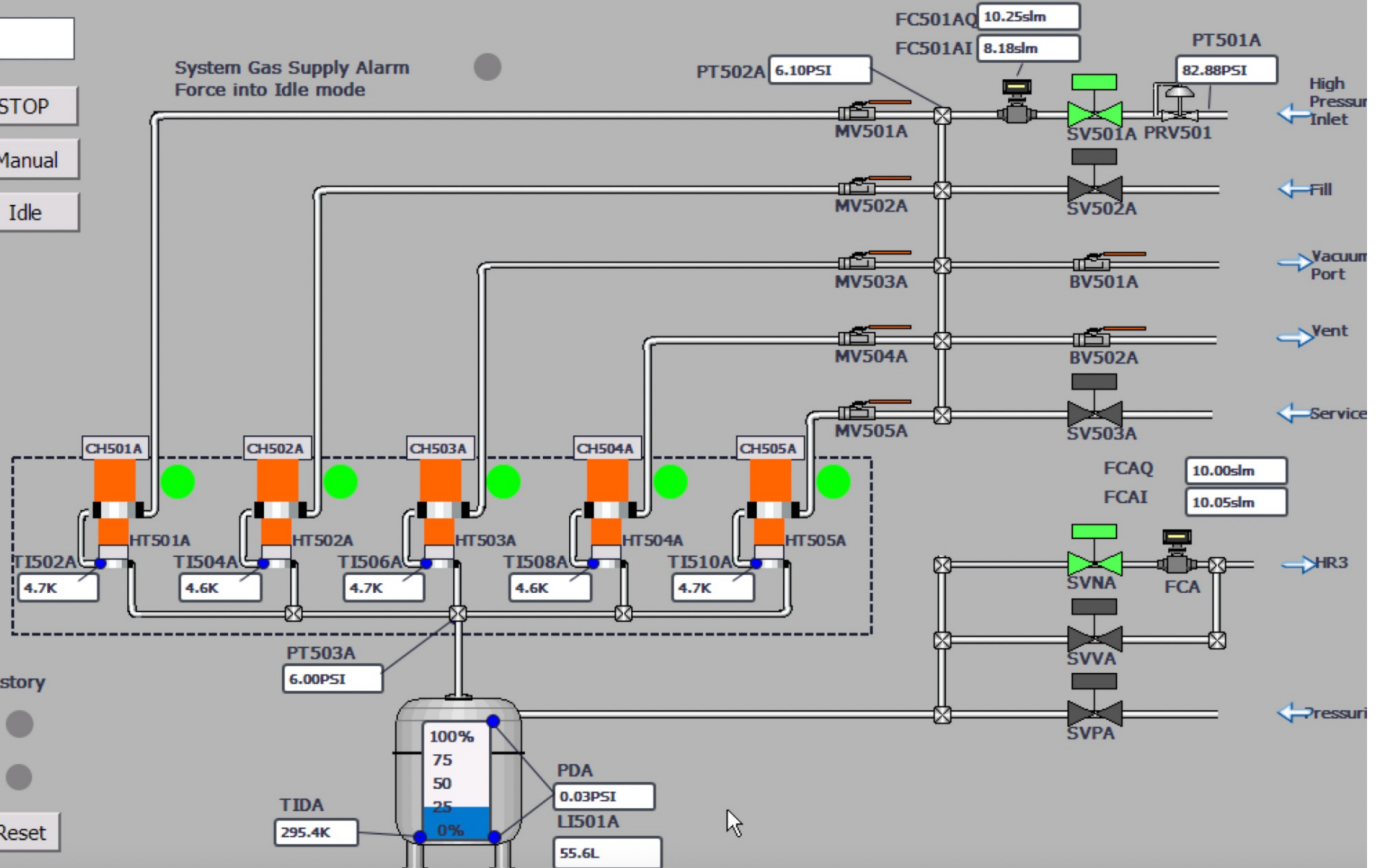


No Compressor Running



Reset

System Gas Supply Alarm
Force into Idle mode





Operator



Time 2:51:38 PM

QLHe100A

Dewar Cooldown

PurifierA Manual

HR3

Date 5/27/2022

QLHe100B

Liquefy

PurifierB Disabled

On



Liquefier Pressure Settings

Dewar Pressure Setpoint 6.0 PSI

Increase Vent Flow Pressure Increase 1.0 PSI

Enable Heater Pressure Drop 0.3 PSI

Cooldown Mode Settings

Outlet Flow Setpoint @300K 12.0SLPM

Mode End: Dewar Level 5.0%

Mode End: Coldhead Temperature 6.0K

Liquefier Operational Settings

Outlet Flow Setpoint 2.0SLPM

Pre-transfer Cooldown Mode Settings

Enable SVV Quick Vent OFF

Mode End: Dewar Pressure 6.0 PSI

Mode End: Timeout 60 Min

Mode End: Timeout Vent Enable OFF

Transfer Line Cool and Transfer Settings

Recovery Inlet Target Pressure 0.3 PSI

Dewar Pressure Adjustment 0.1 PSI

Dewar Pressure Adjustment Interval 30.0s

Dewar Max Pressure 5.0 PSI

Dewar Min Pressure 2.0 PSI

Alarm Settings

Low Pressure PT503< 1.00 PSI



1

Warning Settings

Dewar Level High 90.00%

Coldhead Temperature Low 4.0K

Low Storage Supply Pressure 10.0 PSI





Operator



Time 5:30:23 PM

Date 3/29/2023

QLHe100A

QLHe100B

Manual

Liquefy

PurifierA Manual

PurifierB Disabled

HR3

On



QLHe100B

Liquefy

Liquefier Enable

RUN

STOP

Manual

Auto

Manual

Idle

Liquefy

Idle

Settings

Liquefier Warnings

Dewar Low Pressure

Dewar Level High

Blocking

He Compressor Error

Low Supply Pressure

Liquefier Alarms

Current

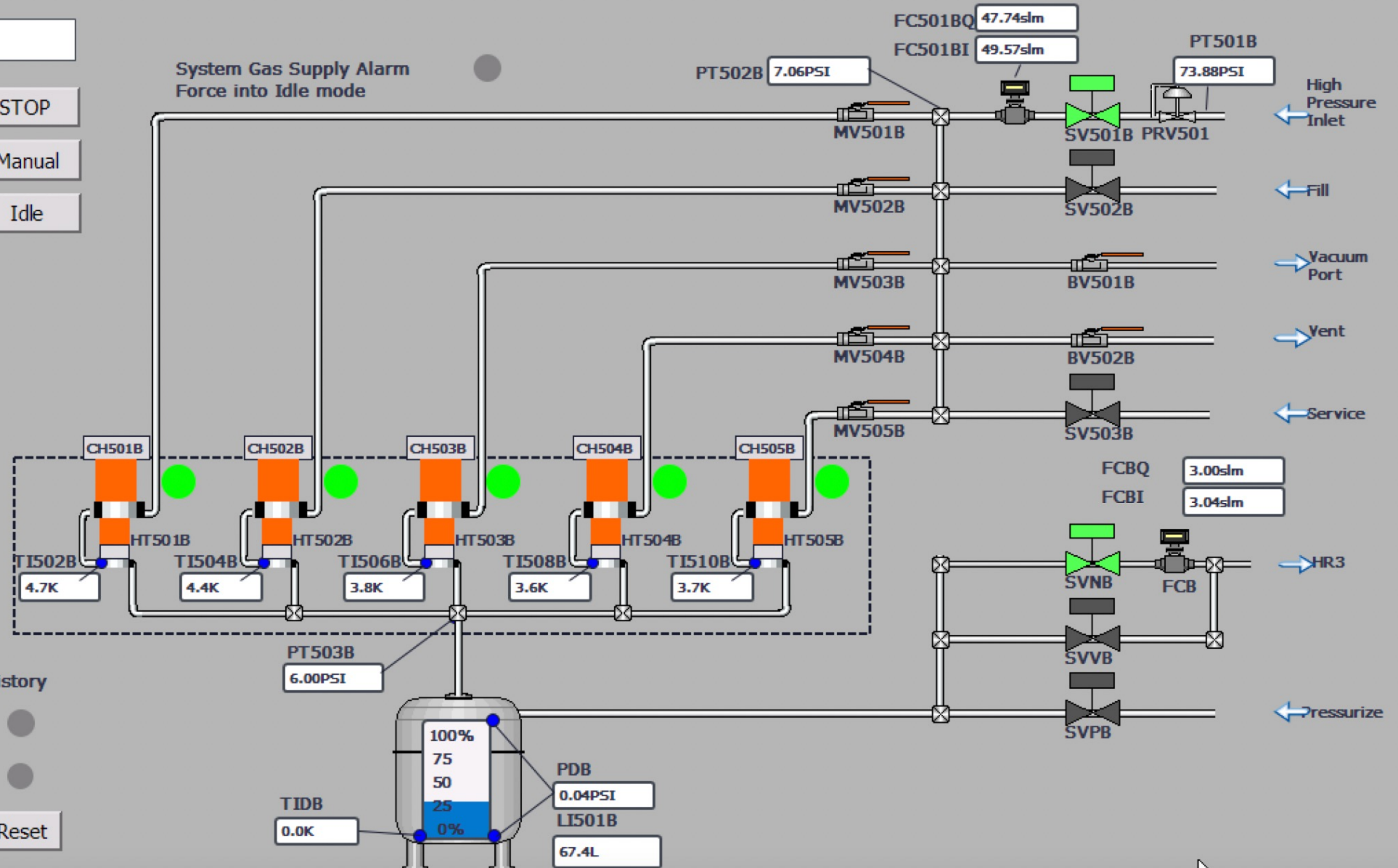
History

Dewar Low Pressure

No Compressor Running

Reset

System Gas Supply Alarm
Force into Idle mode





Operator



Time 2:52:18 PM

QLHe100A

Dewar Cooldown

PurifierA Manual

HR3

Date 5/27/2022

QLHe100B

Liquefy

PurifierB Disabled

Off



Liquefier Pressure Settings

Dewar Pressure Setpoint 6.0 PSI

Increase Vent Flow Pressure Increase 1.0 PSI

Enable Heater Pressure Drop 0.3 PSI

Cooldown Mode Settings

Outlet Flow Setpoint @300K 12.0SLPM

Mode End: Dewar Level 5.0%

Mode End: Coldhead Temperature 6.0K

Liquefier Operational Settings

Outlet Flow Setpoint 2.0SLPM

Pre-transfer Cooldown Mode Settings

Enable SVV Quick Vent OFF

Mode End: Dewar Pressure 6.0 PSI

Mode End: Timeout 60 Min

Mode End: Timeout Vent Enable OFF

Transfer Line Cool and Transfer Settings

Recovery Inlet Target Pressure 0.3 PSI

Dewar Pressure Adjustment 0.1 PSI

Dewar Pressure Adjustment Interval 30.0s

Dewar Max Pressure 5.0 PSI

Dewar Min Pressure 2.0 PSI

Alarm Settings

Low Pressure PT503< 1.00 PSI



1

Warning Settings

Dewar Level High 90.00%

Coldhead Temperature Low 4.0K

Low Storage Supply Pressure 10.0 PSI





Operator



Time 2:52:35 PM

QLHe100A

Dewar Cooldown

PurifierA Manual

HR3

Date 5/27/2022

QLHe100B

Liquefy

PurifierB Disabled

Off



QuantumPure He Overview

QuantumPure LN2 Overview

QuantumPure Control

QuantumPure Settings

QuantumPure Alarms

QuantumPure Datalog

Purifier System Status

Manual

Purifier A Enable

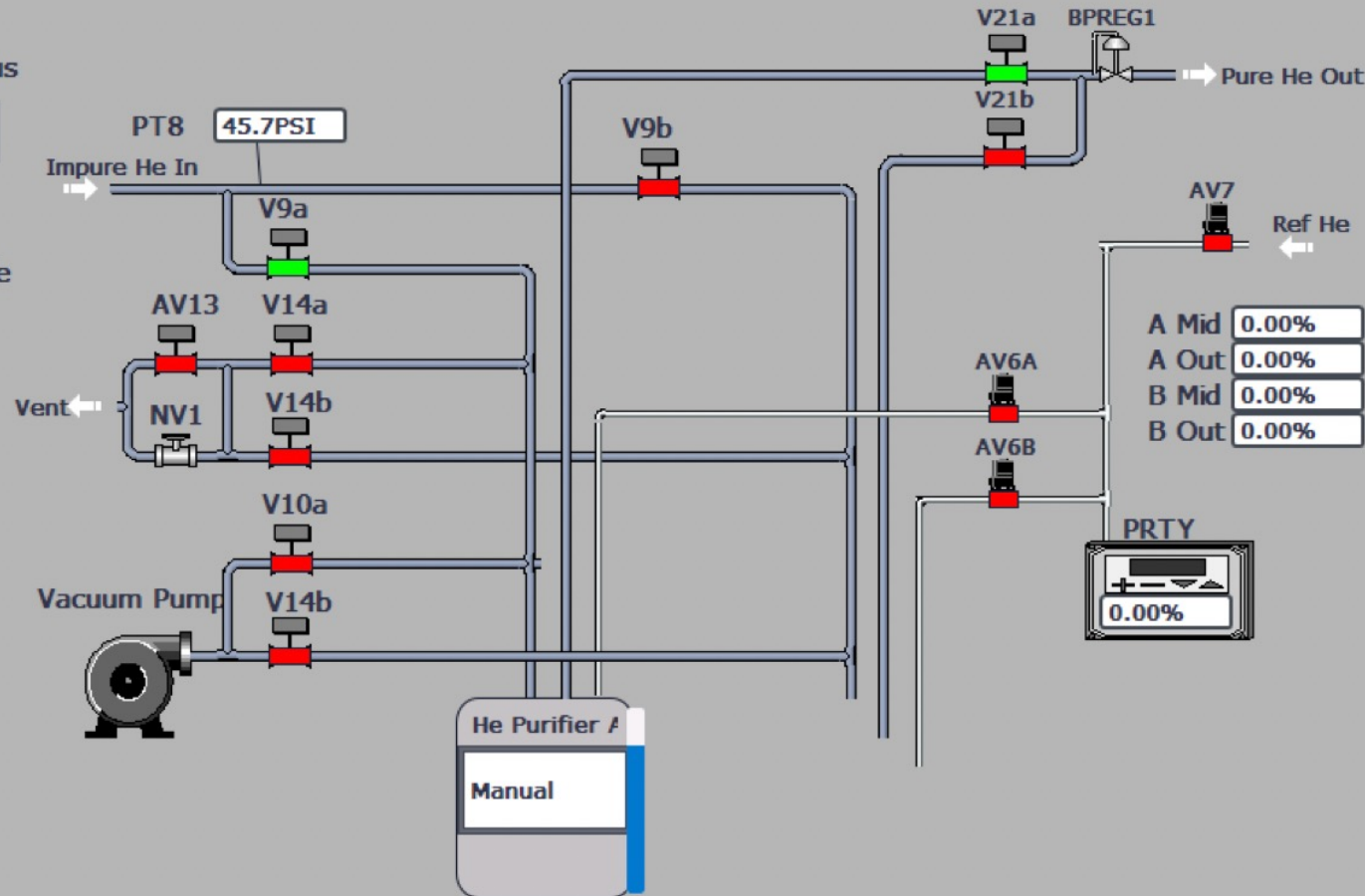
ON

Auto

Manual

On

Off





Operator



Time 2:52:53 PM

QLHe100A

Dewar Cooldown

PurifierA

Manual

HR3

Date 5/27/2022

QLHe100B

Liquefy

PurifierB

Disabled

Off



QuantumPure He Overview

QuantumPure LN2 Overview

QuantumPure Control

QuantumPure Settings

QuantumPure Alarms

QuantumPure Datalog

Controlled By
LN2 Overflow Protection
Enclosure AV12

LN2 Fill

PTN

GN2

PTA
PBA
Level

0.2PSI
1.2PSI
79.6%

Purifier System Status

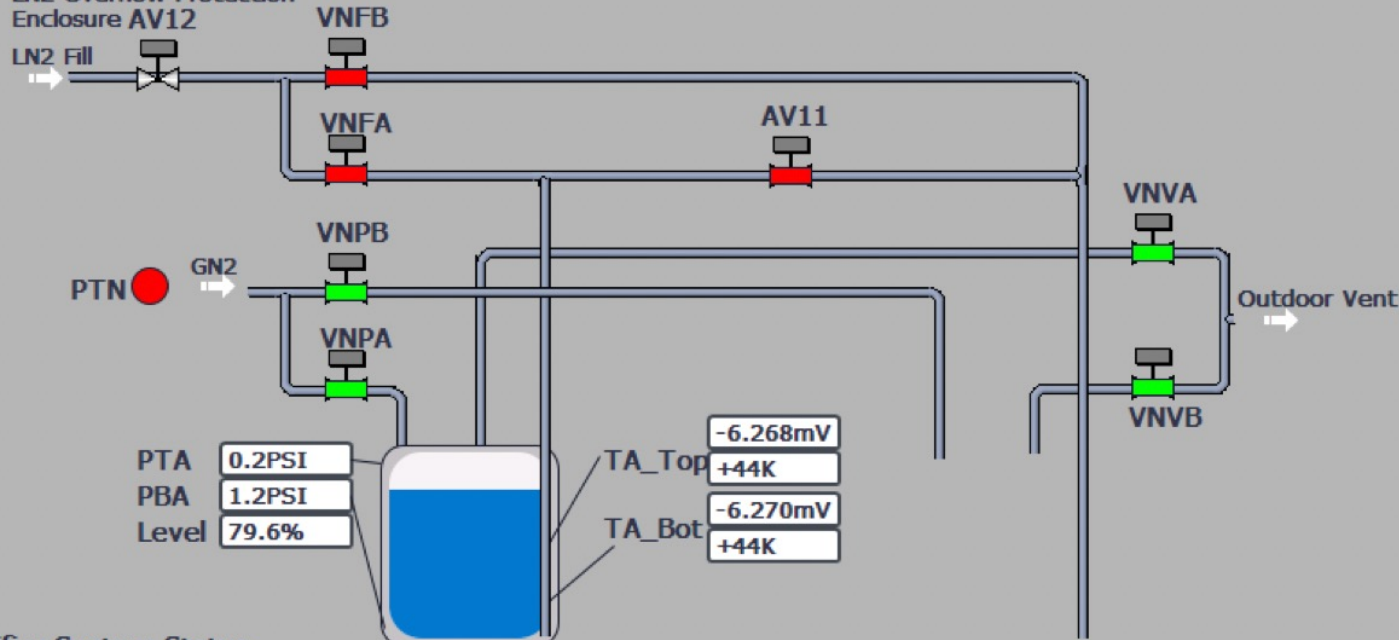
Manual

He Purifier

Manual

Heater MC
Cycle

Heater MC
Stop at SP

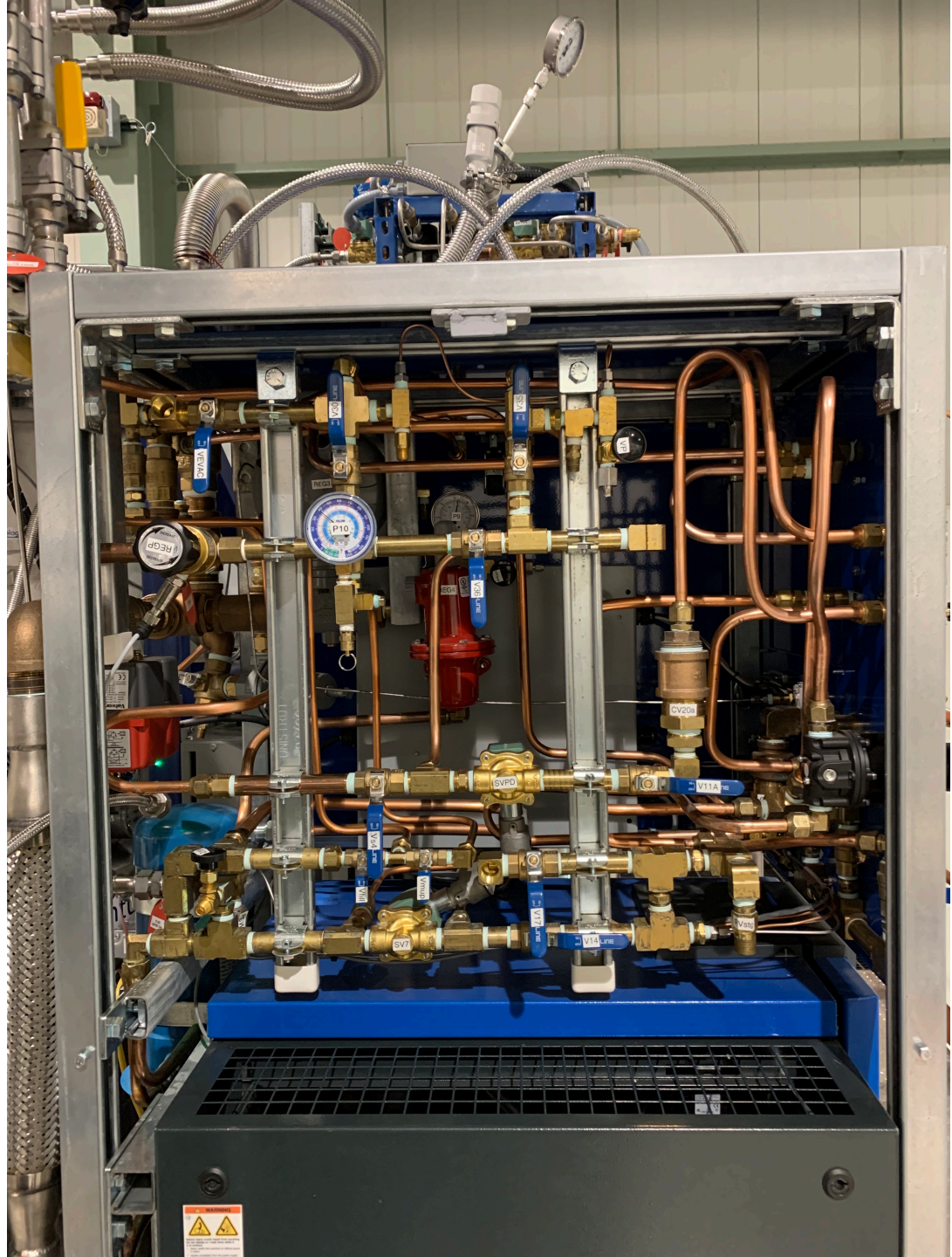


-6.268mV
+44K
-6.270mV
+44K



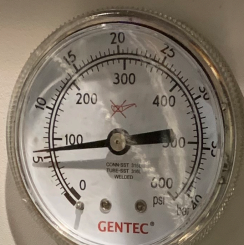


Tank volume: 1600 cubic ft





SUPPLY PRESSURE



RETURN PRESSURE

APPLICATION	10K GM CRYOCOOLER	4K GM CRYOCOOLER
CHARGE PRESSURE AT 25°C	15.0BAR 217PSIG	16.0BAR 232PSIG
MINIMUM COOLING WATER FLOW	15.0BAR 217PSIG	16.0BAR 232PSIG
	6.0LPM	6.0LPM

5B

VOLTAGE

Quantum
Quantum Helium Cryocooler
www.quantum-cryocooler.com



Links to check LCW and HMI parameters

<https://e906-gat1.fnal.gov/data-summary/e1039/target-QT-HMI.php>

<https://e906-gat1.fnal.gov/data-summary/e1039/slow-cont-acnet.php>