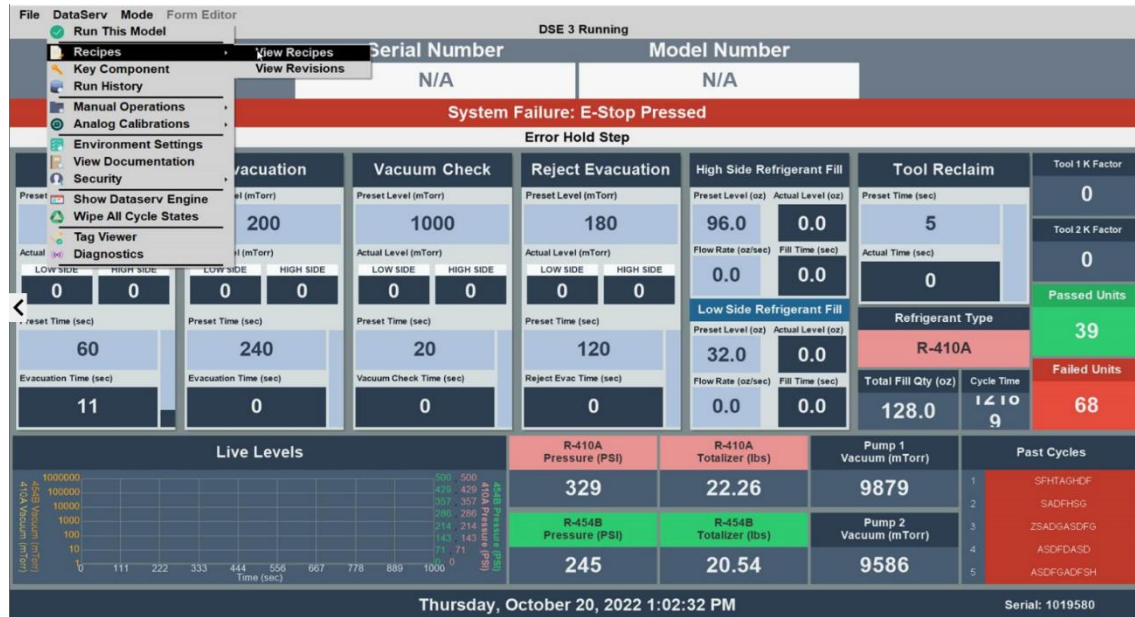


Operating DataServ screen:

1. Recipes:

This option allows the operator to add, remove, and configure recipes.

- Click on: **DataServ** tab → **Recipes** → **View Recipes**



- The window below will pop up and, under **Available Recipes**, recipes can be added or removed, (right click on the recipe for these options), or adjusted to meet that particular model's needs.
- Each step's preset level and time has its own field. The refrigerant fill step requires the user to enter the **Total Fill Quantity** and the **High Side Fill Percentage**. The PLC

The 'Recipe Configuration' window is displayed, showing the 'Available Recipes' list on the left and the 'Recipe Configuration' fields on the right. The 'Available Recipes' list includes BOTTLESHOT, SIQTEST1, SIQTEST2, and SIQTEST3. The 'Recipe Configuration' fields include Model Number (SIQTEST1), Model Description (test R-410A), Initial Evacuation (Preset Initial Evacuation Level (mTorr) 1000, Preset Initial Evacuation Time (sec) 60), Evacuation (Preset Evacuation Level (mTorr) 200, Preset Evacuation Time (sec) 240), Vacuum Check (Preset Vacuum Check Level (mTorr) 1000, Preset Vacuum Check Time (sec) 20), Reject Evac (Preset Reject Evacuation Level (mTorr) 180, Preset Reject Evacuation Time (sec) 120), Fill (Total Fill Quantity (oz) 128, High Side Fill Percentage % 75, Fill Type R-410A).

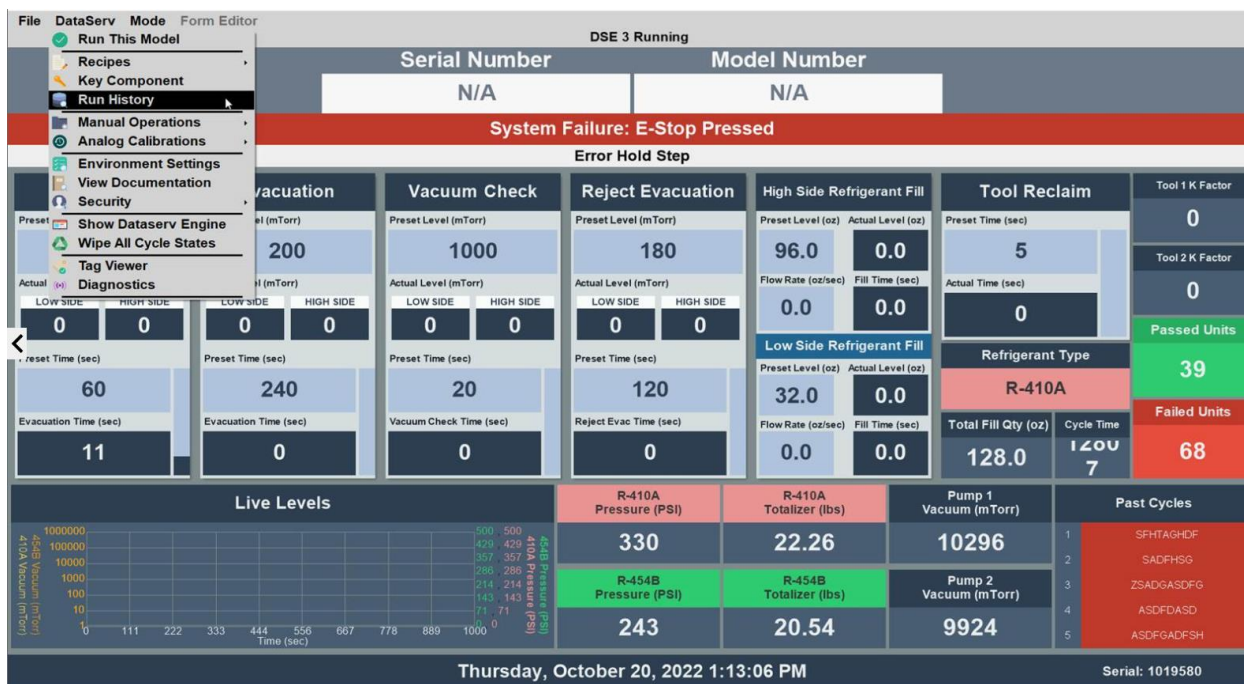
program performs the calculation to determine how much to charge in the low side of the unit, therefore that field is not available to configure.

- After the recipes have been added, removed or adjusted, hit the **Save** button to save the changes.

2. Run History:

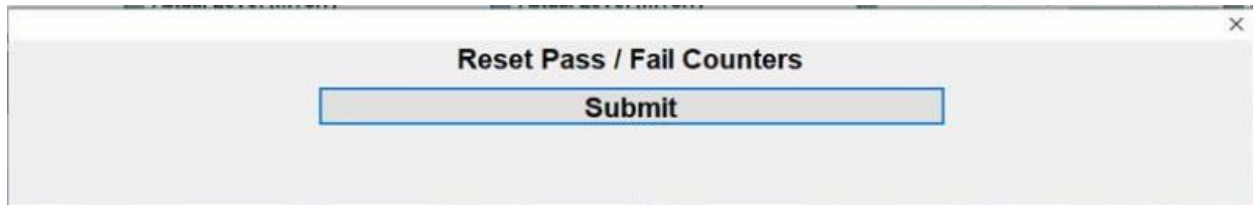
This allows the operator to see the full results of past cycles.

- Click on **DataServ → Run History**



- Under **Data Tables** in the window on the following page, select the desired outputs to see and click **Load Data**. As shown under **Final Data Completion Code**, the result of that particular cycle is listed. Scrolling to the right shows more specific information on the final values for each step, i.e. vacuum or fill level and time, etc.

- The window below will appear. Upon hitting the **Submit** button, the **Passed Units** and **Failed Units** data will return to 0 and begin counting up on the following cycles.

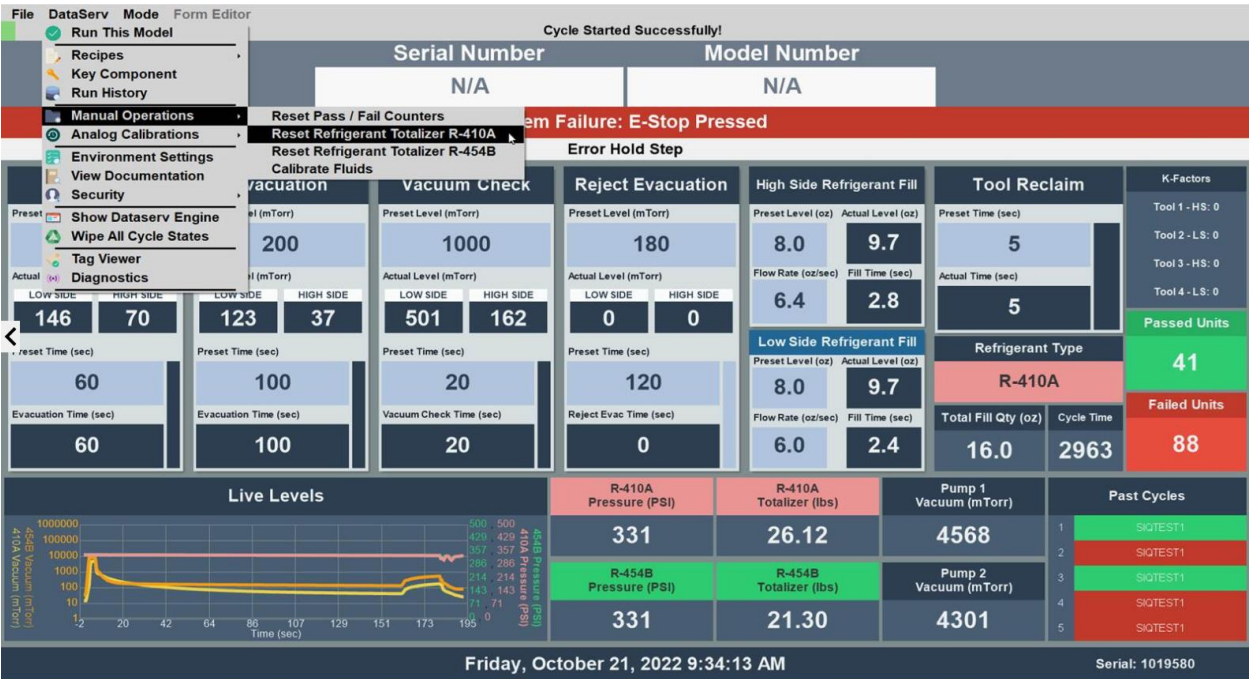


Reset Pass / Fail Counters

Submit

Reset Refrigerant Totalizers

- Click on **DataServ** → **Manual Operations** → **Reset Refrigerant Totalizer**



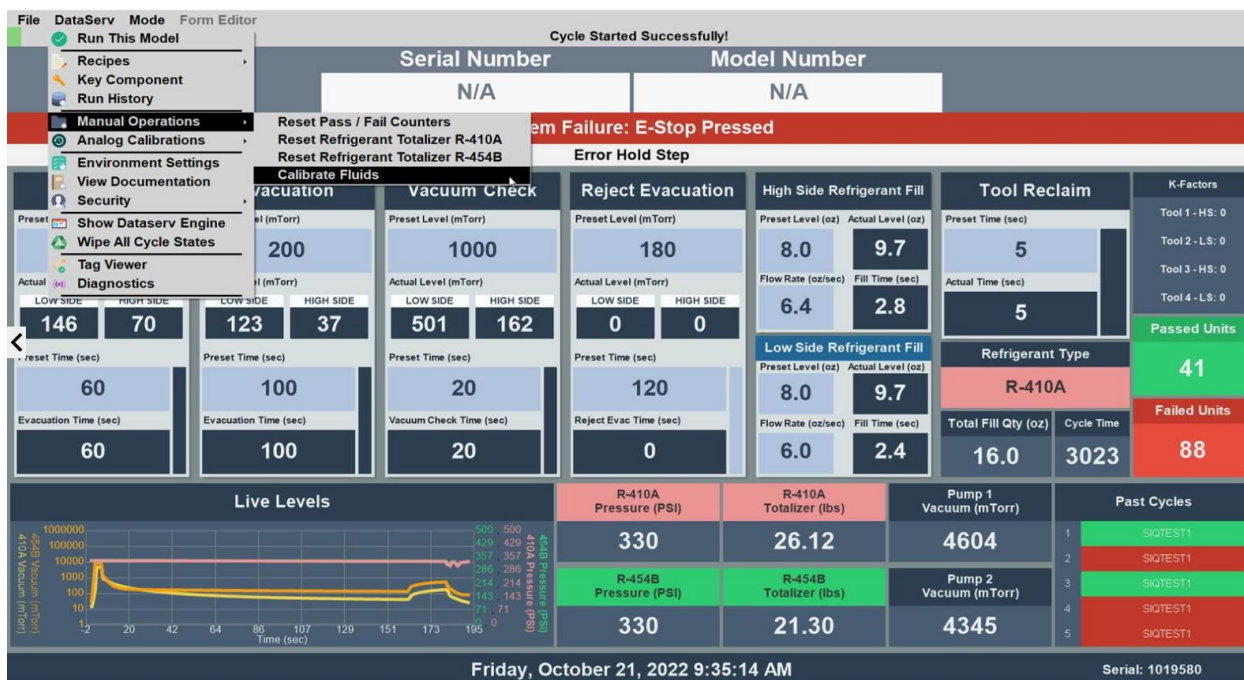
- Upon hitting the Submit button on the form that pops up, the **Refrigerant Totalizer** for the refrigerant selected will return to 0.

The screenshot shows a dialog box titled "Reset Refrigerant Totalizer R-410A". It contains a single button labeled "Submit".

Calibrate Fluids

Each charge tool may be calibrated using the **Calibrate Fluids** function. This can be used when a tool has been changed or upon first installation of the machine to ensure accurate refrigerant filling.

- Click on **DataServ** → **Manual Operations** → **Calibrate Fluids**



- Before calibrating, data needs to be collected on what the current charges are. Perform three to five test shots into a vessel on the tool being calibrated, and weigh it on a tared refrigerant scale. Record these weights as well as the displayed weight on the DataServ HMI.
- Using the information from the test shots execute the following in the **Calibrate Fluids** window:
- First, select which tool is to be calibrated from the **Fluid to Calibrate** dropdown menu. Under the **Desired Amount**, enter the correct, expected, charge size in ounces (oz). Under **Measured Amount**, enter the average of the values measured on the scale during the test shots. Under **Displayed Charge Size**, enter the average of the displayed charge sizes. After all fields have been filled, hit **Submit**.

Calibrate Fluids

Desired Amount

Measured Amount

Displayed Charge Size (oz.)

Operator Name

Calibration Comment

Fluid to Calibrate

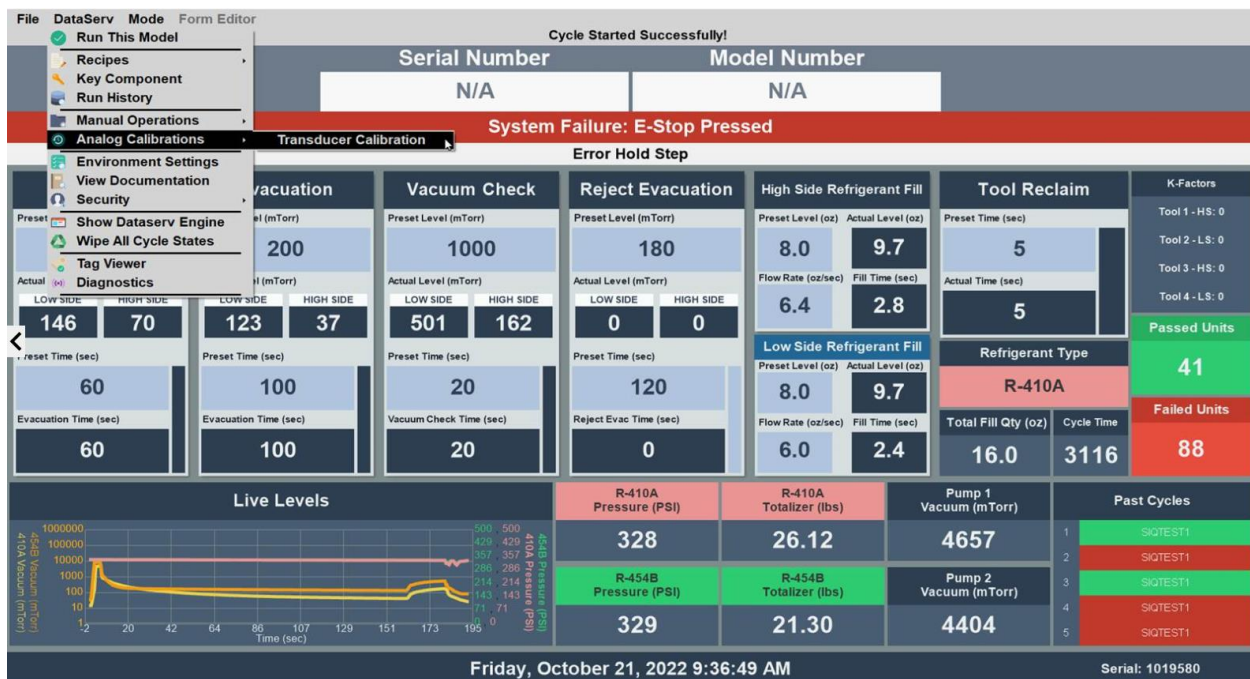
Tool 1 - R410A

Submit

4. Analog Calibration:

The Analog Calibration option is used to calibrate pressure transducers if they are found to be drifting.

- Click on **DataServ** → **Analog Calibration** → **Transducer Calibration**



- This calibration should be done on the initial power up of the machine with no refrigerant in the system. In the window below, under **Analog Device**, select which transducer is to be calibrated. Under **Raw Min** click **Lock Min**, which should be a value around 4000. This value correlates to the raw value coming into the PLC (4-20mA). Under **Desired Scaled Min** enter 0. This value correlates to the pressure in the unit, which should be zero. Use the gauge on the machine to verify that there is 0 PSI. Under **Raw Maximum** enter 20000. Under **Desired Scaled Max** enter 735.5, which is the maximum value the pressure transducer can read.

The screenshot shows a software window titled "frmRunAnalogCalibration". Inside, there's a section titled "Analog Device:" with a dropdown menu currently showing "R-410A Pressure Transducer". Below this, there are two columns of data:

Current Scaled Value:	Current Raw Value:
328.4899	11322

Below the data, there are two main calibration sections: "Calibrate Minimum" and "Calibrate Maximum". Each section has a "Raw" input field, a "Lock" button (Min or Max), and a "Desired Scaled" input field. At the bottom, there are fields for "Name:" and "Comment:", and two large buttons: "Calibrate" and "Set to Default".

5. User Operation Steps

- Connect tools to a unit. At this point, the cursor should be blinking under **Serial**.

File DataServ Mode **Form Editor** DSE 3 Running

Serial Model Number

Waiting for Barcode

Waiting For Barcode

Initial Evac	Evacuation	Vacuum Check	Reject Evacuation	High Side Refrigerant Fill	Tool Reclaim	K-Factors
Preset Level (mTorr) 1000	Preset Level (mTorr) 200	Preset Level (mTorr) 1000	Preset Level (mTorr) 180	Preset Level (oz) Actual Level (oz) 16.0 0.0	Preset Time (sec) 10	Tool 1 - HS: 0
Actual Level (mTorr) LOW SIDE HIGH SIDE 61 80	Actual Level (mTorr) LOW SIDE HIGH SIDE 0 0	Actual Level (mTorr) LOW SIDE HIGH SIDE 0 0	Actual Level (mTorr) LOW SIDE HIGH SIDE 0 0	Flow Rate (oz/sec) Fill Time (sec) 0.0 0.0	Actual Time (sec) 0	Tool 2 - LS: 0
Reset Time (sec) 60	Preset Time (sec) 100	Preset Time (sec) 20	Preset Time (sec) 120	Low Side Refrigerant Fill Preset Level (oz) Actual Level (oz) 16.0 0.0	Refrigerant Type R-410A	Tool 3 - HS: 0
Evacuation Time (sec) 2	Evacuation Time (sec) 0	Vacuum Check Time (sec) 0	Reject Evac Time (sec) 0	Flow Rate (oz/sec) Fill Time (sec) 0.0 0.0	Total Fill Qty (oz) Cycle Time 32.0 135	Tool 4 - LS: 0
						Passed Units 47
						Failed Units 95

Live Levels

410A Vacuum (mTorr) 1000000 100000 10000 1000 100 10 1 0 111 222 333 444 556 667 778 889 1000

410A Pressure (PSI) 500 500 429 429 357 357 286 286 214 214 143 143 71 71 0 0

R-410A Pressure (PSI) **342**

R-410A Totalizer (lbs) **37.86**

Pump 1 Vacuum (mTorr) **10**

R-454B Pressure (PSI) **342**

R-454B Totalizer (lbs) **21.38**

Pump 2 Vacuum (mTorr) **10**

Past Cycles

1	SIQTEST1
2	SIQTEST1
3	SIQTEST1
4	SIQTEST1
5	SIQTEST1

Friday, October 21, 2022 11:56:10 AM Serial: 1019580

- Scan a barcode. The banner message indicates that a cycle is ready to begin upon pressing the start button. This can be done either on the tool or the base enclosure.

File DataServ Mode **Form Editor** Cycle Started Successfully!

Serial Number Model Number

SIQTEST1 SIQTEST1

Press Start to Begin Cycle

Waiting for Start

Initial Evac	Evacuation	Vacuum Check	Reject Evacuation	High Side Refrigerant Fill	Tool Reclaim	K-Factors
Preset Level (mTorr) 1000	Preset Level (mTorr) 200	Preset Level (mTorr) 1000	Preset Level (mTorr) 180	Preset Level (oz) Actual Level (oz) 16.0 0.0	Preset Time (sec) 10	Tool 1 - HS: 0
Actual Level (mTorr) LOW SIDE HIGH SIDE 0 0	Actual Level (mTorr) LOW SIDE HIGH SIDE 0 0	Actual Level (mTorr) LOW SIDE HIGH SIDE 0 0	Actual Level (mTorr) LOW SIDE HIGH SIDE 0 0	Flow Rate (oz/sec) Fill Time (sec) 0.0 0.0	Actual Time (sec) 0	Tool 2 - LS: 0
Reset Time (sec) 60	Preset Time (sec) 100	Preset Time (sec) 20	Preset Time (sec) 120	Low Side Refrigerant Fill Preset Level (oz) Actual Level (oz) 16.0 0.0	Refrigerant Type R-410A	Tool 3 - HS: 0
Evacuation Time (sec) 0	Evacuation Time (sec) 0	Vacuum Check Time (sec) 0	Reject Evac Time (sec) 0	Flow Rate (oz/sec) Fill Time (sec) 0.0 0.0	Total Fill Qty (oz) Cycle Time 32.0 0	Tool 4 - LS: 0
						Passed Units 47
						Failed Units 95

Live Levels

410A Vacuum (mTorr) 1000000 100000 10000 1000 100 10 1 0 111 222 333 444 556 667 778 889 1000

410A Pressure (PSI) 500 500 429 429 357 357 286 286 214 214 143 143 71 71 0 0

R-410A Pressure (PSI) **342**

R-410A Totalizer (lbs) **37.86**

Pump 1 Vacuum (mTorr) **10**

R-454B Pressure (PSI) **342**

R-454B Totalizer (lbs) **21.38**

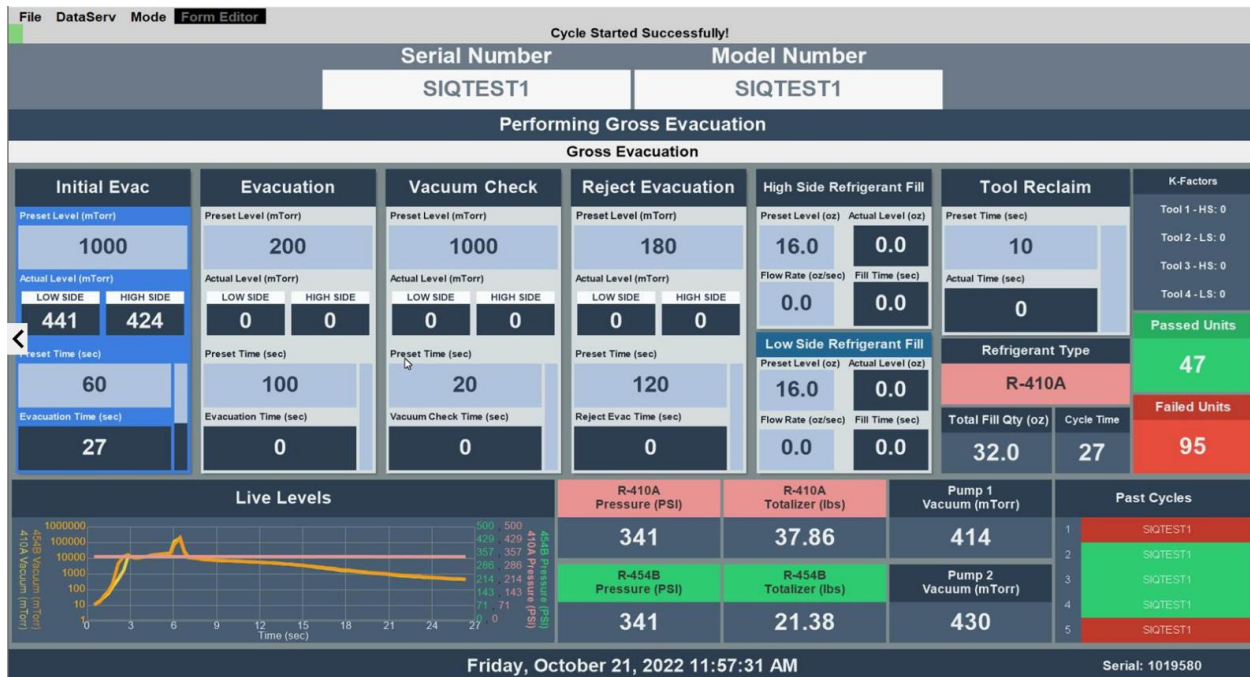
Pump 2 Vacuum (mTorr) **10**

Past Cycles

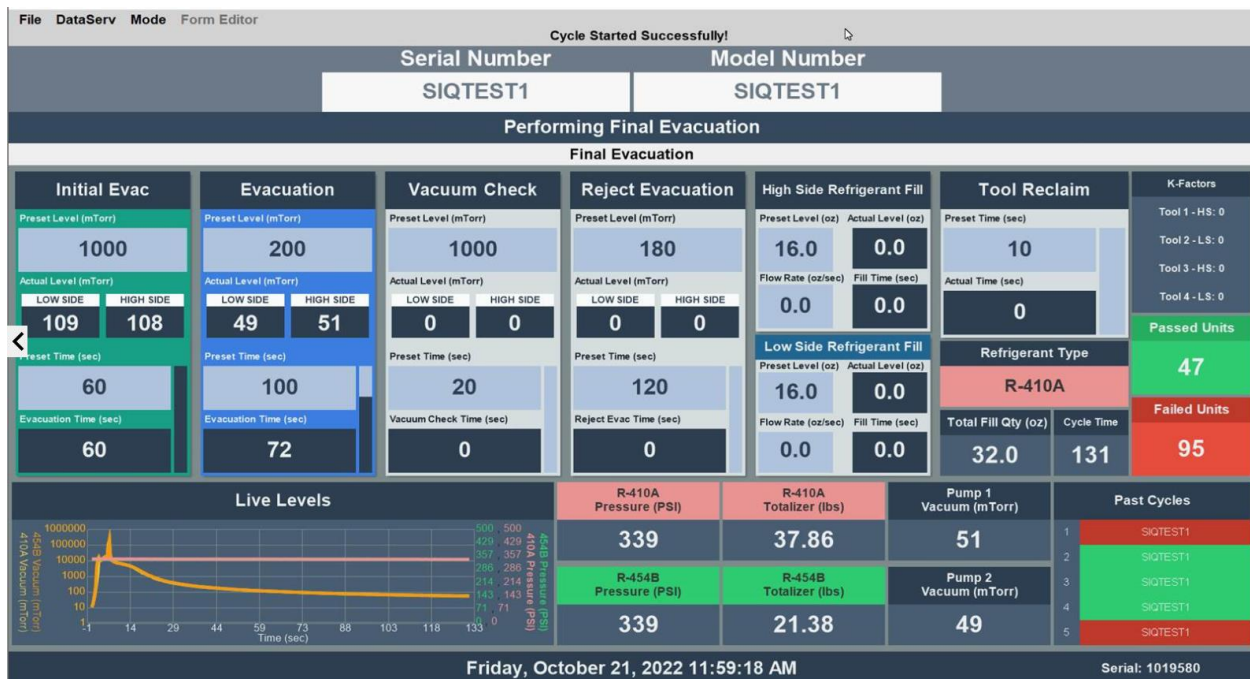
1	SIQTEST1
2	SIQTEST1
3	SIQTEST1
4	SIQTEST1
5	SIQTEST1

Friday, October 21, 2022 11:56:33 AM Serial: 1019580

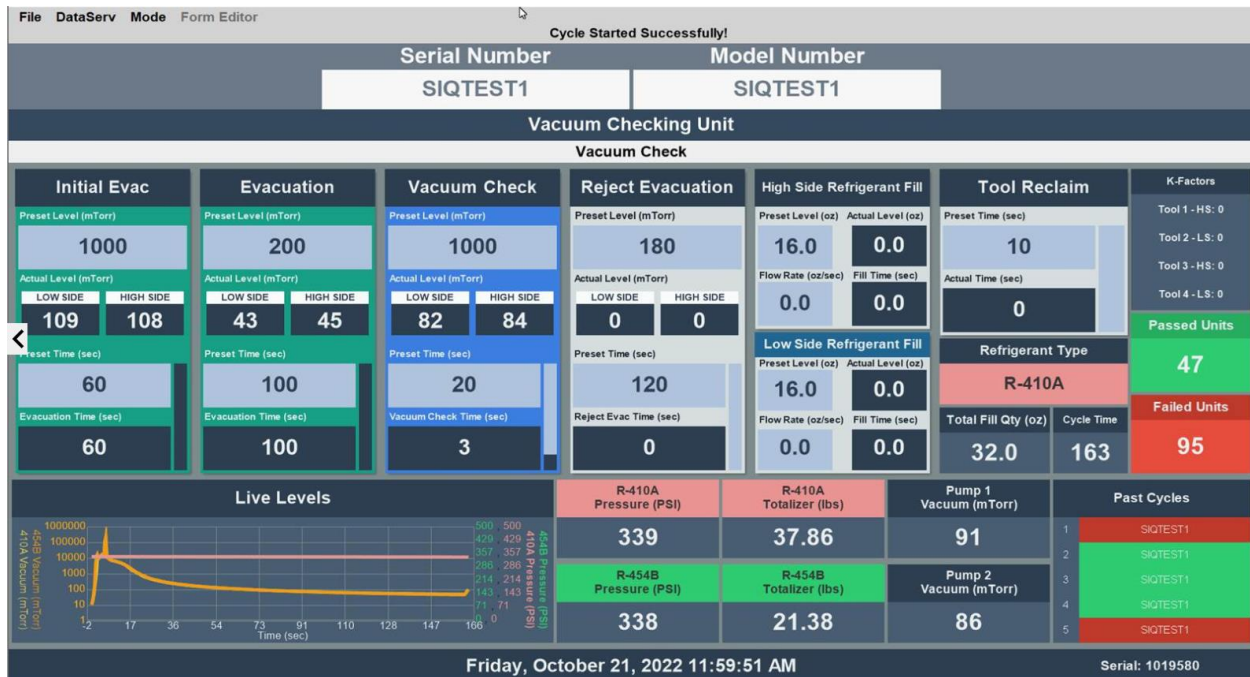
- Gross Evacuation. Gross Evacuation vacuums down the unit to an acceptable level to ensure that there are no large leaks.



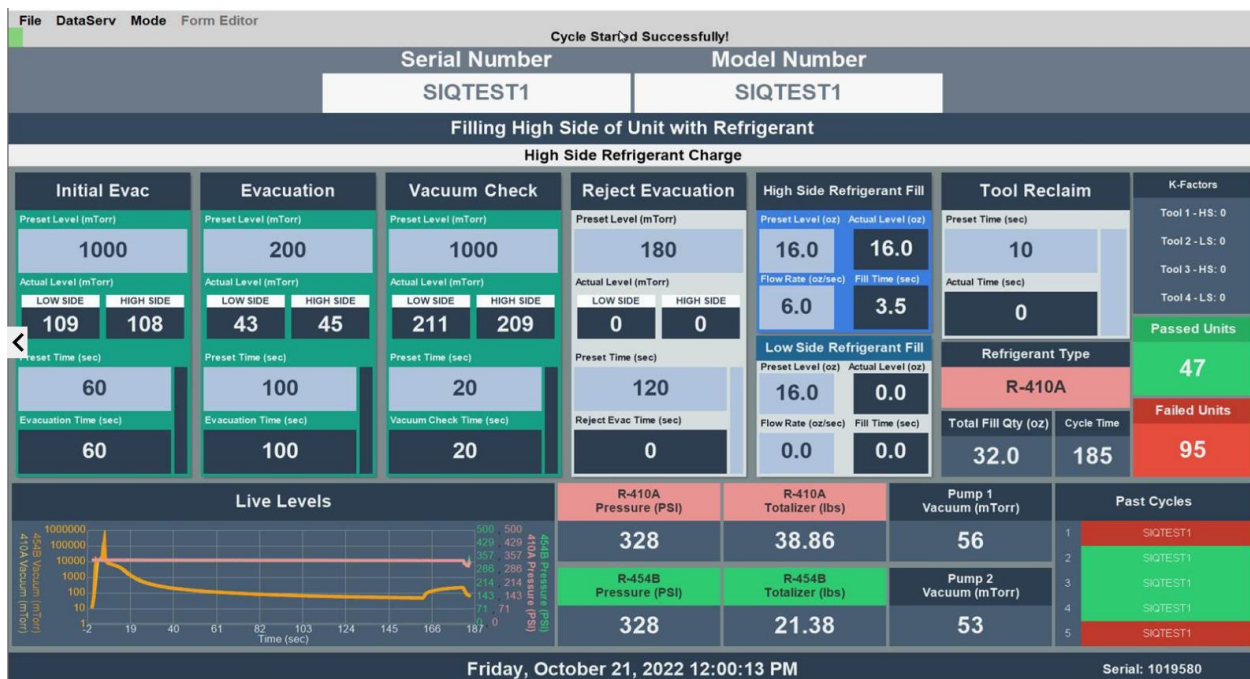
- Final Evacuation. The Final Evacuation is to dry out the unit in preparation for refrigerant filling.



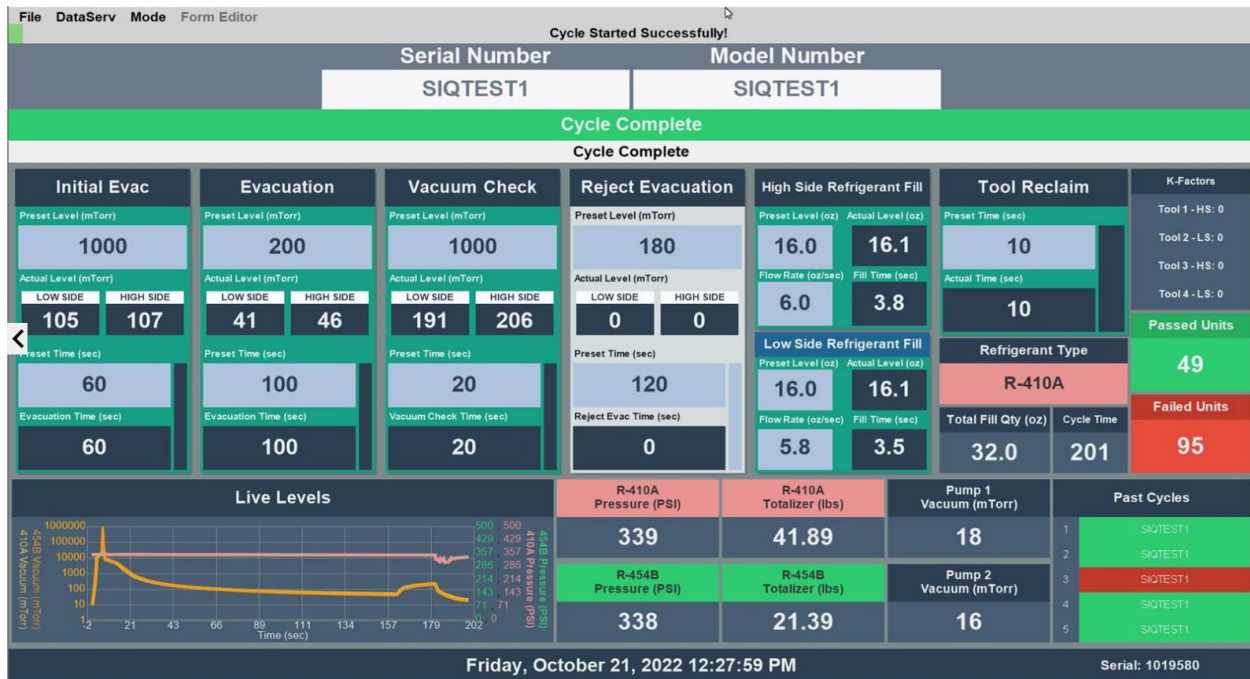
- Vacuum Check. The vacuum isolation valve is closed and the program looks for a slight rise in vacuum over the specified period of time. The unit should be able to hold the vacuum under the specified Preset Level.



- High/ Low Side Refrigerant Charge. The high side tool charges refrigerant first, filling to the calculated percentage. Then, the low side fills the remaining amount.

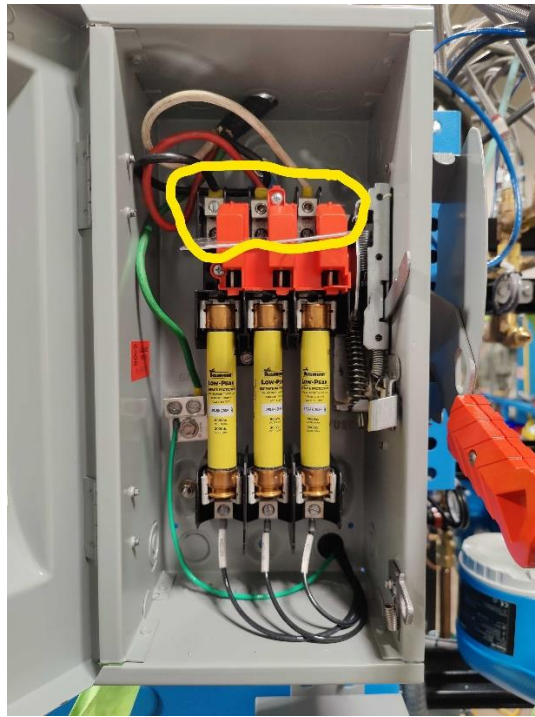


- Cycle complete. After reclaiming the small amount of refrigerant between the bottle and the refrigerant hoses, the cycle is complete and it is safe to remove the unit from the tools.



6. Turn ON/OFF Procedure

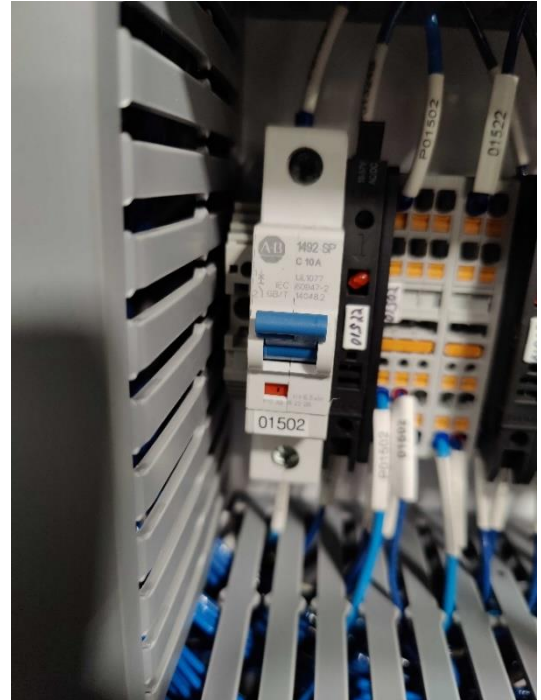
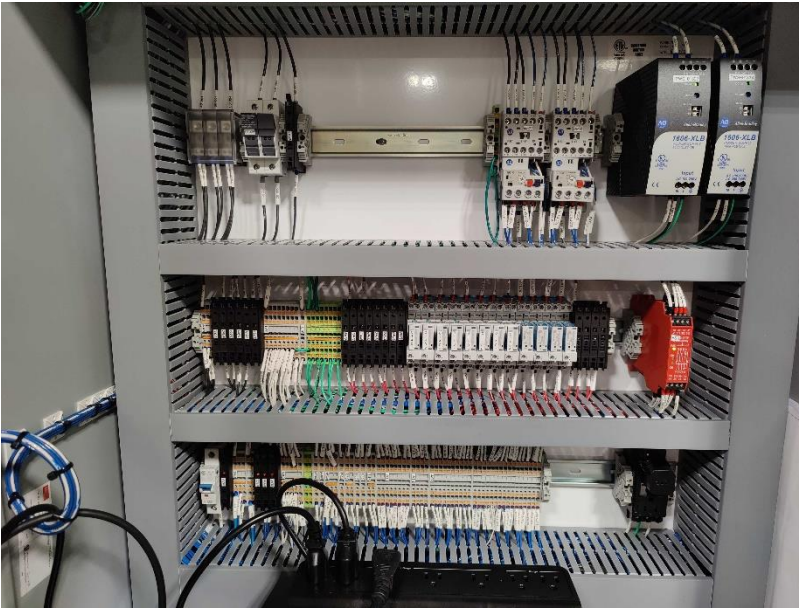
- **Powering ON:**
- Wire the disconnect to a 480VAC plant power.



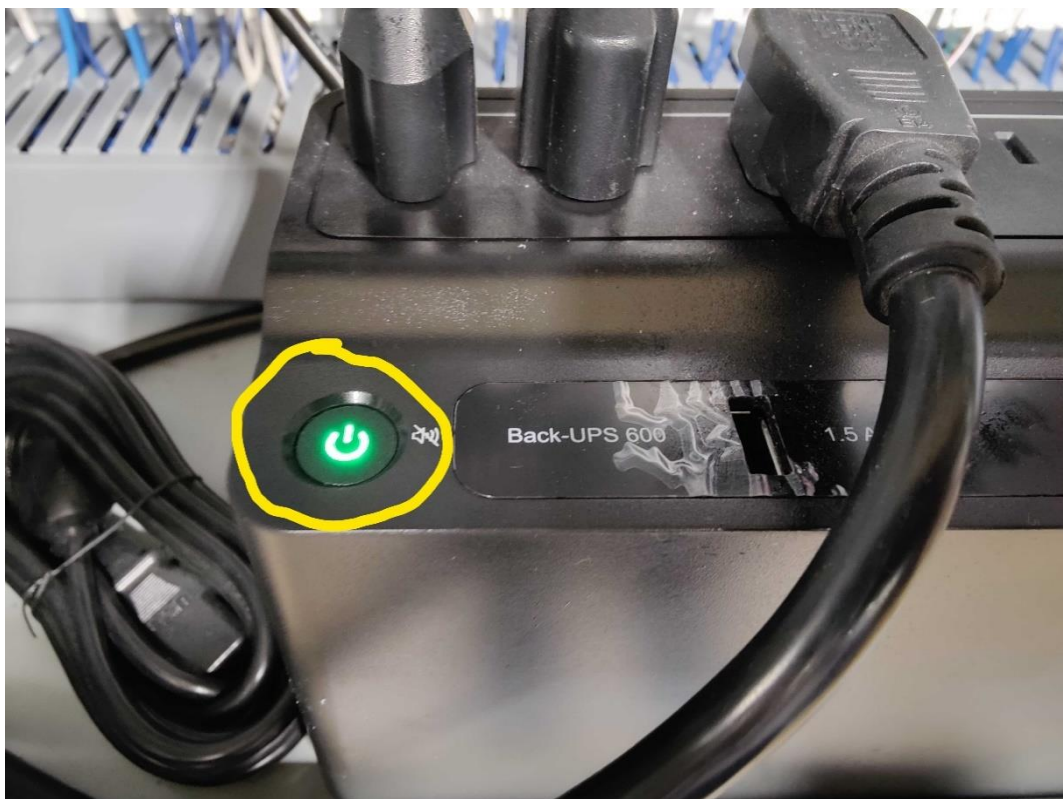
- Close the disconnect cover and raise the disconnect lever to the ON position (pictured below).



- Check that no fuses are blown, (indicated by a red LED), and make sure that the supply circuit breaker (01502) is ON.



- Power ON the UPS by holding the power button for a few seconds



- In the low voltage enclosure, power ON the PC and wait until DataServ is on.



- **Powering OFF:**
 - Close the refrigerant inlet valve(s)
 - Hit the E-Stop
 - Properly shut down the PC by hitting the Windows key on the keyboard → Shut Down
 - Open the high voltage enclosure door and turn OFF the UPS by holding down the power button for a few seconds
 - Turn off the disconnect switch on the side of the cabinet by pulling the lever down into the OFF position