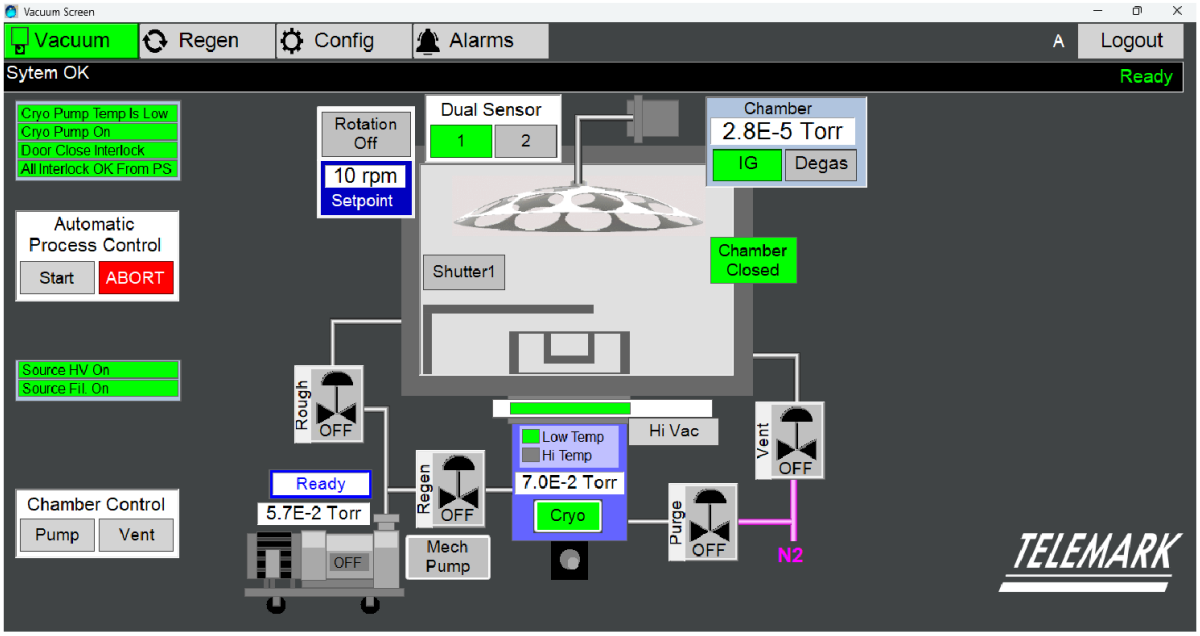
401 System Controller

INSTRUCTION MANUAL



Manual Rev 1.0.0 October 2025

telemark.com

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1 INTRODUCTION

Please read this manual carefully to ensure optimum operating conditions right from the start. This user manual handbook contains important information about the functionality, installation, start-up and operation of the Telemark System Controller.

1.1 Start Up

The system is set up so when the computer is powered up, the two software programs (System software and 861 DCM software) will **auto start**. It may take a minute or two, do not start any other programs. This is a standard computer running Windows 11 Pro with a touch screen.

1.2 Main Screen

If the system software is exited, the automation software may be restarted manually by double clicking on the **"Telemark"** icon on the Windows Taskbar

TELEMARK ICON ON TASKBAR

1.3 Login

If no one is logged in the login button will have **black** text and the logout button we'll have gray text. The opposite is true if someone is logged in. To login the **USER** will need to tap on the **LOGIN** button.

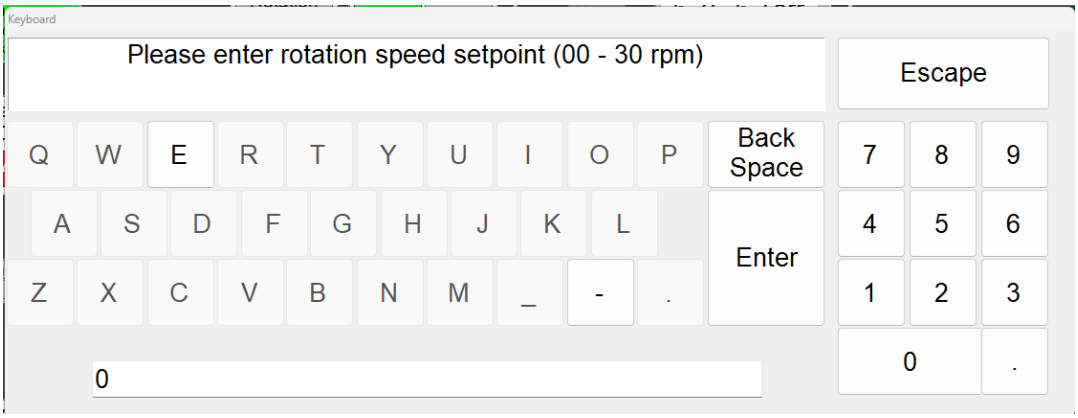
LOGIN BUTTON

1.4 User Name & Password

The **SECURITY** screen allows the User to login to the system. The **User** will need a **User Name** and **Password.**

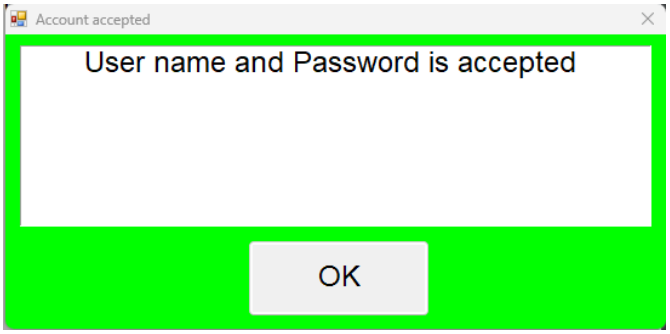
SECURITY WINDOW

When the **User** clicks the **Login Button** a **Virtual Keyboard** will appear. The **User** may use it or the computer keyboard to enter the **User Name**. After typing in your **User Name** click on the **Enter** button. Then do the same for the **Password.**



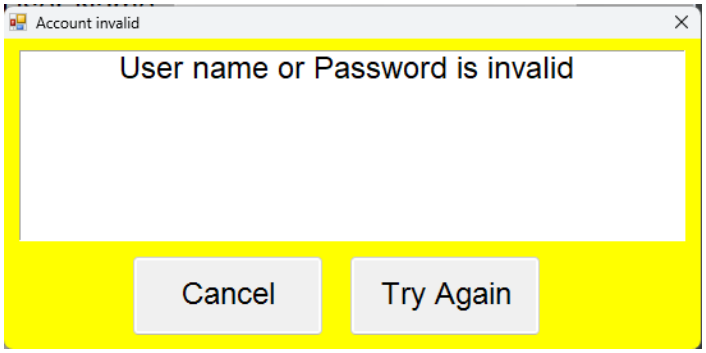
VIRTUAL NUMBER KEYBOARD

If the **User** has a valid **User Name** and **Password** they will be logged into the system and a message box stating that "**User Name** and **Password** are accepted" will appear. The **User** will need to click on the close button.



USER NAME ACCPTED WINDOW

If either the **User Name** or **Password** are incorrect a message box will appear to let the **User** know the "**User Name** or **Password** is invalid" try again. The **User Name** and **Password** are not case sensitive.



USER NAME INVALID WINDOW

LOGIN has four levels (Default, Operator, Engineering and Administration).

Default – will allows only viewing of the system but no control.

The **User** is allowed to display the **Vacuum Screen** to see the current status of the system, but is not allowed to control the system.

Operator – can run auto process, pump or vent the system.

Engineering – The **User** has all the abilities of the **Operator**, plus is allowed to manually control all the components of the system. The **Engineer** can also access the Regen screen to regenerate the cryogenic pump. The **Engineer** can also access the Configuration screen to set or change Vacuum, General and Leakback set points.

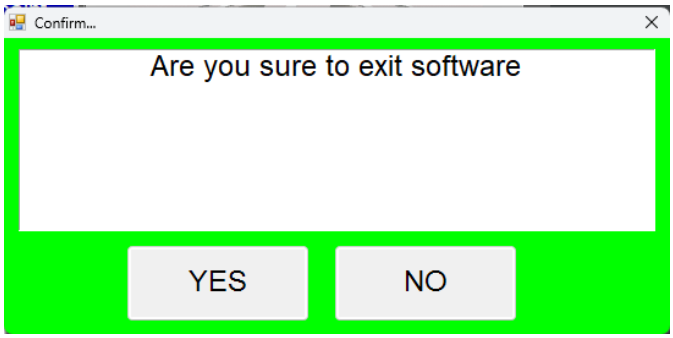
Administration – The **User** has full access to all screens, and controls. The Administrator can create passwords.

After **Login** the **User** will need to click on the **Close Button** to view the system. This will take the **User** to the **Vacuum Screen**. Which is the most common screen for starting. From this screen the **User** can view the status of the system.

The **User** can also click on the **EXIT** button to close down the software. The **User** must be **logged** in to **Exit** the software. When the software is **Exited** or **Closed, all automation will stop**.

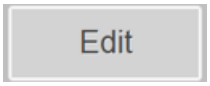
Windows EXIT BUTTON

If the **User** selects the **Exit** button, a message box questioning the request will appear. Asking “Are you sure to exit software?”. The **User** will need to click on the OK button to exit.



COMFIRM EXIT OF SOFTWARE WINDOW

The **EDIT Accoun**t button is only active if you are logged in as Administrator. The **Administrator** would use this to add or remove users to this system.



EDIT ACCOUNT

1.5 Top Bar

At the top and bottom of all screens, except for the **Home Screen** the **User** will find the **Top Bar**. They are designed to show the **User**, which screen is active and other pertinent information at all times, i.e., The **Current System User**, **Active Step**.

On the far-left side of the **Top Bar** are tabs for the screens that are available; **Vacuum, Regen, Config,** and **Alarms**. By clicking on any one of these buttons the **User** is automatically taken to that screen. Next to that is displayed the name of the **Current System User**.

Below that is the system message line, this will let the operator know what the system is doing

TOP BAR

The most common message you will see in the message bar is **Ready**. In this mode the user may manually turn on and off most items. If the system is an automatic run, is will display **In Process**, most of the buttons are grayed out and non-accessible. The only way to stop an automatic run before it completes is to use one of the **ABORT** buttons.

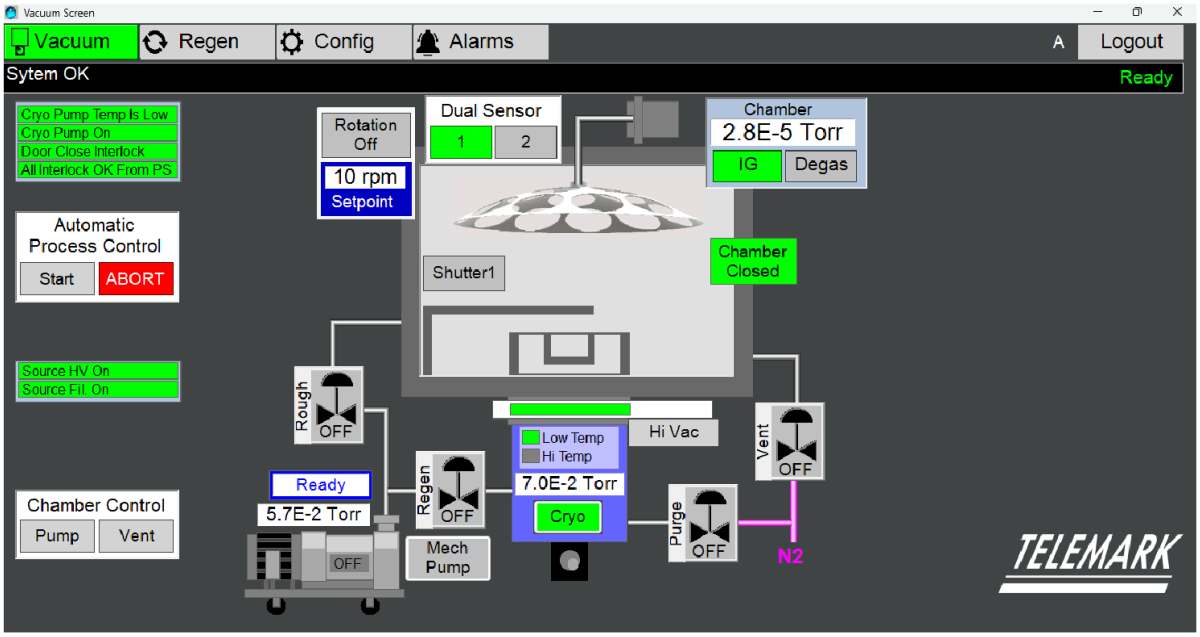
1.6 Virtual Keyboard

Throughout the software whenever there is a need to enter **alpha-numeric** or just **numerical** values a **Virtual Keyboard** will appear allowing the **User** to use the touch screen. The **User** can still use the computer keyboard if they would like. The **alphanumeric Virtual Keyboard** was shown in the Password section. The top message box on the **Virtual Keyboard** will show where the numbers are being entered and what is the allowed range. The operator cannot enter a value outside that range.

2 Vacuum

2.1 Vacuum Screen

The **Vacuum Screen** controls the **Pumping** and **Venting** of the Main chamber. From this screen the **User** can view and control all the **pumps** and **valves** needed to control the pressure in the chamber. The top and bottom bar were covered in the previous section. We will now look at the automatic process control, chamber pressure gauges, substrate rotation, input status, interlocks, chamber components and pumping.



VACUUM SCREEN

2.2 Automatic Process Control

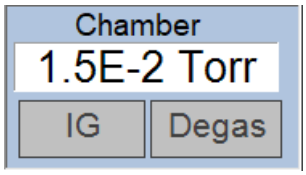
In this system the actual process parameters are set in the **Telemark 861 deposition controller**. At the beginning of a run this software will handle all the pomp down, substrate rotation and ensure all interlocks are made. At the end of an automatic run this software will handle all venting and closing of valves.

AUTOMATIC PROCESS CONTROL

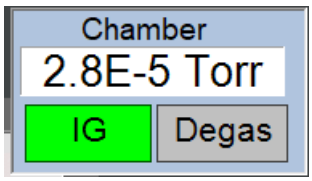
To perform an auto run from this software the operator will need to enter the rotation speed, load the substrates in the system, close the chamber and tap the start button in the Automatic Process Control box. The other process parameters time and length of process need to be set in the **Telemark 861**. At any time during the run, the process may be stopped by tapping the **ABORT** button in the automatic process control window, at the top right of the main screen or at the bottom center of the main screen. This will stop all motors, turn off power supplies and close all valves. We will cover this in greater detail in the alarms section.

2.3 Chamber Pressure Gauges

The pressure inside the chamber is displayed in a window on the top left of the chamber. This will display the pressure from **ATM** (**atmosphere)** down to the **1x10^{-9} Torr**. To turn on the Ion gauge to read the pressure in the chamber the Operator will need to tap on the **IG** button. When the Ion Gauges is on the bottom will have a **green** background. The **Ion Gauge** box has a **Degas button** for degassing the **Gauge**. When turned on, the button will turn **green** and the filament in the gauge will come **on for 3 minutes** or until it is turned off by the **User**. This will only work at high vacuum. The heating filament will activate any gas or water vapor inside the Gauge and force it to be pumped out by the **Cryo.** This will give a more accurate reading to the **Ion Gauge** and help the base pressure.



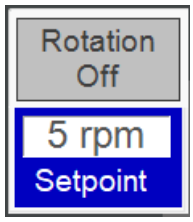
ION GAUGE DISPLAY OFF



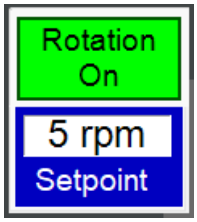
ION GAUGE DISPLAY ON

2.4 Substrate Rotation

The substrate rotation window is where the operator will turn the rotation on and set the speed. The operator can set the speed by clicking on the set point rpm box. This system has a limit of 30 rpm. When you tap on the set point box a virtual keyboard like the one shown earlier will appear. The rotation will start when the operator taps on the rotation button, and the background turns green. The substrate holder in the top center of the chamber we graphic start to move to show the substrate rotation is on. To start the rotation there must be of value greater than zero in the set point box. In a non-run mode the Substrate Rotation may be turned on to test the motor or reposition the substrate holder to load parts. In an automatic run the substrate rotation will automatically start and stop.



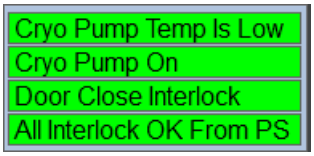
SUBSTRATE OFF



SUBSTRATE ON

2.5 Interlocks

The **Interlock** display is located below the Automatic Process Control buttons. All boxes must be **green** to start an automatic run. The boxes will be **green** when items in the interlock are made.



Interlocks Display

All items in the **Interlock All** window must be on to start an automatic run. If at any time doing an automatic run one of these interlocks should go off, the run will stop. The **Alarm** window will appear with the message showing what caused the stoppage.

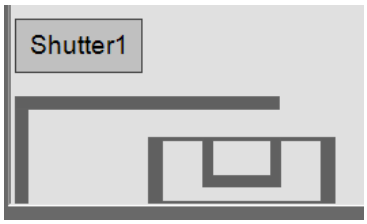
Interlock Window

2.6 Chamber Components

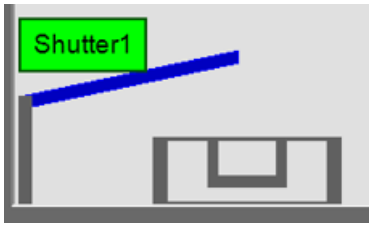
Shutter

The shutter may be opened or closed by tapping on the shutter or E-Beam button. If the shutter is closed the button is **blue** and **green** if it is open. The shutter will automatically

be opened or closed in an automatic run. The graphic inside the chamber will move to show if the shutter is open or close.



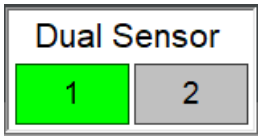
Shutter Close



Shutter Open

Dual Crystal Sensor

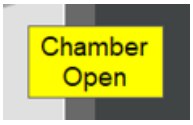
The Dual Crystal Sensor shutter may switch between crystal by pressing the buttons numbered 1 or 2. The button that is **green** is the one that has the crystal revealed to the source.



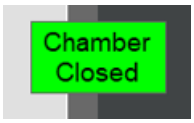
Dual Crystal Sensor

CHAMBER

The Main chamber has a switch so the software can tell if the chamber is open or closed. A message window will pop up and inform the operator if the chamber is open when the operator tries to run the system when the chamber is open. If this interlock is not made the Power Supply will not turn on. To check to see if this switch is made or not. The operator can look on the **Vacuum** screen and see the chamber image. The operator may also look at the interlock screen to check to see if the chamber switch is active or not.



CHAMBER OPEN

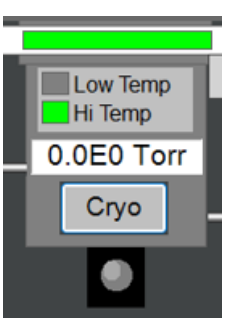


CHAMBER CLOSED

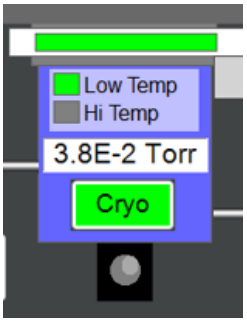
2.7 Pumping

2.7.1 Cryo

The **Cryo** display shows if the **Cryo is on** or **off,** and if the temperature is Low or High.



CRYO OFF & WARM



CRYO ON & COLD

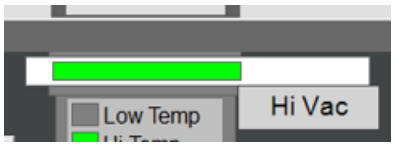
The **Cryo** has three temperature states. Two states are displayed on the **Cryo control box** of the system. They are commonly set at **Hi Temp 290K** and **Low Temp 20K**. The software checks to see if the **Cryo** is in Low temp before starting an auto run or pumping down the chamber. The hot and cold will be used in the **Regen** sequence, covered in that section.

Hi Temp	Low Temp
OVER 290K	BELOW 20K

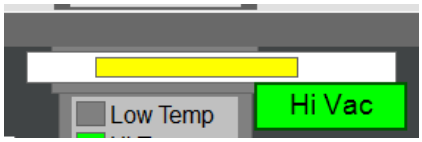
The temperature for the high and low settings of the Cryo maybe changed at the temperature readout display on SCM10. The software only reports if the high or low value is met. These are normally set at the 20 K Low and 290 K Hi temperatures. The maintenance person may set these at whatever they would like.

2.7.2 HI VAC Valve

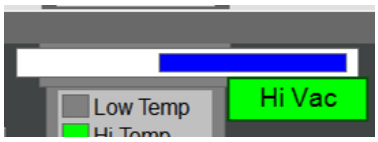
The **HI VAC VALVE** is displayed above the **Cryo** and is **Green** if closed and **Blue** if open. The display will move left and right. The software will not open the **Hi Vac Valve** if there is a large difference in pressure from the **Cryo** and **Chamber.** The **User** will get a warning message box.



HI VAC VALVE CLOSE



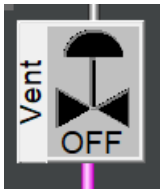
HI VAC VALVE TRANSITION



HI VAC VALVE OPEN

Chamber Vent

The **Chamber Vent** valve under the chamber displays **black** if closed and **purple** if open. The pipe from the valve to the chamber will change color to match the line on the other side when the valve is open. The **Chamber Vent** valve may be opened or closed by clicking on it in manual mode. The **Hi Vac** valve to the **Cryo** must be closed to open the vent valve.

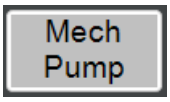


Chamber Vent Valves Closed

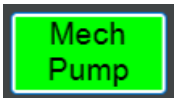
Chamber Vent Valve Open

Mechanical Pump

The **Mechanical Pump** located at the lower right corner of the **Vacuum** screen may be turned on or off in manual mode by clicking on the **Mech Pump** button to the left of the pump. The button will be **Gray** if the pump is off and turn **Green** to show the pump is on and running.



MECHANICAL PUMP OFF



MECHANICAL PUMP ON

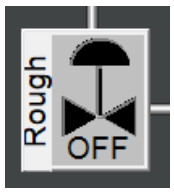
The **Mechanical Pump's** roughing line pressure is displayed above the pump. If the foreline pressure is too high, a **red** Not Ready box will be displayed under the pressure. If the foreline pressure is low enough to rough down the main chamber the box will have a **blue** ready label

Four Line Not Ready

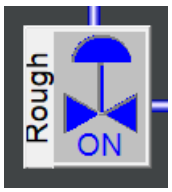
Four Line Ready To Rough

Chamber Rough

The **Chamber Rough** valve under the left corner of the chamber displays **black** if closed and **blue** if open. The pipe from the valve to the chamber will change color to match the line on the other side. The **Chamber Rough** valve may be opened or closed by clicking on it in manual mode, provided the **Mech Pump** is on and the foreline box read **Ready**.



Chamber Rough Closed



Chamber Rough Open

2.8 Main Chamber Pump and Vent Sequence

The **Vacuum Section** pointed out the **Pump** and **Vent** on the Chamber Control box. These are two short programs that perform one part of the auto run. They will ensure that items are turned on and off at the appropriate time. The **User** can use the sequence to either **Pump down** or **Vent** the chamber without worrying about all the small details of checking if pumps are on or the status of valves etc.

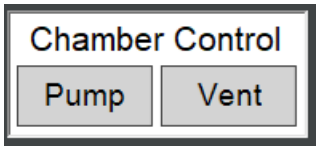
The automatic Pump sequence performs the following steps.

1. Verify Mech Pump and Cryo Pump are on.
2. Check if Chamber is closed.
3. Close Hi Vac valve, Gas valves, Vent valve.
4. If already at or below crossover pressure. Which is set on the configuration screen., then

   jump to step 8. Otherwise go to Step 5.
5. Opens roughing chamber valve.
6. Pumps until reaching crossover pressure. Which is set on the configuration screen.
7. Close roughing chamber valve, wait three seconds.
8. Open Hi Vac valve, wait fifteen seconds
9. Turn on Ion Gauge.

The automatic Vent sequence performs the following steps.

1. Close the Hi Vac valve, Gas valves and Rough valve.
2. Turn off the Ion gauge.
3. Wait fifteen seconds.
4. Open the Vent valve.



CHAMBER CONTROL WINDOW

3 AUTO PROCESS

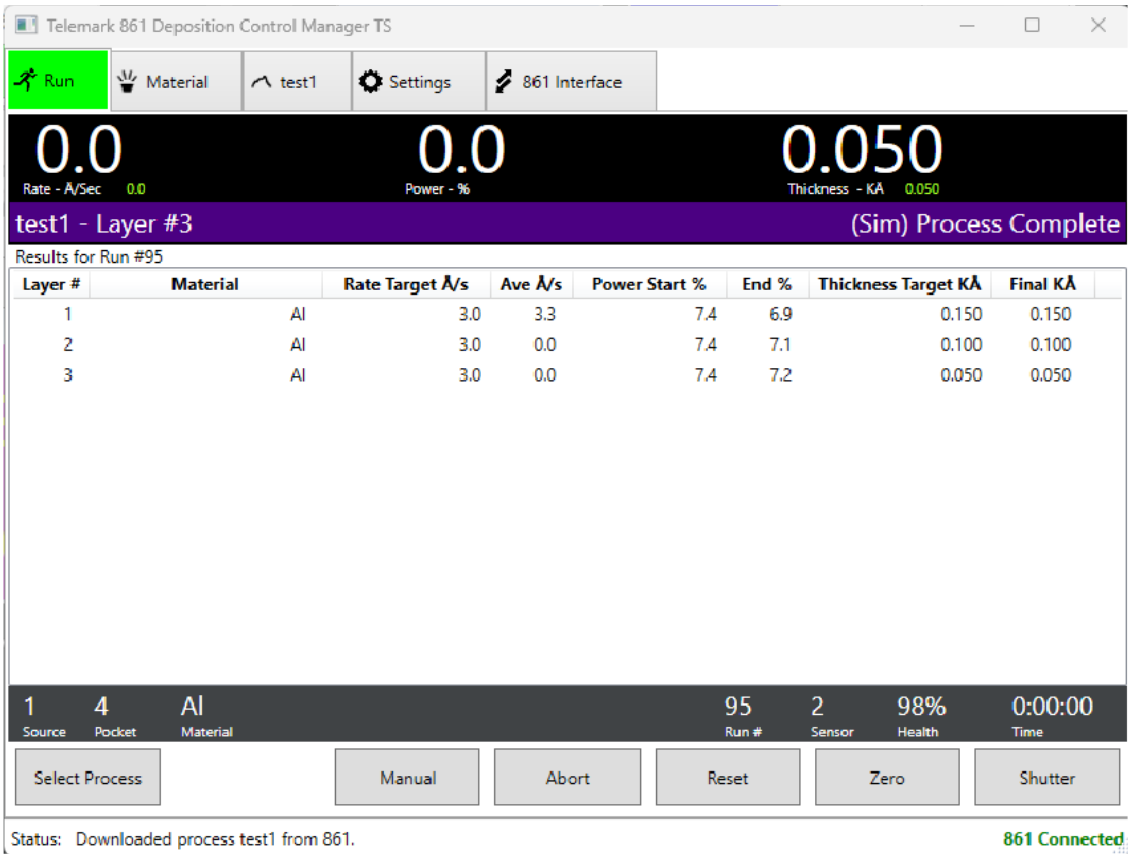
This system uses the **Telemark 861** process controller. All deposition rates, power levels, duration of time and other process parameters need to be entered into the 861 Deposition Control Manager TS touchscreen or directly on the 861 touchscreen.

The system software we'll handle the initial pump down of the chamber, set the rotation speed, ensure that all pumps are on and the pressures is at the correct level to start a recipe. If an interlock is not on or a valve is not in the correct position, the system software will not allow the process to start. In the Config section you'll see how to set the base pressure and other tolerances needed during the process. In an automatic Run if any of the tolerances are out of line for 10 seconds or longer the system will perform an Abort.

To learn how to set the values for an automatic run using the **Telemark 861** controller you'll need to refer to its Manual.

After the **Telemark 861** controller has completed an automatic process, it will turn control back over to the TELEMARK software. The TELEMARK software will handle all the venting and positioning of valves. After the TELEMARK software has vented the chamber, it will display a process completes message.

The 861 Deposition Control Manager TS is a separate software to select, start, monitor, and log processes.

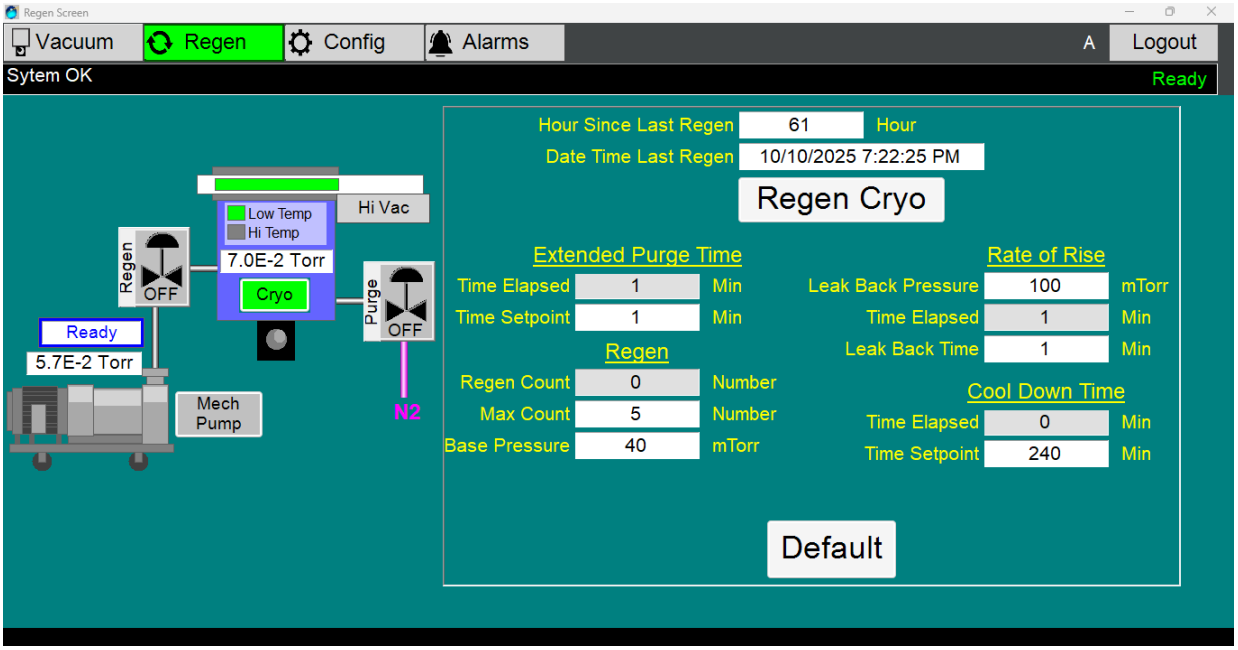


861 Deposition Control Manager TS

4 REGEN

4.1 Regen Screen

The **Regen Screen** is where the maintenance person would do a **regeneration** of the **Cryo** pump. **Regeneration** is to warm up the **Cryo** by purging it with warm N_2 gas. This may be done manually or fully automatically via the software. On the right side of the screen is the **Automatic Regeneration** box, which allows the maintenance person to set each of the appropriate values.

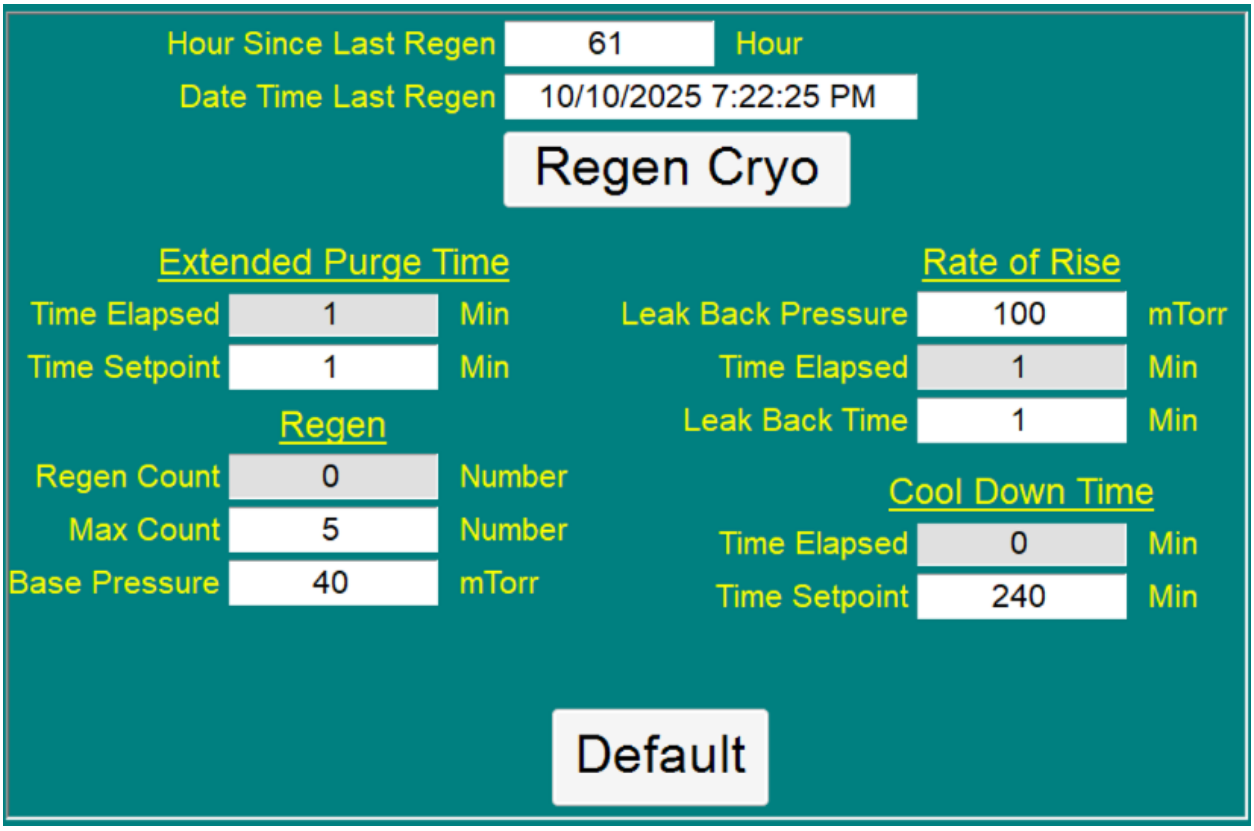


REGEN SCREEN

4.2 Automatic Regen

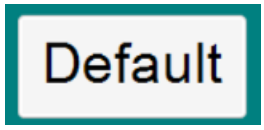
To start an automatic regen all the **User** needs to do is click on the **Regen Cryo** button and if everything is set correctly the regen will start. If something is not set correctly, like if the gate **valve** is **open** or the mechanical pump is off, a message box will appear stating what the problem is and ask the **User** to correct it before moving on.

Regen



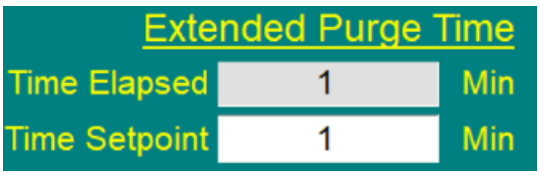
AUTOMATIC REGEN SETTING WINDOW

If the **User** is not sure what values to set, there is a **Default** button. By clicking on a **Default** button all the values below will be filled in. This sets the standard values, which were the values at the time the system was shipped.



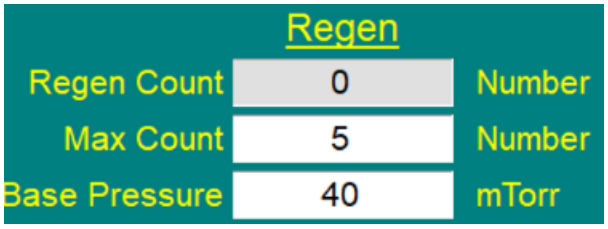
DEFAULT BUTTON

The extended purge time is the time that the N2 gas will continue to purge after the set point has been met. The maintenance person can enter the time in the times set point box The actual elapsed time will be displayed in the top box This is done to ensure a good clean purge.



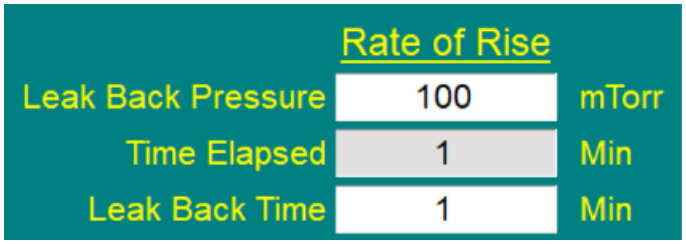
EXTENDED PURGE TIME

The regen count is how many times the rate of rise test has been tempted. The Max count is how many times it may try to pass the rate of rise test before failing. If the count is greater than the Max count box. The system will go into an Abort. The base pressure is the pressure the system needs to pump down to after each failed rate of rise test.



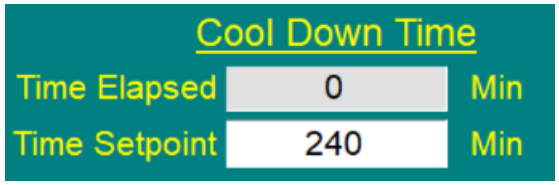
REGEN COUNT

The Leak Back Pressure is how far the pressure may climb, in the allowed leak back time. The elapsed time displays the time that has passed so far. In the example below if the system leaks back by more than 100 mTorr in 1 minute, that is a failed test.



RATE OF RISE

The cool down time is the amount of time after a rate of rise tests have been passed that the system must cool down to the low temp setting. The low time setting is usually 20 K. The set point is the number of times allowed, and the elapsed time is how much has passed.

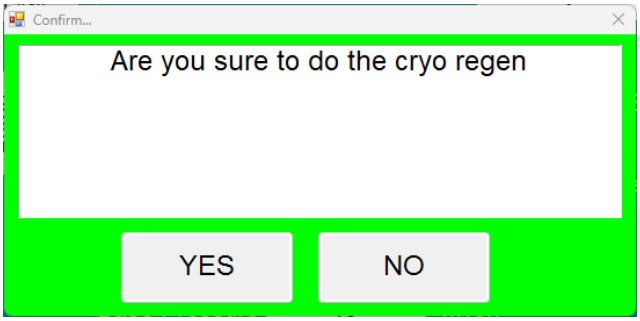


COOL DOWN TIME

The steps for an ***automatic regeneration*** are listed below.

1. Close the high vacuum valve.
2. Turn off to Cryo cold head.
3. Open the Cryo purge valve.
4. Turn on gas heater.
5. Wait for Cryo temperature to reach the Hot setpoint.
6. Continue purging Cryo Extended Purge time.
7. Turn off the gas heater and Wait 30 sec.
8. Close Cryo purge valve.
9. Increments regen rough counter.
10. Open the Cryo rough valve.
11. Wait until rough base pressure is achieved.
12. Close Cryo rough valve
13. Do leak back test for specified time.
14. Compare leak rate with Rate of Rise pressure.
15. If leak back test did not past go back to step 3.
16. If number of leak back tests is greater than the Regen Max Count go to Abort.
17. If Rate of Rise test was passed.
18. Turn on the Cryo cold head.
19. When pressure reaches exchange point open Cryo Hi Vac valve.
20. Wait five seconds turn on Ion Gage.

Note: After clicking on the *Regen Chamber* button, a message box will come up to confirm that you really want to do a regen. The reason for this is, once the Regen starts, the system is unstable until the regen is completed.

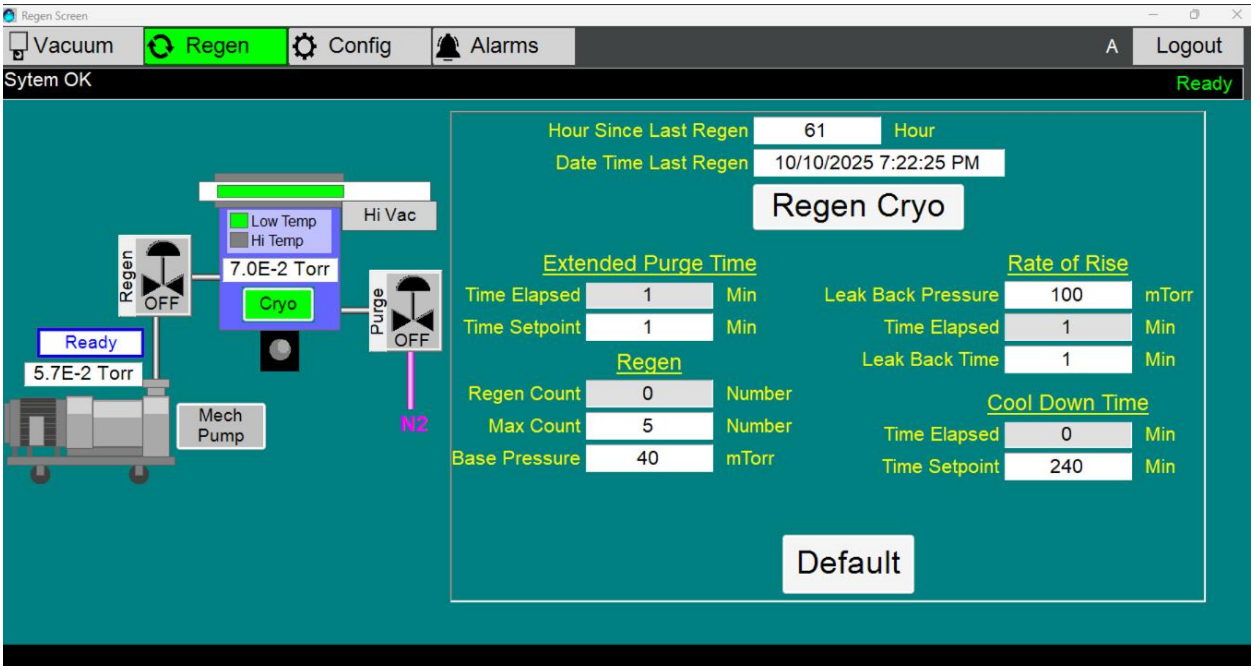


REGEN CONFIRM MESSAGE

On the upper right corner of the screen is a ***Time Since Last Regen.*** This shows in ***hours*** how long it has been since the last ***Regen.*** It will automatically be reset to zero each time the ***User*** dose an automatic Regen.

TIME SINCE LAST REGEN WINDOW

Once the regen starts the ***Regen Chamber*** button will be ***green*** and you'll see the piping and the C***ryo*** will show the ***purple spray*** of gas as it vents the Cryo pump.



CRYO REGEN

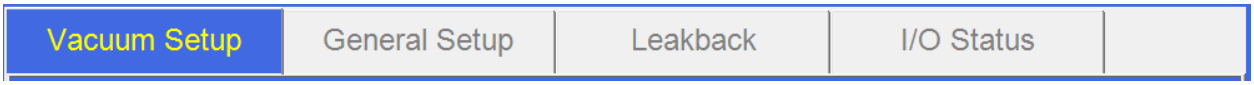
After the chamber has been **vented** and **warmed** up it will be **roughed down** by the **Mechanical Pump**. The pipe will turn ***blue*** from the **Cryo** to the pump showing the valve is open and the pump is on.

5 CONFIG

5.1 Configuration Screen

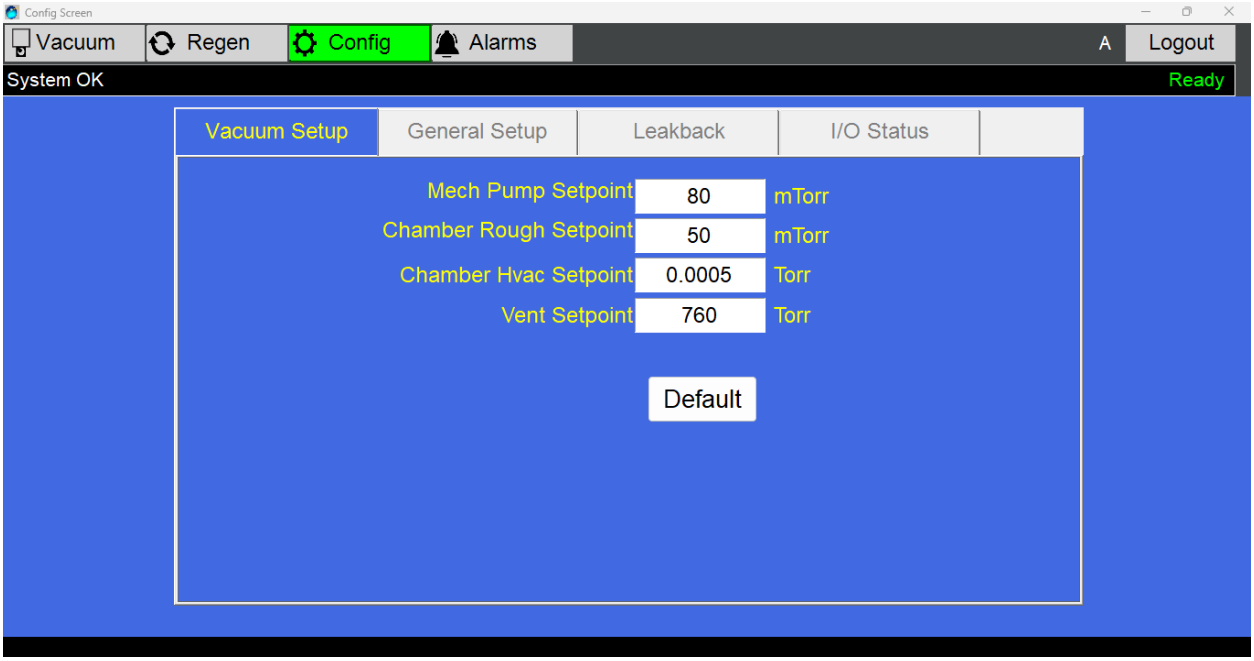
The Configuration Screen is where the **User sets all the system parameters** that are used in the software. At the bottom of the first two screens is a default button. If someone should change one or more of the values and not be sure if that value is reasonable. The user can hit the default button to reset all the values back to the ones that we're used at the time of shipping. To change a value the operator just needs to tap on the input box and a virtual keypad will appear. The keypad will have the limits in the top part of the window showing the range of allowed values for that box.

The Configuration Screen is made up of four sub screens the Vacuum Setup, General Setup, Leakback, and I/O Status.



5.2 Vacuum Setup Parameter

The Vacuum Setup screen is where you will set the ABS Setpoint, Mech Pump Setpoint, Chamber Rough Setpoint, Chamber Hvac Setpoint and the Process Hvac Limit Setpoint. If the operator is logged in as administrator there will also be a Skip ABS Valve button visible.



VACUUM SETUP PARAMETERS WINDOW

The **Configuration Vacuum Setup Parameter** Screen is where the **User** sets the **Chamber Mech Pump Setpoint**. When the pressure in the **Mech Pump** goes above this set point the users should not open the rough valve or try to do a region. If the user tries to do one of these items, the software will put up an error message.

MECH PUMP SETPOINT

This screen also has the **Chamber Rough Setpoint,** which is the point at which the chamber-roughing valve is closed and the chamber Hi Vac valve will open. If the pressure is higher than this set point the software will not allow you to open a Hi Vac valve.

CHAMBER ROUGH SETPOINT

The **Chamber Hvac Setpoint** is where the operator would set the highest pressure at which the process may start. In an auto run when the pressure meets this level the process will be turned over to the **Telemark 861** controller.

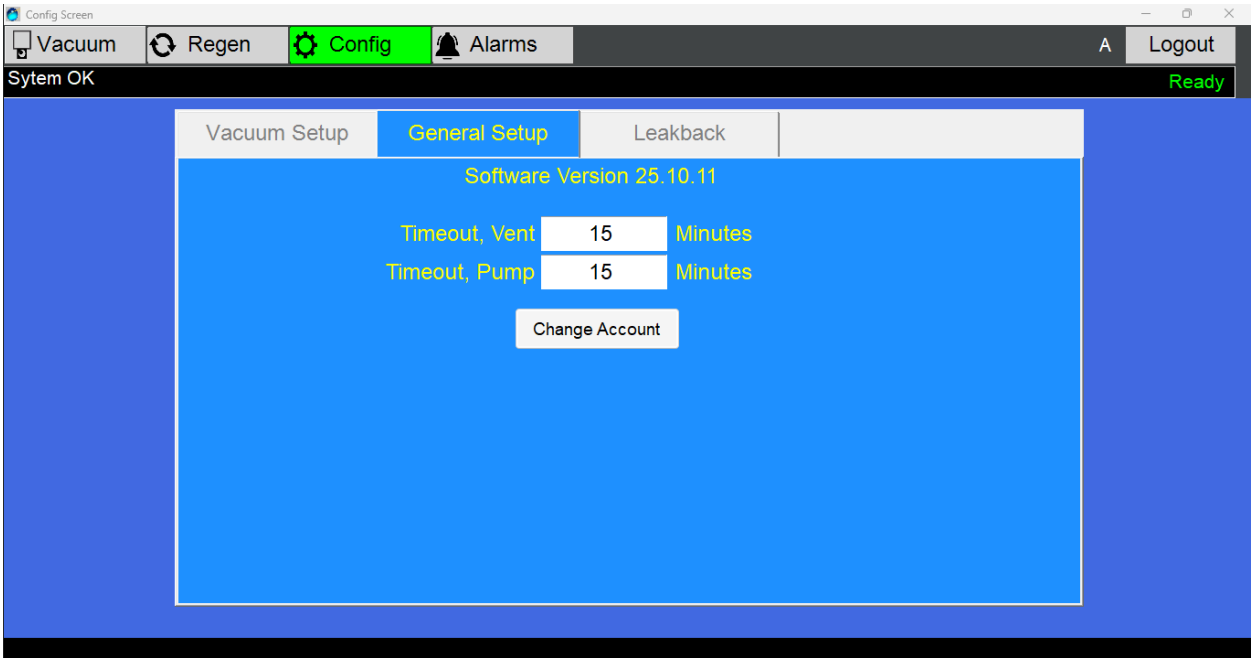
CHAMBER HVAC SETPOINT

The **Process Hvac Limit Setpoint**

PROCESS HVAC LIMIT SETPOINT

5.3 General Setup

The **General Setup** screen is used to assign time outs tolerances. The two on this system are the **Timeout Pump** and **Timeout Vent**. They are both set in minutes. There is a **Default** button to set the values back to the values at shipping.

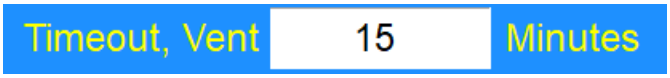


GENERAL SETUP SCREEN

The **Timeout Pump** tolerances is set in minutes. This is the amount of time allowed for the roughing down of the chamber before it reaches the **Chamber Rough Setpoint** which is set on the **Vacuum Setup** screen. If the **Chamber Rough Setpoint** is not met in that amount of time the system will go into an Abort. Abort will be covered in the alarm section.

TIMEOUT, PUMP

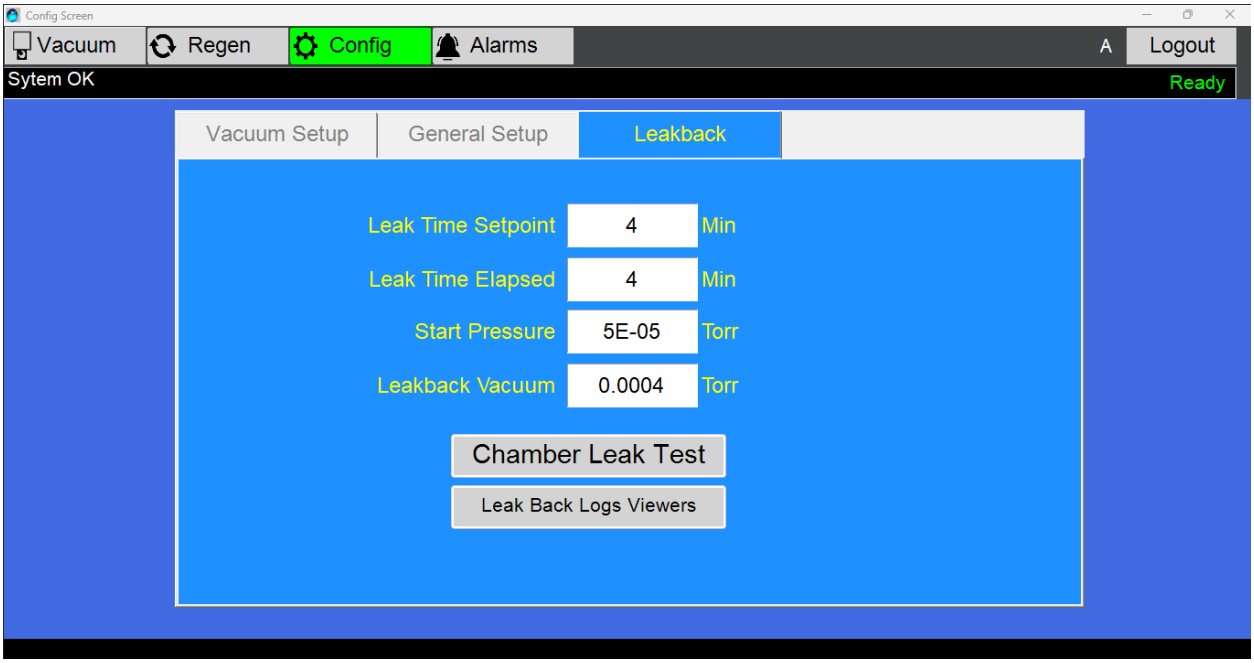
The **Timeout Vent** tolerance is set in minutes. This is the amount of time allowed for the chamber to vent to atmosphere before and Abort will occur.



TIMEOUT, VENT

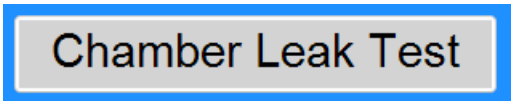
5.4 Chamber Leakback Test

The **Chamber Leakback Test** is a method by which the maintenance person can test the integrity of the chamber. The maintenance person can input a value into the **Leak Time Setpoint** that is **10 minutes**. Then click on the **Chamber Leak Test button.** The routine will start, and the maintenance person can view the **Leakback Time Elapsed, Start Pressure** and **Leakback Vacuum.** This will show how fast the chamber is leaking back in the given time. If the maintenance person does this on a set schedule they can see the change over time. This will give the maintenance person a good idea of when to do a **PM** (preventative maintenance) on the system.

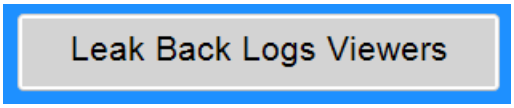


LEAKBACK WINDOWN

The **Chamber Leak Test Button** is used to start a leak back test after all the parameters have been set.



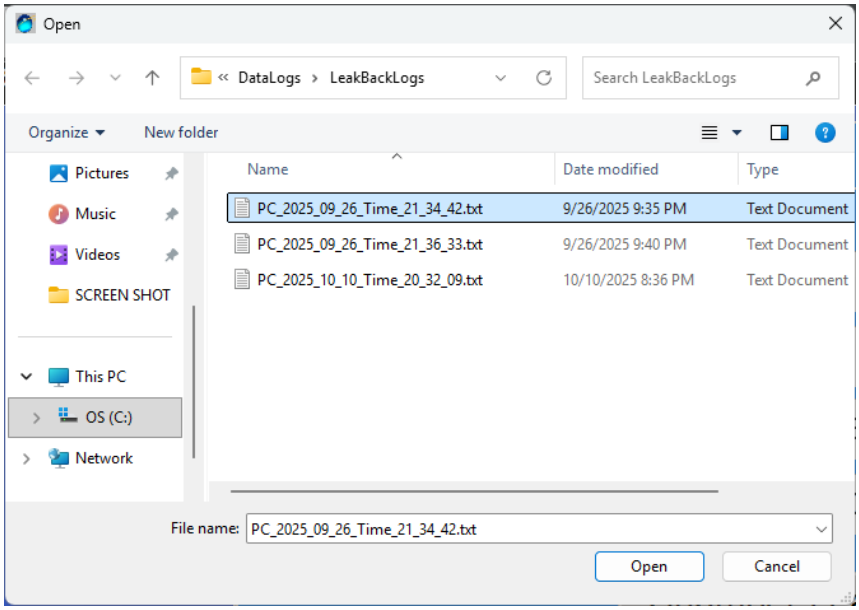
CHAMBER LEAK TEST BUTTON



LEAK BACK LOG VIEWER BUTTON

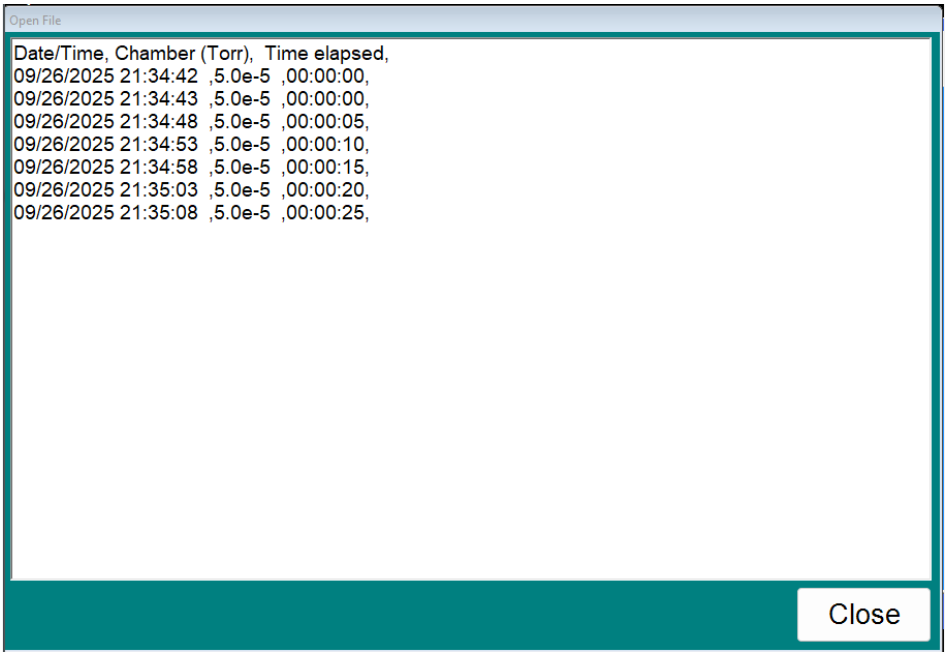
The **Leak Back Log** Viewers Button is used to open the **Leak Back Log Folder**.

The **Leak Back Log Folder** displays all the leak back tests that have been run in the past. The name for each test is PC_XXXXXXXX_Time_ZZZZZZZZ.txt. The Xs represents the date in month XX, day XX, year XXXX. The Zs are the time. To view a log, the maintenance person needs to select it. Then click on the open button.



LEAK BACK LOG FOLDER

When a log data screen is open it will display three columns, they are Time, PC Ion Gauge and Time elapsed. The data log may be copied to a spreadsheet program on another computer and graft for a pictorial representation of the leak back rate.

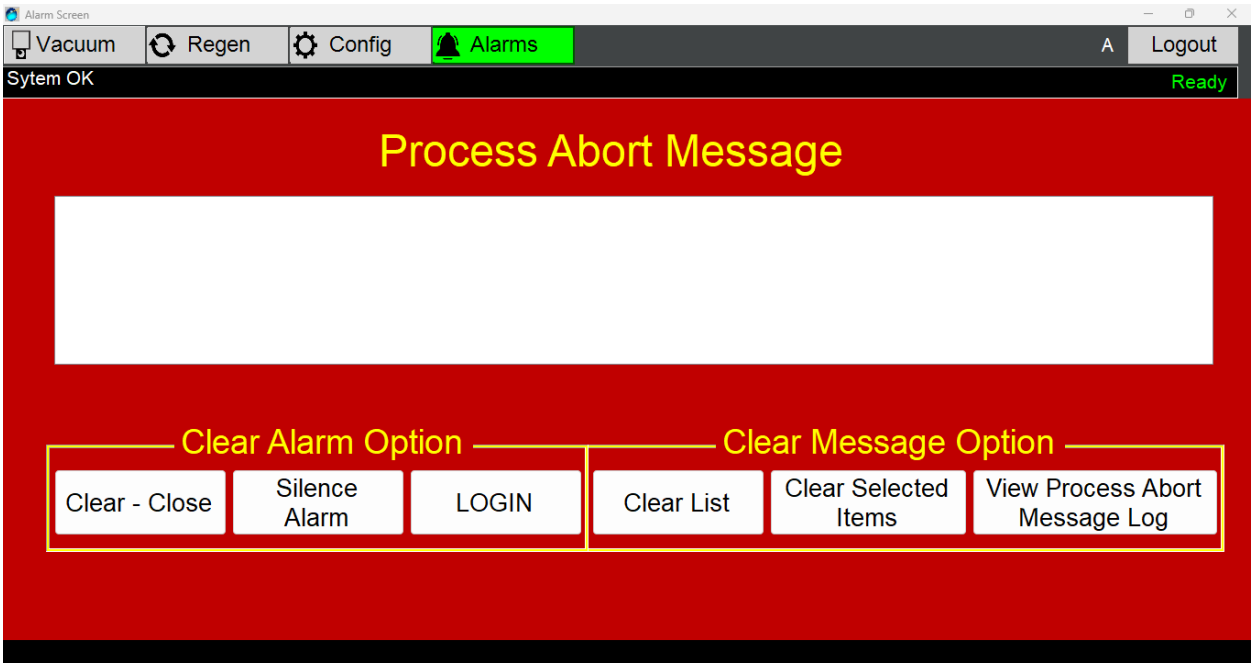


LEAK BACK LOG DATA SCREEN

6 ALARMS

6.1 Alarm Screen

The **Alarm Screen** displays all emergency stops **(Abort)** either manually selected by clicking on the **Abort button** or from the computer in an automatic run, when a parameter is out of tolerance.



ABORT MESSAGE WINDOW

In the center of the window is a message box. It displays each of the Aborts that have happened in chronological order. If the operator selects one of the messages the line will turn blue, and the text will turn white. The message displays the date, time, reason for the Abort and who was logged in at that time. The operator may select more than one message by placing a check in the white box at the beginning of the line. All of the Aborts are stored in the Abort Log.

The **Silence Alarm** button will turn off the alarm output but not clear the **Emergency Stop.** The alarm will continue to **buzz** until a **User** silences the alarm. This button is accessible to everyone. The reason is the noise can drive people crazy. The silencing the alarm only turned off the buzzer output and the machine is still locked down, until someone with a high enough password clears the alarm output.

SILENCE ALARM BUTTON

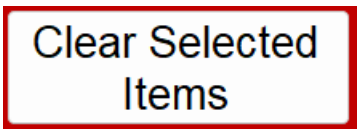
LOGIN BUTTON

The **Login button** allows a **User** who is not **Logged in** to login without going to the **Home Screen**, this will save time, and the **User** can clear or view the **Emergency Stop** without additional delay.

The **Clear - Close** button will clear the **Emergency Stop** and close the window. It will take you back to the **Vacuum Screen**. This will allow the **User** to go back and figure out what caused the **Emergency Stop.**

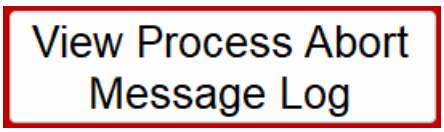
CLEAR – CLOSE BUTTON

The **Clear Selected Items** button allows the **User** to select one or a group of **Emergency Stops** from the list. The alarm screen will stay active so you can view the other items.



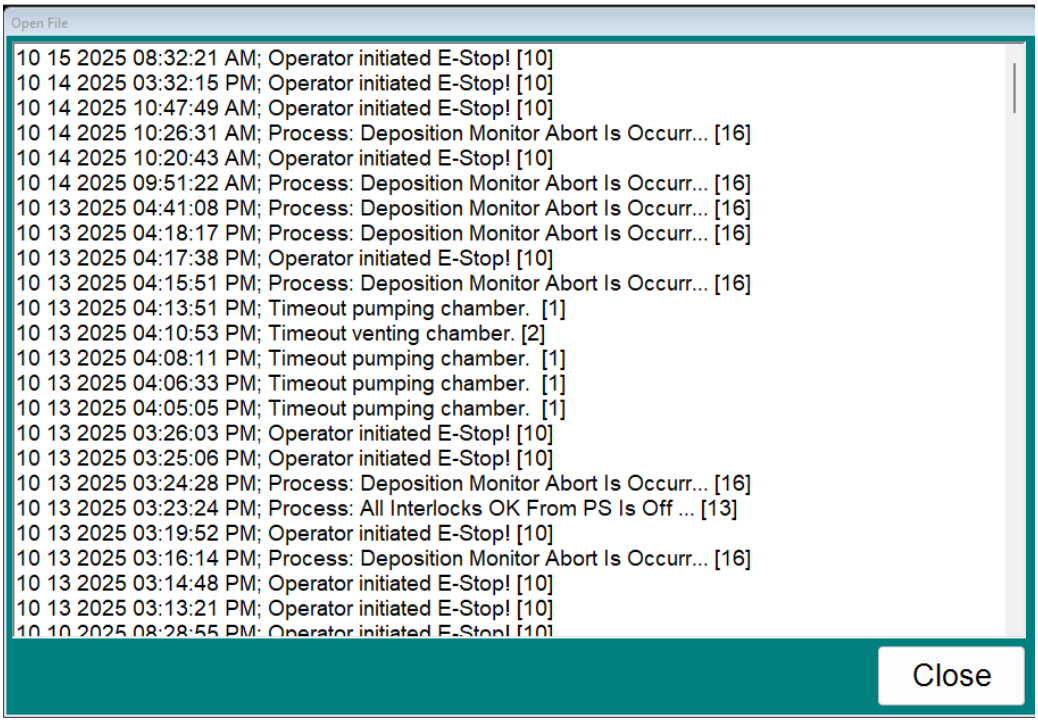
CLEAR SELECTED ITEMS

The **View Process Abort Message Log** button allows the **User** to view all the past **Emergency Stops**. They will be in chronological order.



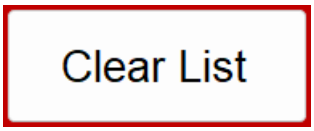
VIEW PROCESS ABORT MESSAGE LOG BUTTON

The file may be copied to another computer as a text file. This file is quite small, and your hard disk is rather large, so do not be concerned how long the list is.



ALL THE Abort MESSAGES, STORED IN THE "Process Stop .log"

The **Clear List** button will clear all **Aborts** from the Alarm Screen message box. This will not clear any messages from the **Abort Log** window.



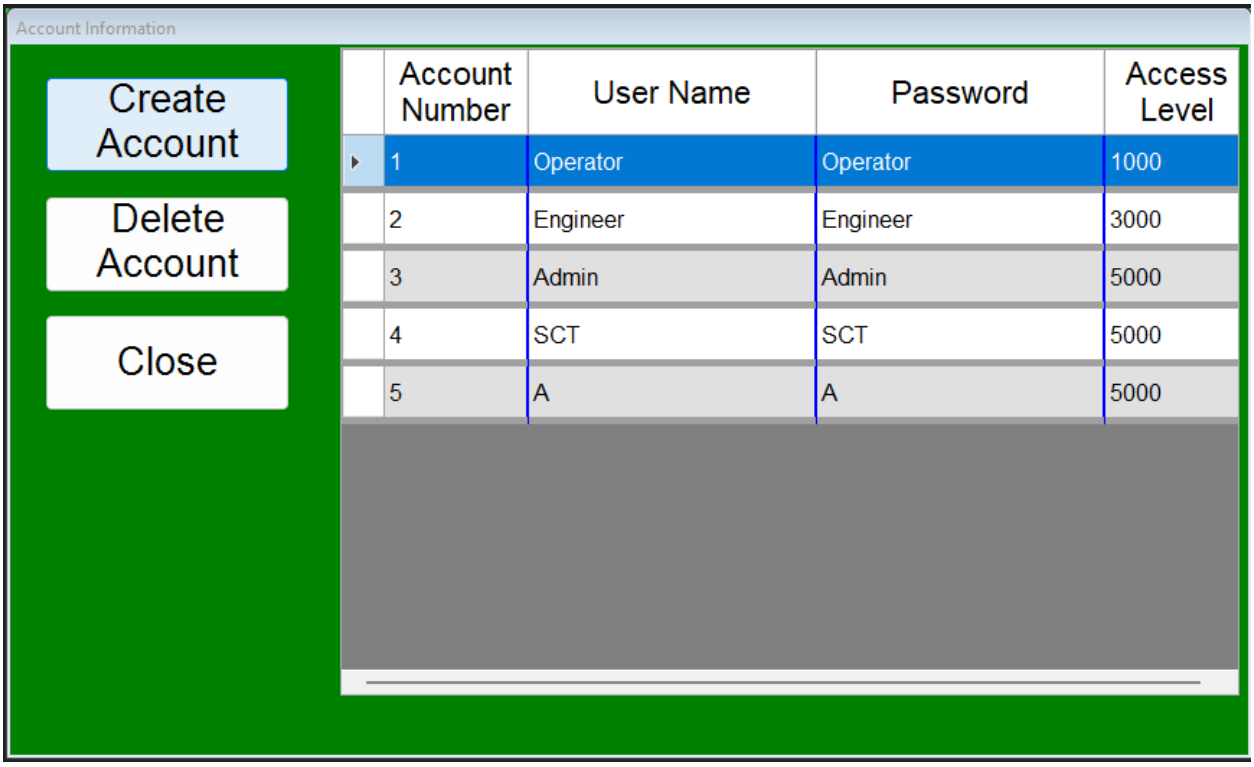
CLEAR LIST BUTTON

7 SECURITY

7.1 Security

The **Security** system is made up of **four** password **domains, View, Operator, Engineer** and **Administrator.** Each password level is **backward compatible.** That is to say, the **Operator** can do all the **View functions,** and the **Engineer** can do the **Operator** and **View** functions. The **Administrator** can do **everything.**

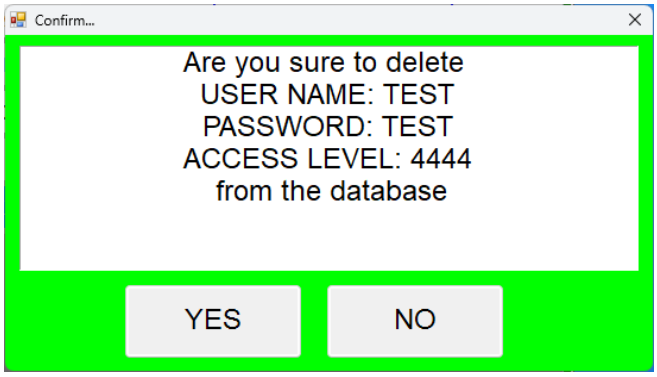
To **create** or **change** the **Users name** or **Password,** the **Administrator** must be logged in at the **Administrator** level. After being logged in, click on the **login button** on the **Home Screen.** Then on the **Security** window click on the **Edit** button. The **Account Information** window will appear. Then click on **Create Account** button to create a new User and the **Delete Account** button to remove a **User**. Three consecutive virtual keyboards will appear. The first one asks for the **User Name** the second for a **Password** and last for **Access Level.** The **User name** and **password** are **not case sensitive**. To the right will appear a list off all the **Users** that have been created. The list will have the **User Name, Password** and **Level** in sequence. This will repeat for each **User** created.



ACCOUNT INFORMATION WINDOW

The **Access level** is how the software controls which **windows, buttons** and **functions** the **User** has access to. In setting up a **User**, use **1000** for **Operator, 3000** for **Engineer,** and **5000** for **Administrator (Admin).**

After clicking on the **Delete Account button** a confirmation window will open to ensure that this is the correct **User** to be **deleted.** If the **User Name, Password** and **Access Level** are the ones you want to **delete,** then click on **OK.**



CONFIRM BOX