



Cleveland Range Model HA-MKDL-CCT-RL  
Cook/Chill Horizontal Tilting Mixer

Automated Control System  
Operating Manual



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## 1. Theory of Operations

This Operational Manual covers the operation and troubleshooting of the Cleveland Range Model HA-MKDL-CCT-RL series Cook/Chill Horizontal Tilting Mixer Kettle Microprocessor operating control system and integrated Touch Screen user interface.

This control system has an integrated selectable multi-language operator interface. This interface is referred to as the Human/Machine Interface or HMI for short. Using the HMI the operator can select and program parameters for Automatic Cooking and Cooling modes, as well as Manual Cooking and Cooling Modes. Additional screens provide easy to use manual control of valves and pumps. The batch processing temperatures and times are charted to a Trending Screen and are accessible at any time. The trended parameters are also saved to a flash memory card from which they can be exported to a PC.

In addition to the HMI there are two other controls located on the control panel. They are the Panel Stop Button, and the Control Power Selector Switch. The Panel Stop Button, when pressed will stop all pumps and close all valves. It will also RESET the cooking/chilling sequence. If this stop button is pressed before the cooking/chilling cycle has completed the cycle will need to be restarted. The Control Power Selector Switch must be turned to the ON position before the machine can be started. It should be noted that the Control Power Selector Switch only removes power from peripheral devices such as the valves, RTD, and motor under normal operating conditions. The switch WILL NOT remove power from the electrical enclosure.

The machine microprocessor operating control system controls all automated aspects of the machine. The processing unit is also called a Programmable Logic Controller; the manual will abbreviate this to PLC. The PLC utilizes internal sequence logic to provide for highly accurate and easy to use automated control of the Cooking and Chilling Processes. It should be noted that the unit is not user serviceable, except through features available via the HMI. The device does however provide status through LED indicators on the front of the unit. If the unit fails to operate properly consult the troubleshooting section of this manual. If the issue persists please contact Cleveland Range.

Also integrated into the automated control system is a Variable Frequency Drive, or VFD. This device allows safe, accurate control of the agitator motor while also providing the most efficient means available today for speed control. Like the PLC the VFD is not user serviceable, although device fault codes are displayed on the front of the unit.

The last major component in the system is the Resistance Temperature Detector, or RTD. The RTD provides real time, and accurate temperature feedback from the kettle to the PLC. The data is then used as a control variable in the sequence logic. This means that the product is cooked or chilled to precisely the correct temperature range.

## 2. Machine Operation using the HMI


### 2.1. Touch Screen - How to Use

The Operator can use the HMI to control the machine by using his/her finger to gently press the available buttons located on the screen to navigate, control, and input data. Never allow contact to the HMI touch screen by sharp objects as they are likely to cause damage to the unit. Do not apply excessive pressure to the screen as this too can cause damage over time. The HMI also provides on-screen information to the operator. Knowing and understanding each screen and how to navigate to it will provide for a more user friendly and efficient environment. This information will be detailed in the following pages.

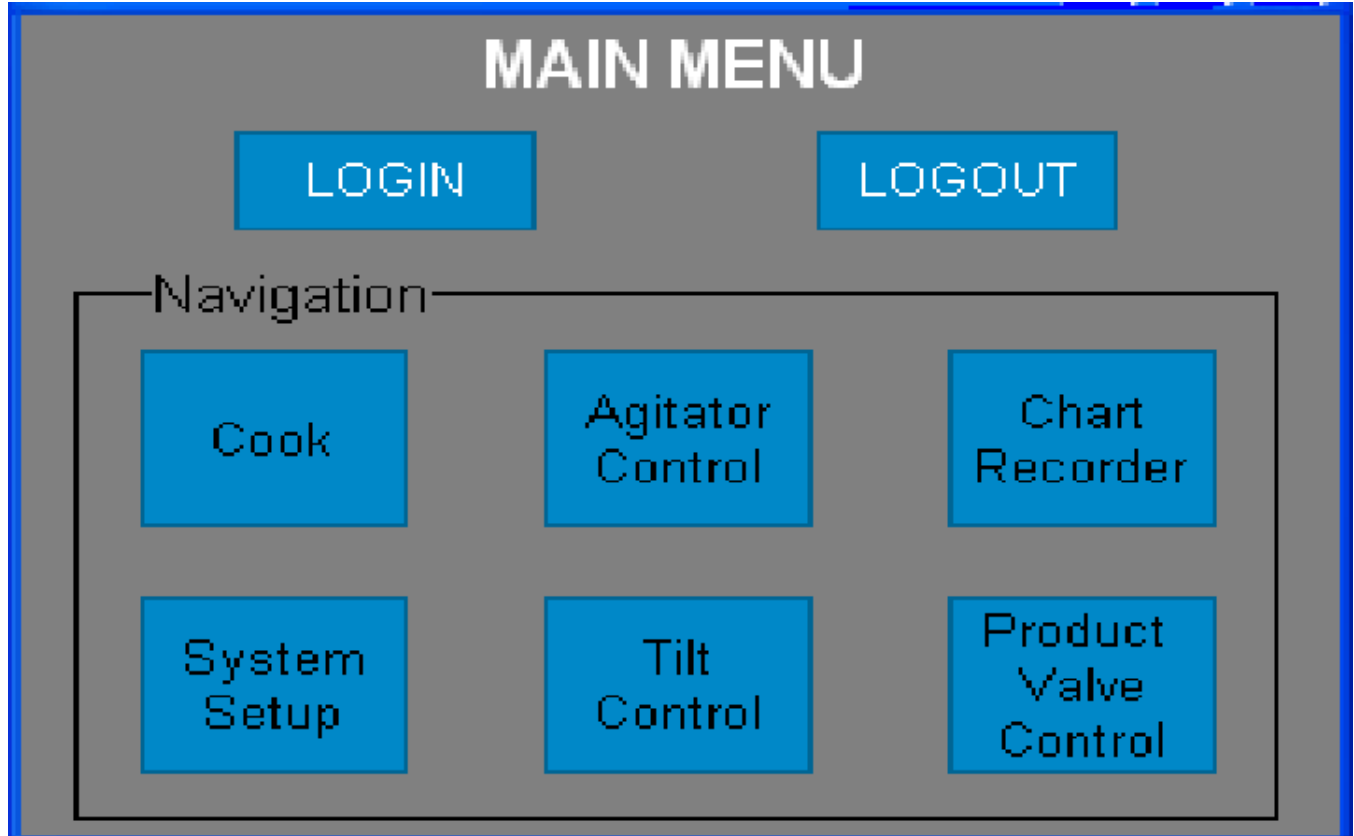
### 2.2. Screens

#### 2.2.1. Initialization Screen



When the machine is started the HMI Touch Screen will boot to the Initialization Screen. This screen provides the machine Model Number, Capacity, as well as the contact information for Cleveland Range. To proceed to an operational screen from the Initialization Screen the operator will press the blue Menu Button  in the bottom right hand corner of the screen. This will change the HMI screen from the Initialization Screen to the Main Menu Screen.

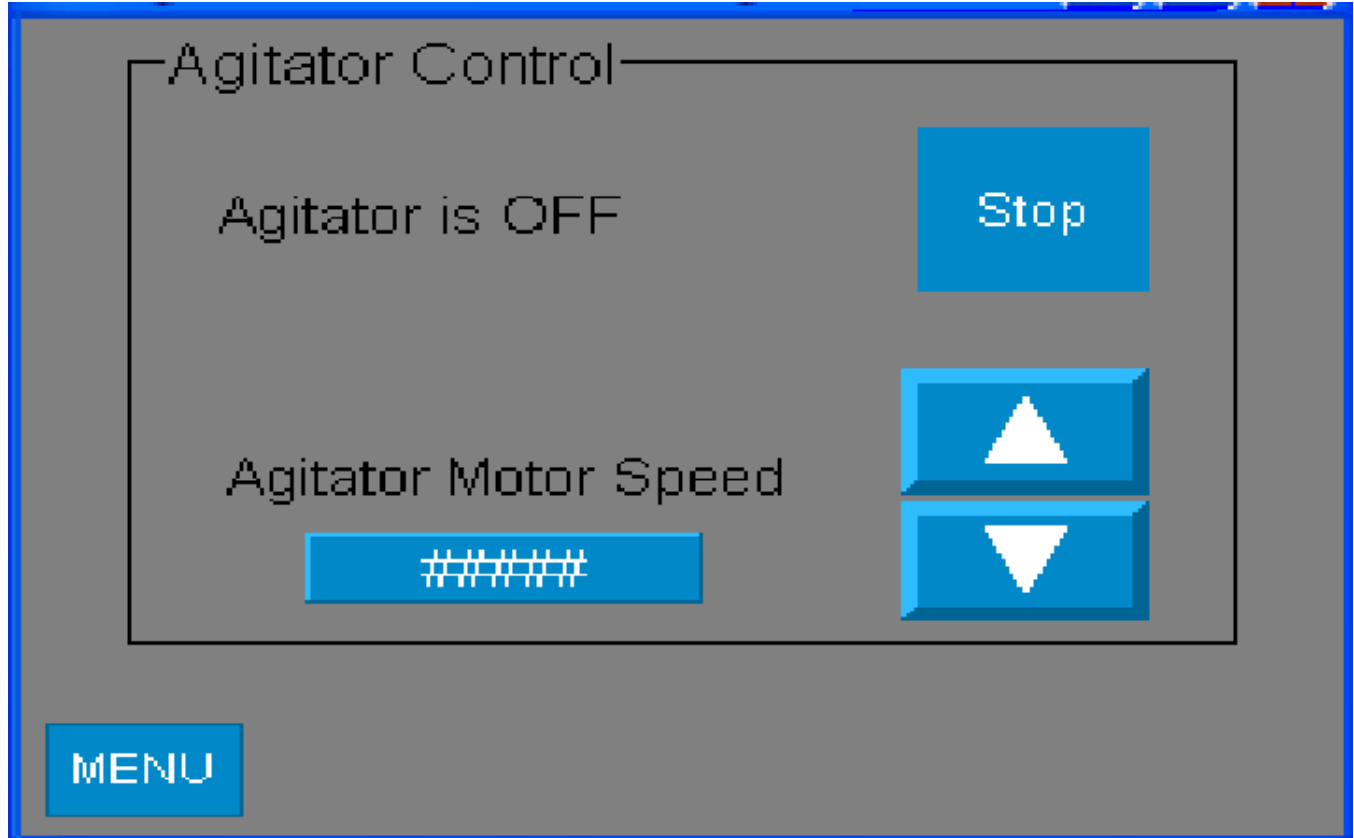
### 2.2.2. Main Screen



The Main Menu Screen allows the operator to choose from any of six functional options. Pressing the button will navigate to the selected screen, as shown in the text written on the screen.

- The Cook Screen. This screen allows the operator to choose between all of the Cook/Chill functions. This screen also allows access to the temperature set point, and batch naming, as well as providing navigation to the Water Control Screen, which is used to automatically fill the kettle with potable water.
- The Agitator Control Screen provides the Operator with the ability to Start and Stop the agitator as well as adjust the speed.
- The Chart Recorder Screen displays the trended data; time, temperature in charted form. The product name/ batch number can also be reviewed here.
- The System Setup screen allows the operator to choose machine operating parameters and units such as; Language (if optioned as such), Measurement Units – both temperature and volumetric, Time/Date Set Up, Water Meter Set Up, Temperature Process Set Point Deviation, Manual Control Screen access, and Alarm Screen access. Service personnel can also navigate to this screen to access the HMI configuration screen. In order to select this option the user must be logged in with security clearance, this is obtained from Cleveland Range.
- The Tilt Screen provides the operator with the tools required to tilt the kettle.
- The Product Valve Screen provides the operator with the ability to open and close the product valve.

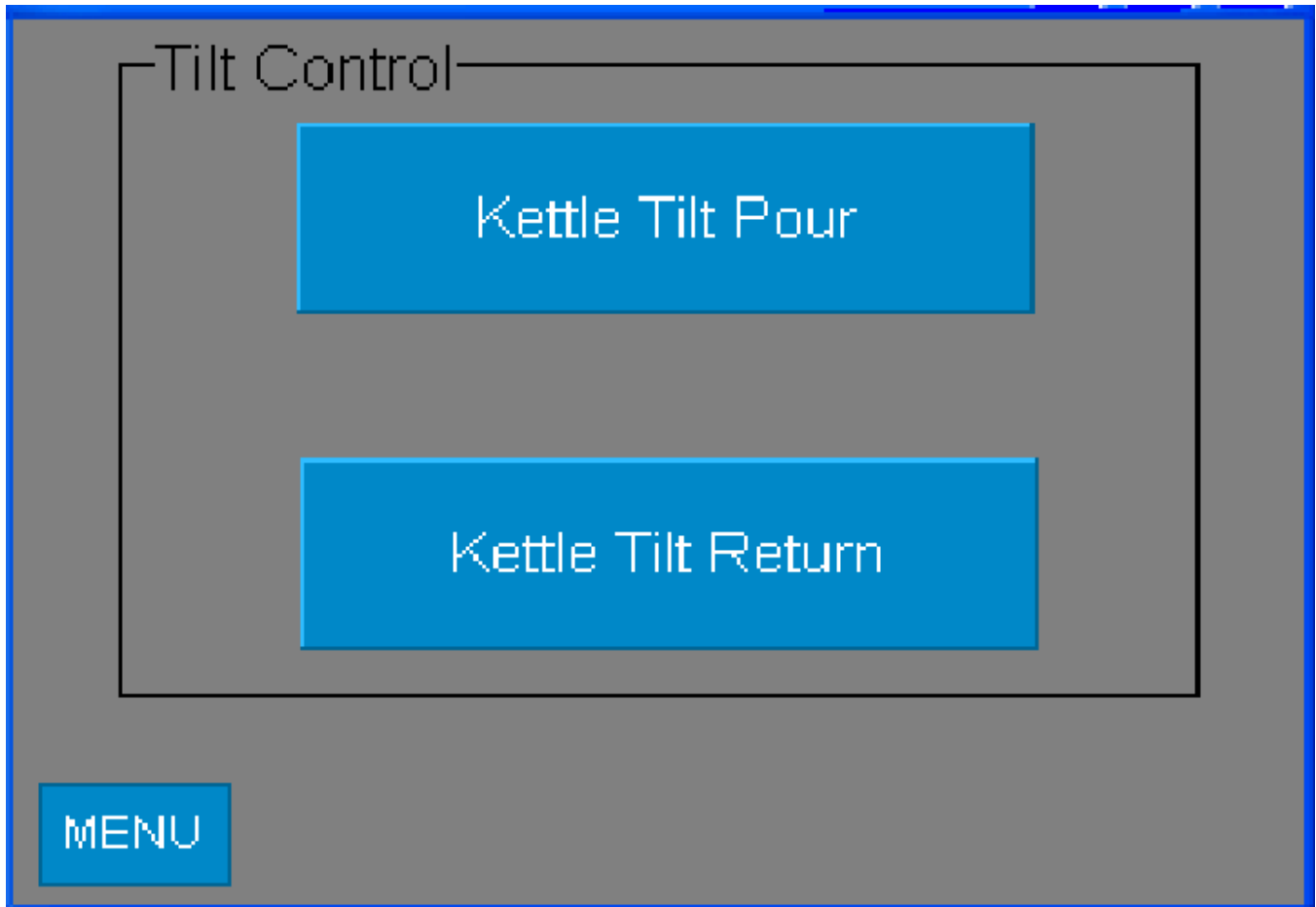
### 2.2.3. Agitator and Tilt Control Screen



On the Agitator Screen the operator has control over the agitation of the product in the kettle. The Agitator can be started by pressing the RUN button. Once started the button text will change to STOP. Pressing the button again will stop the agitator. To adjust the speed of the agitator press the displayed agitator speed in the blue rectangle. This will display a pop up numeric input box. Here the speed can be adjusted, as a percentage, from 10-100%. The speed can also be adjusted incrementally by pressing the up or down arrows located to the right of the Agitator Motor Speed text. Be aware that even though the agitator speed can be set between 0% and 10% the VFD will not allow to agitator to run under 10%. This will ensure the reliability of the components by protecting the VFD and agitator drive motor.

To navigate back to the Main Menu press the blue MENU button.

## 2.2.4. Tilt Control Screen



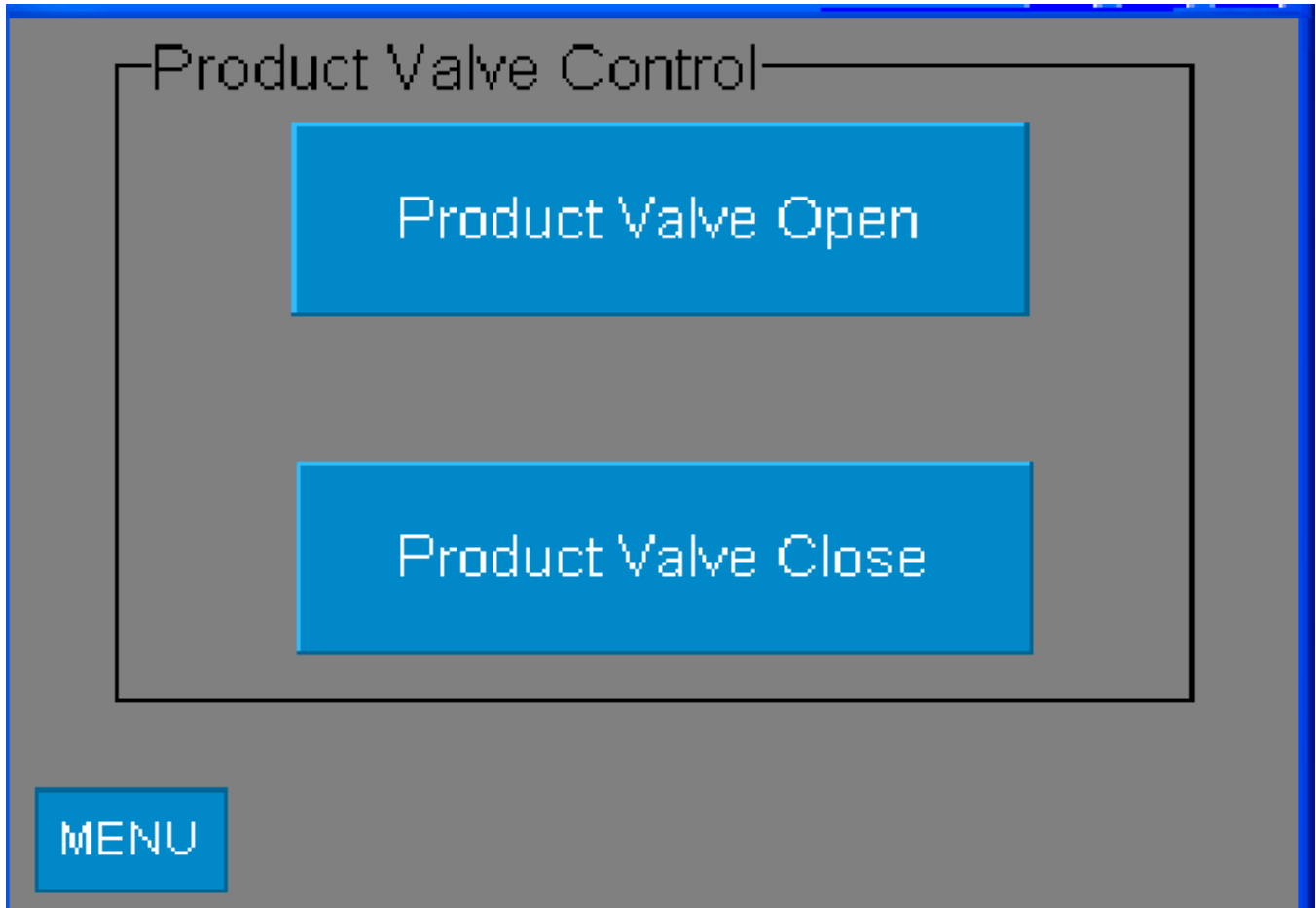
On the Tilt Screen the operator has control of the tilting of the kettle.

To tilt the kettle into the pour position press and hold the Kettle Tilt Pour button until the kettle is in the desired position. To return the kettle to the upright position press and hold the Kettle Tilt Return button until the kettle is in the upright position. When you press the tilt button you will hear the hydraulic pump start automatically. It will shut off automatically once the button is released. To control the pump manually go to the Manual Screen.

Do not attempt to tilt the kettle past the fully upright or fully tilted positions. This may damage the kettle and/or tilting mechanism.

To navigate back to the Main Menu press the blue MENU button.

### 2.2.5. Product Valve Control Screen

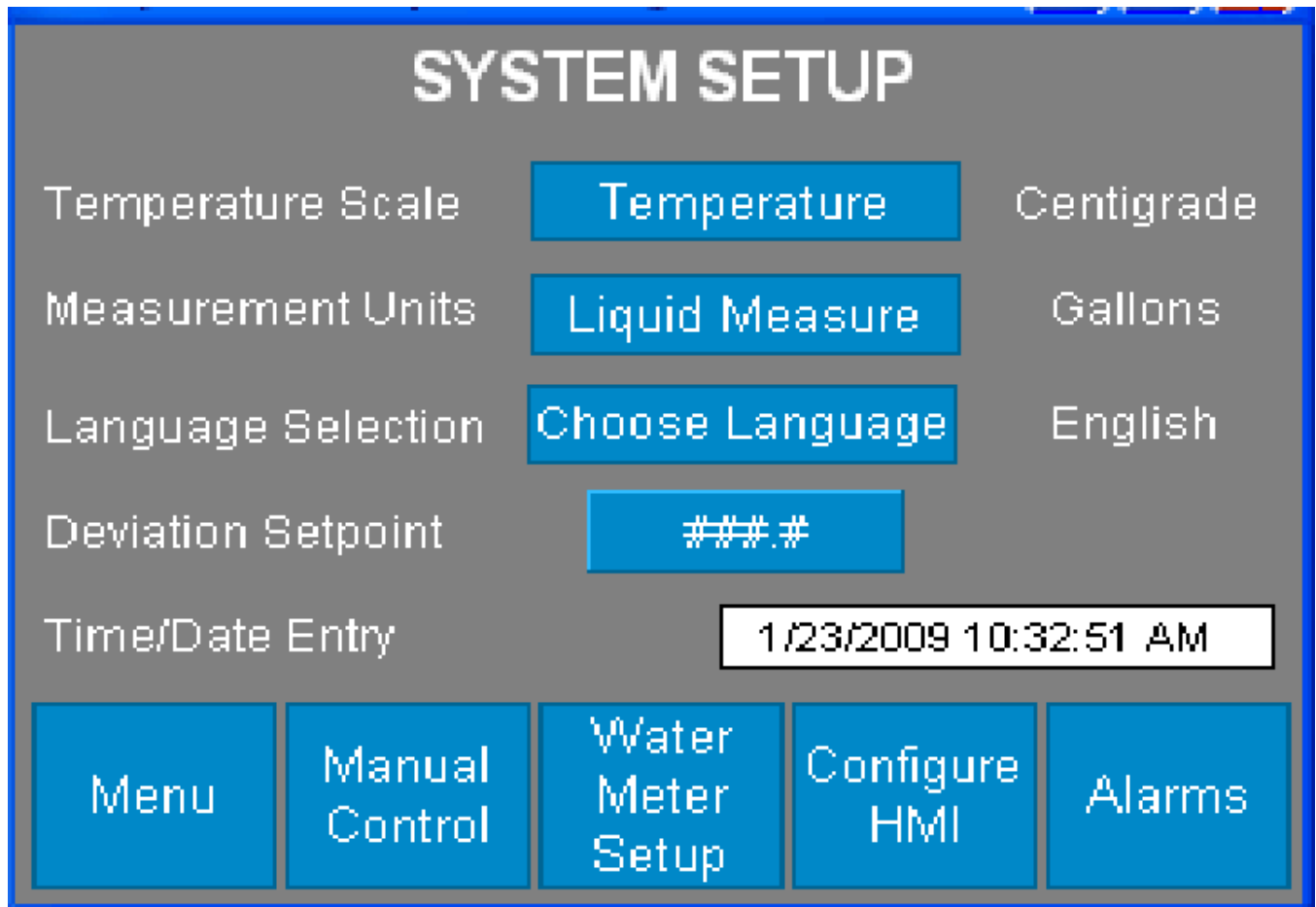


On the Product Valve Control the operator can control the opening and closing of the product valve. To open the product valve press and hold the Product Valve Open button until the valve is open the desired amount. Pressing this button and releasing it immediately will provide an analog or slower more incremental control. This will allow the valve to be opened a small amount at a time.

To close the valve press the Product Valve Close button, and the valve will close the entire way.

To navigate back to the Main Menu press the blue MENU button.

### 2.2.6. System Set Up Screen



Within this screen the operator can configure the machine to use either Centigrade or Fahrenheit as the selected temperature units. To change the selected units press the top blue Temperature button. Once pressed the text to the right of the button will change from Centigrade to Fahrenheit or from Fahrenheit to Centigrade; indicating the selected configuration.

The volumetric units of measure are also configured on this screen either as Gallons or Liters. To change the selected units press the second from top blue Liquid Measure button. Once pressed the text to the right of the button will change from Gallons to Liters or from Liters to Gallons; indicating the selected configuration.

To navigate to the Language Selection Screen press the blue Choose Language button. The language text indicated next to the button is the language currently selected.

To navigate to the Water Meter Setup Screen press the blue Water Meter Setup button. The machine is shipped with the Water Meter set up so no initial set up is required. However if the water meter is changed the value may need to be adjusted. This screen can also be used for troubleshooting purposes.

The Deviation Set point is the amount the kettle temperature is allowed to deviate from the temperature set point before the unit starts to either heat or cool. For instance if the Temperature set point is set at

175°F and the set point deviation is set to 5°F during the Auto-Cook cycle the kettle will heat to 175°F and then stop heating. It will then allow the kettle to cool to the 170°F (set point - set point deviation) before starting to heat again. This prevents constant cycling or the steam and allows for a more efficient operation.

The date and time can be adjusted by pressing the white rectangle where the date and time are located. This will navigate to the Date/Time entry Screen.

The Manual Control, Water Meter Set Up buttons, and Alarm screen button will navigate to the respective screen.

For troubleshooting purposes the Configuration navigation button is also located on the Setup Screen. The configuration screen is for use by factory authorized and trained personnel only.

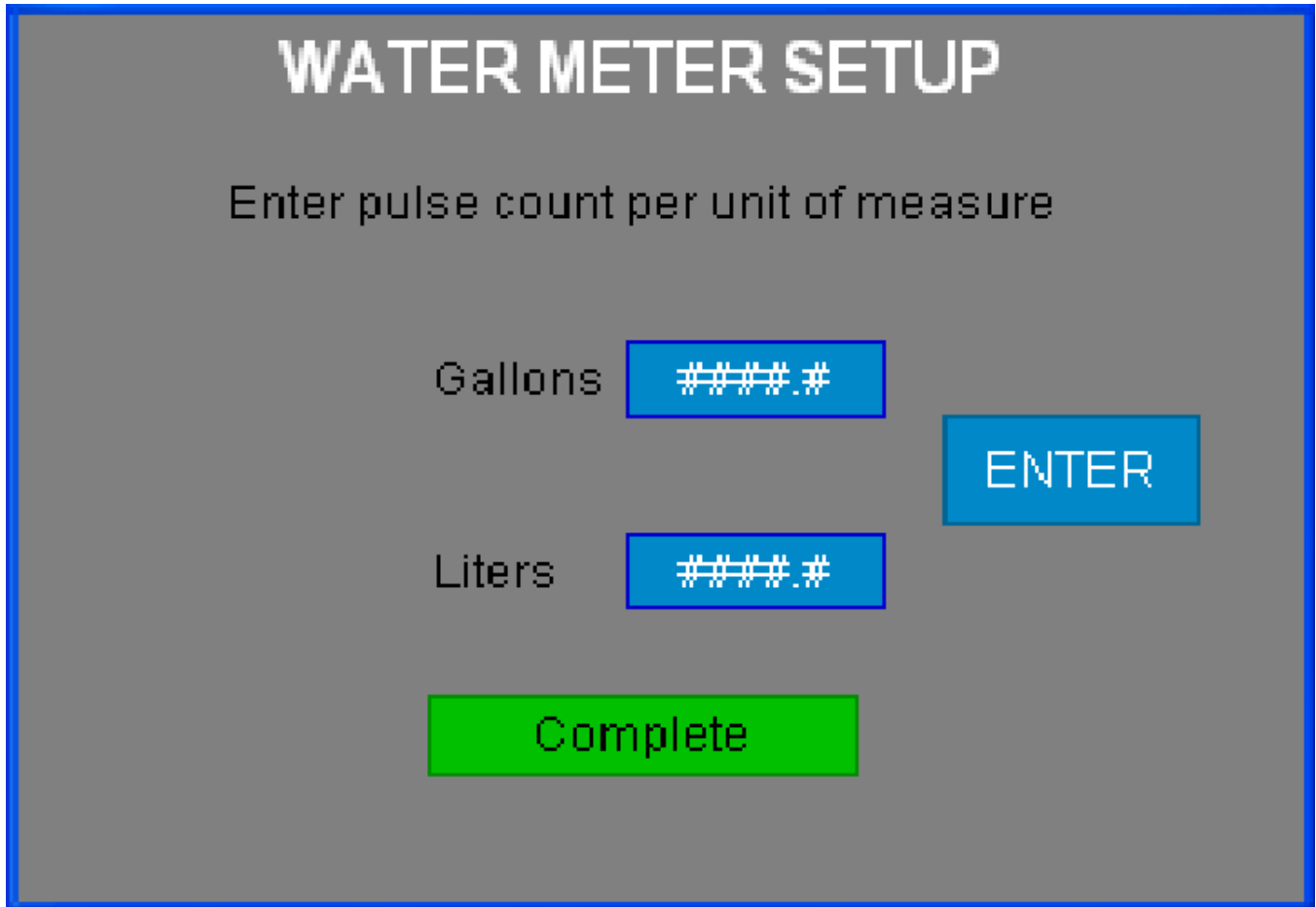
### 2.2.6.1.Language Selection Screen



To change all text throughout the machine HMI display to Spanish from English, or from English to Spanish. Be aware that all text through the entire HMI on all screens will change to the selected language.

Press the blue SYSTEM SETUP button to return to the System Setup Screen.

### 2.2.6.2. Water Meter Set Up Screen



The image shows a screen titled "WATER METER SETUP" with a grey background and a blue border. Below the title, the instruction "Enter pulse count per unit of measure" is displayed. There are two rows of input fields: "Gallons" and "Liters". Each row has a blue numeric input box containing the placeholder "####.#". To the right of these input boxes is a blue "ENTER" button. At the bottom center of the screen is a green "Complete" button.

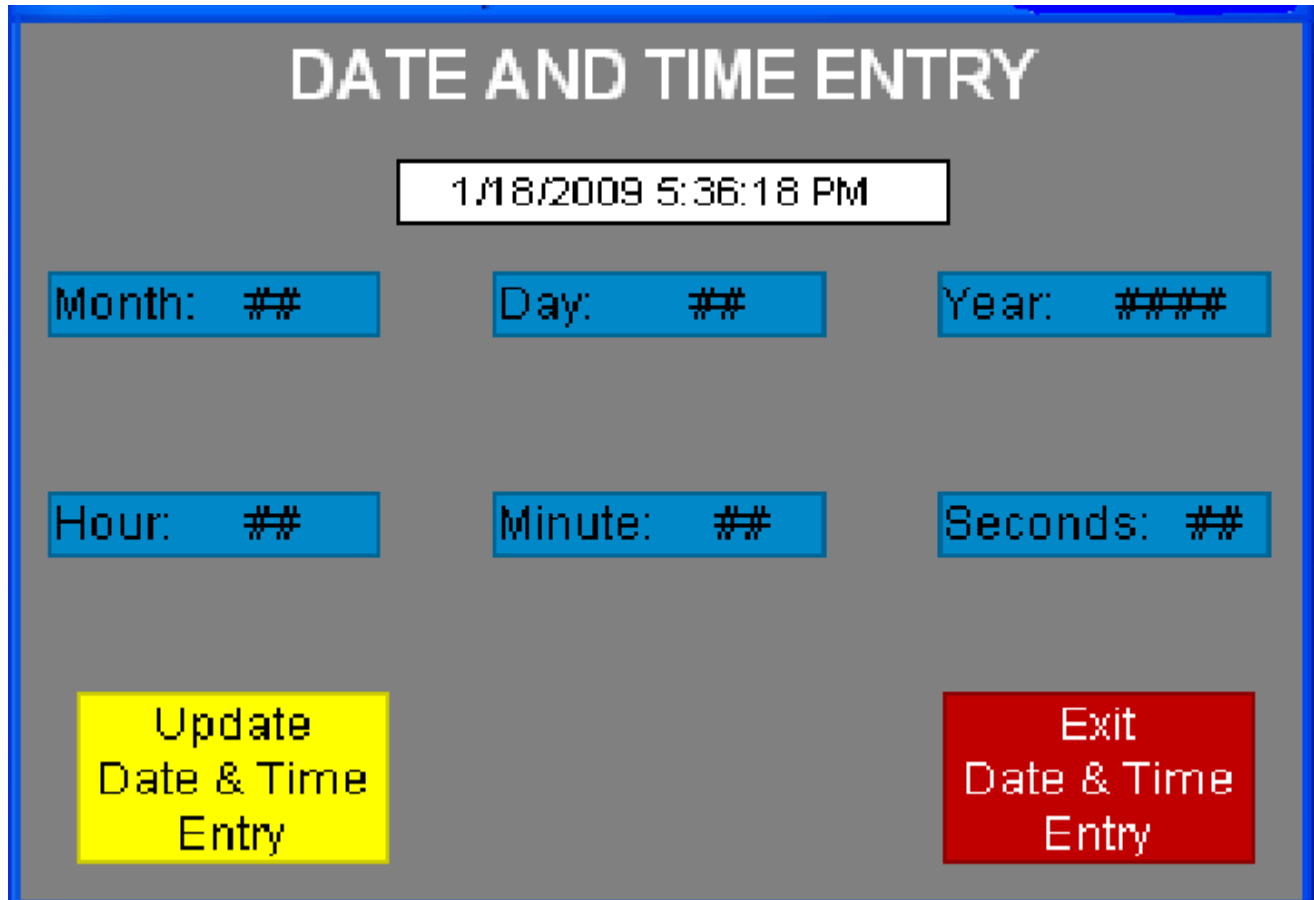
To change the pulses per gallon press the blue numeric box next to the Gallons text. This will display a numeric input pop up screen. The new pulse count value can now be entered.

To change the pulses per liter press the blue numeric box next to the Liters text. This will display a numeric input pop up screen. The new pulse count value can now be entered.

Once the values have been entered the blue ENTER button must be pressed. If the button is not pressed the new values WILL NOT be saved.

Press the green Complete button to return to the System Setup Screen.

### 2.2.6.3. Date/Time Entry Screen

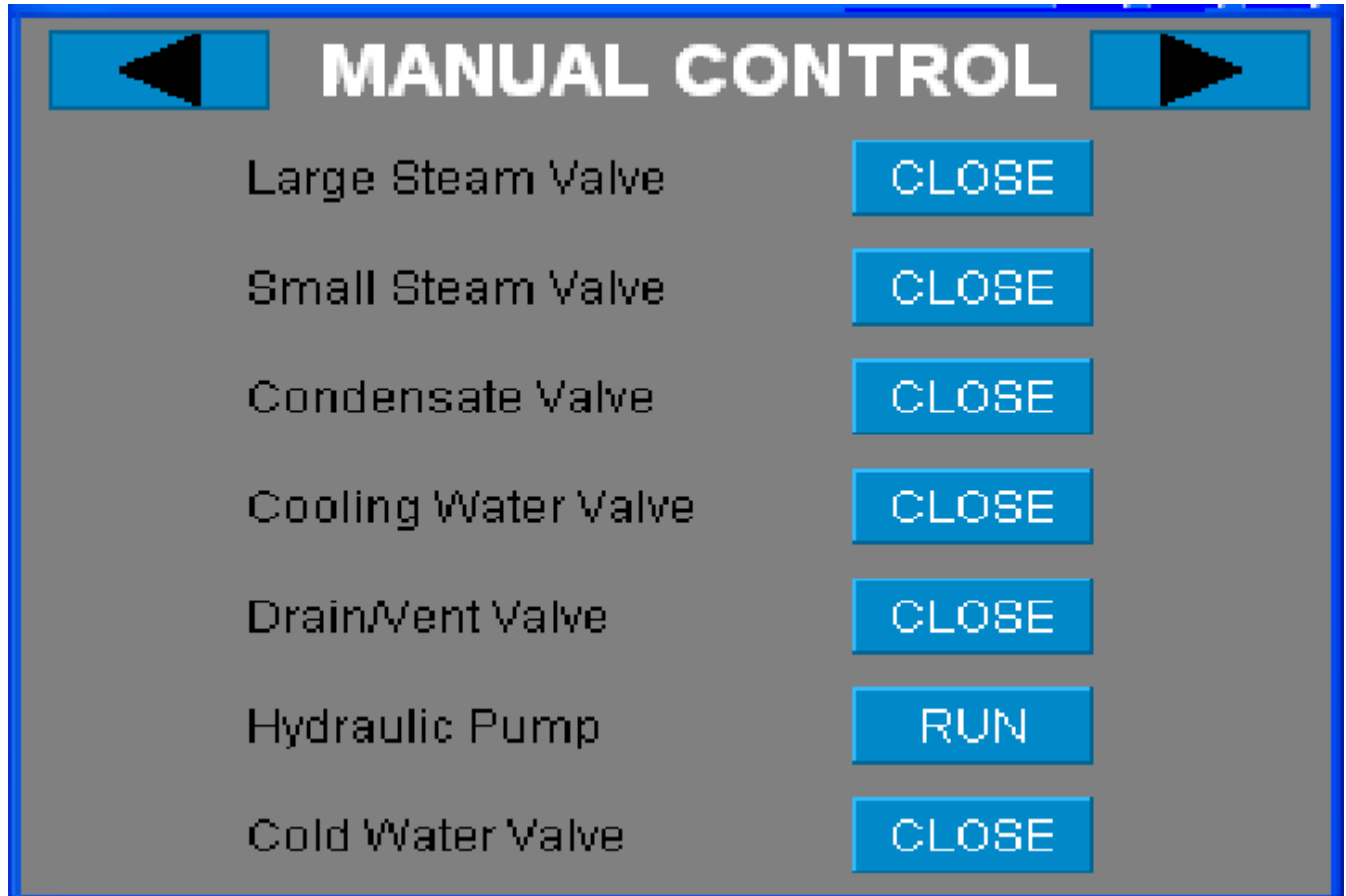


- To change the Month value press the blue numeric box labeled Month: ##. This will display a numeric input pop up screen. The new Month value can now be entered.
- To change the Day value press the blue numeric box labeled Day: ##. This will display a numeric input pop up screen. The new Day value can now be entered.
- To change the Year value press the blue numeric box labeled Year: ##. This will display a numeric input pop up screen. The new Year value can now be entered.
- To change the Hours value press the blue numeric box labeled Hour: ##. This will display a numeric input pop up screen. The new Hour value can now be entered.
- To change the Minutes value press the blue numeric box labeled Minute: ##. This will display a numeric input pop up screen. The new Minute value can now be entered.
- To change the Seconds value press the blue numeric box labeled Seconds: ##. This will display a numeric input pop up screen. The new Seconds value can now be entered.

Once the values have been entered the yellow Update Date & Time Entry button must be pressed. If the button is not pressed the new values WILL NOT be saved. This can be verified by checking Date and Time in the top white field. ALL FIELDS MUST BE CHANGED FOR THE DATA TO TAKE AFFECT – I.E. – MONTH, DAY & YEAR

To return to the System Set up Screen press the red Exit Date & Time Entry button.

#### 2.2.6.4. Manual Control Screen



Caution should be taken when using the Manual Screen Operations. Ensure all utilities are shut off before manually actuating any of the devices.

There are a total of three Manual Screens. All other manual screens are accessible from the First Manual Control Screen. These screens collectively will allow the operator to control all functions of the machine manually. This is useful when troubleshooting individual components. Each device can be turned on or off individually. Caution should be taken when operating the machine manually as safely interlocks are bypassed.

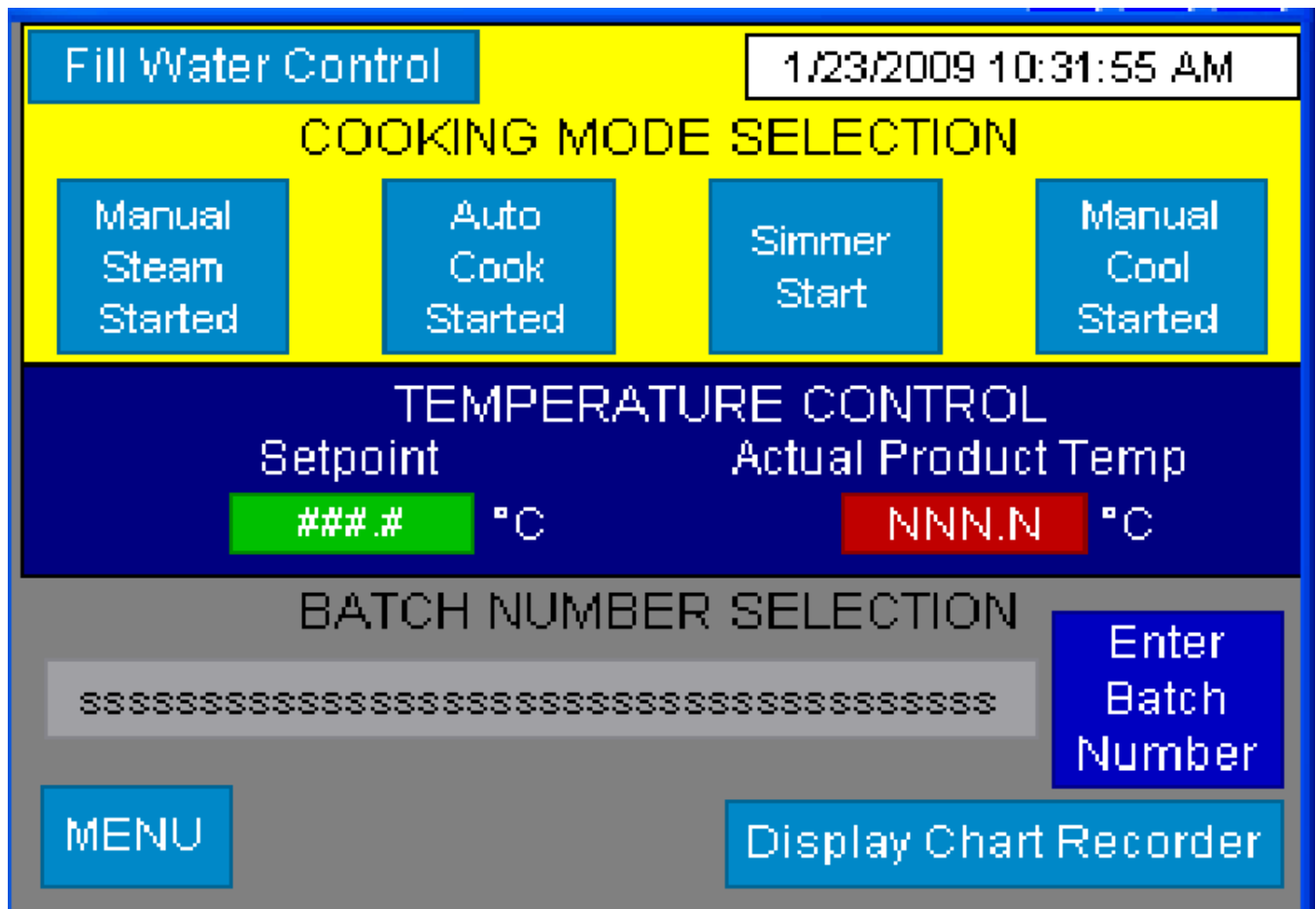
To operate any of the devices manually press the blue actuation button next to the text. If the desired device is not listed press the right arrow key located at the top of the screen to display the next manual screen.

The manual actuations will only stay active as long the HMI remains on one of the Manual Screens.

Once the operator navigates to the Main Screen all manual actuations will be reset.

To return to the System Set up Screen press the left arrow key located at the top of the screen until it returns to System Set-up.

### 2.2.7. Cook Screen



The Run Screen allows the operator to start and stop automated Cooking/Chill Modes, Manual Cooking/Chill Modes. It also allows the following functions; the naming or numbering of the batch, and the entry of the temperature set point. From this screen the operator can navigate to the Water Control Screen, Trending Screen, and the Main Menu.

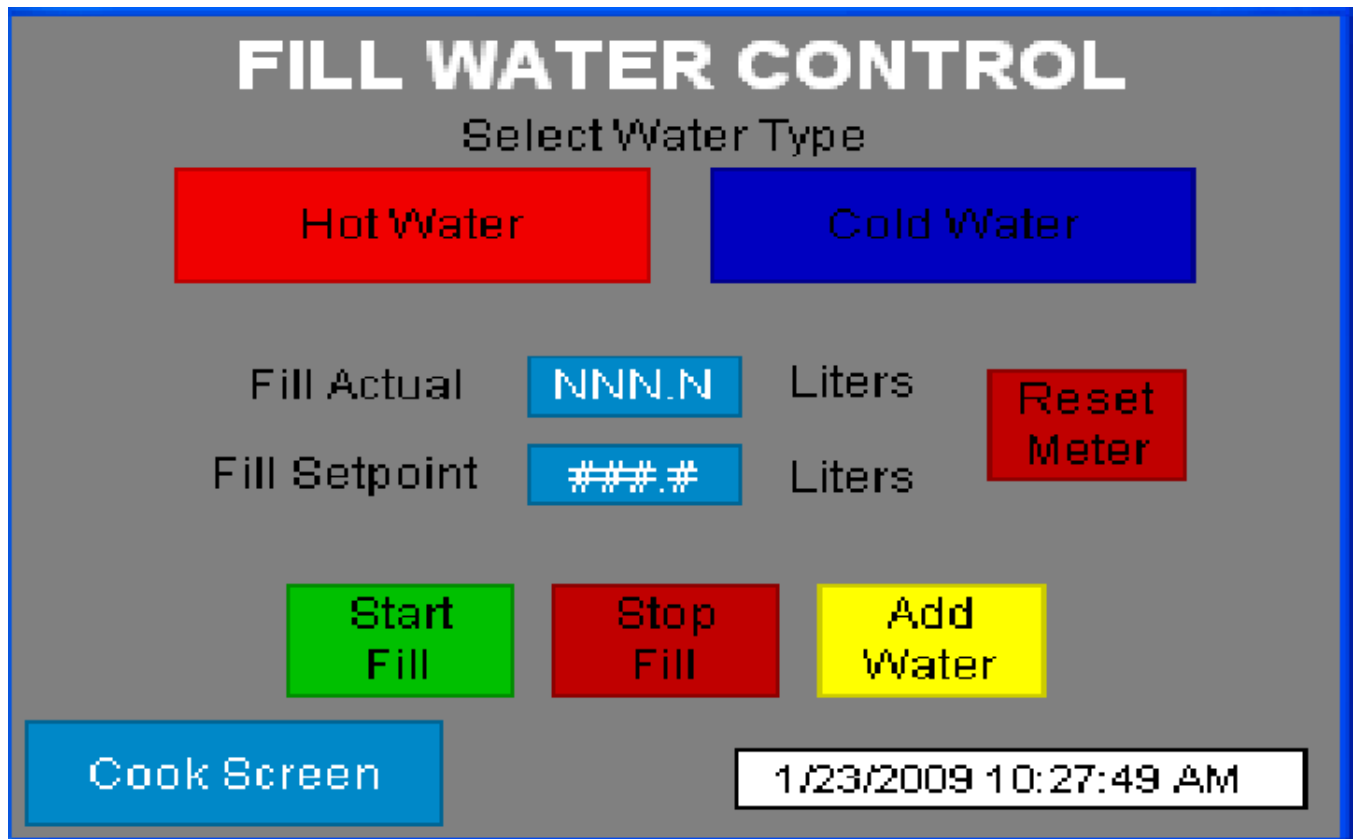
- The Manual Steam Mode will apply full steam to the kettle after performing an initial 55 second blow down to evacuate any remaining fluid within the kettle jacket. The temperature **WILL NOT** be regulated in this mode. The operator should carefully observe the kettle and product to avoid burning or overheating of the product.
- The Manual Cool Mode will apply full chill water to the kettle. The temperature **WILL NOT** be regulated in this mode. The operator should carefully observe the kettle and product to avoid freezing (when possible) the product. This is the most efficient way to rapidly cool the product in the kettle.
- The Auto Cook Mode is used to cook products utilizing full steam. When started, the Auto Cook Mode will perform a 55 second initial blow down to evacuate any remaining fluid within the kettle jacket. After the blow down full steam will be applied to the kettle until the

- kettle temperature is within 10°F (5.5°C) of the temperature set point. After this threshold is reached the large steam valve will close and the small steam valve will open, allowing for a slowing ramp to the temperature set point. This will prevent the temperature from overshooting the target temperature. Once the set point temperature is reached the small valve will close. The kettle steam valves will remain idle unless the temperature drops below the temperature minus the set point deviation. If this occurs the small steam valve will open and will remain open until the temperature set point is again reached. This cycle will continue until either the set point temperature is lowered below the cooling value (which preset to 90 °F), or the HMI stop button is pressed, or the Panel Stop button is pressed.
- If the Temperature Set Point is lowered so the value is lowered by greater than the cooling value the steam valves will close and the cooling water valve will open and cool until the new Temperature Set point is reached.
    - EXAMPLE 1: - If you are cooking at a temperature of 190°F and you want to lower your product down to 50°F then you can adjust the temperature set point in the AUTO COOK MODE to 50°F and the product will be cooled down. This is happening since the  $\Delta T$  is greater than 90°F (190-50 = 140°F)
    - EXAMPLE 2: – If you are cooking at a temperature of 190°F and you want to lower your product down to 150°F then you must STOP the AUTO COOK MODE and go into the MANUAL COOL MODE and lower the temperature. This is required since the  $\Delta T$  is less than 90°F (190-150 = 40°F)
  - The Simmer Mode is used to gently heat products raising the temperature slowly to prevent scorching and overheating. When started, the Simmer Mode will perform a 55 second initial blow down to evacuate any remaining fluid within the kettle jacket. After the blow down, partial steam only will be applied to the kettle via the small steam valve. The steam is applied until the kettle temperature reaches the temperature set point. At this point the then the steam valve will close. The kettle steam valves will remain idle unless the temperature drops below the temperature minus the set point deviation. If this occurs the small steam valve will open and will remain open until the temperature set point is again reached. This cycle will continue until either the set point temperature is lowered below the cooling  $\Delta T$  value, or the HMI stop button is pressed, or the Panel Stop button is pressed. If the Temperature Set Point is lowered by greater than the cooling  $\Delta T$  value, the steam valves will close and the cooling water valve will open. It will then cool until the new Temperature Set point is reached.
  - To start any cooking mode the Set Point must first be entered. The set point is the temperature you want the kettle to reach during the cook/chill process. To change the set point, press the green numeric box below the Setpoint text. This will display a numeric input pop up screen. The new Set Point value can now be entered.
  - Before starting the Batch Name/Number must also be entered. This allows the batch to be tracked. To enter the Batch Name/Number press the blue Enter Batch Number button. This will display the Product Naming Screen.
  - After the operator enters the set point and the batch name/number the mode cook/chill mode can be started. This is done by pressing the button of the desired mode. Once started the modes buttons will be hidden and they will be replaced by a red STOP button. Pressing this stop button will stop the process. Once started the cook/chill modes can also be stopped by

pressing the Panel Stop button. It should be noted that the Panel Stop button will reset all Cook/Chill sequence logic. The process can be restarted once this button is released.

- To fill the kettle with potable water the operator can access the Potable Water Control Screen by pressing the blue Water Control button located in the upper left hand corner of the screen.
- To view the time and temperature trend access the Trending Screen by pressing the blue Display Trend button located in the lower right hand corner of the screen.
- To return to the Main Menu press the blue Menu button in the bottom left hand corner of the screen.

### 2.2.7.1. Potable Water Control Screen



*Please note that the Hot Water Fill is optional.*

Potable water can be added automatically to the kettle using the Potable Water Control Screen. To do this the operator will first need to select to type of water to be used to fill the kettle, Hot or Cold.

- To select Hot Water Fill press the red Hot Water button.
- To select Cold Water Fill press the blue Cold Water button. After selecting the water fill type the fill set point will need to be entered.

**Please note that the Automatic Fill may not function properly if the meter is not reset prior to start.**

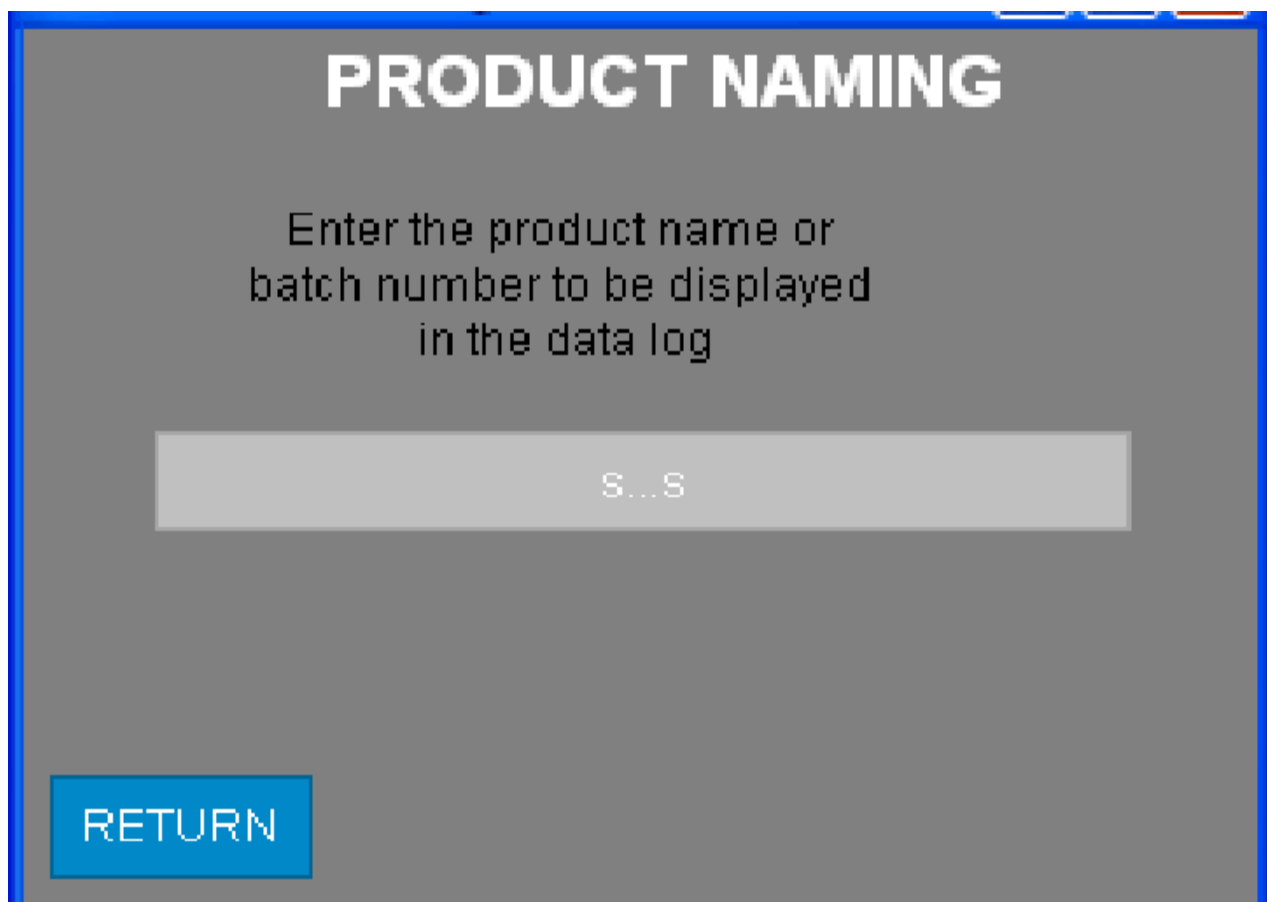
The Fill Set point is the total amount of water desired for the recipe.

- To reset the water meter press the red RESET METER button located in the middle of the right hand side of the screen.
- To enter the Set Point press the blue numeric box next to the Fill Setpoint text. This will display a numeric input pop up screen. The new Set point value can now be entered.

To start the Automatic Water Fill press the green Fill Start button on the lower left hand corner of the screen. Once started the Automatic Fill Can be stopped by pressing the red Fill Stop button. It can then be restarted until the fill level is reached. Once completed additional water can be added by pressing and holding the yellow Add button until desired amount has been added.

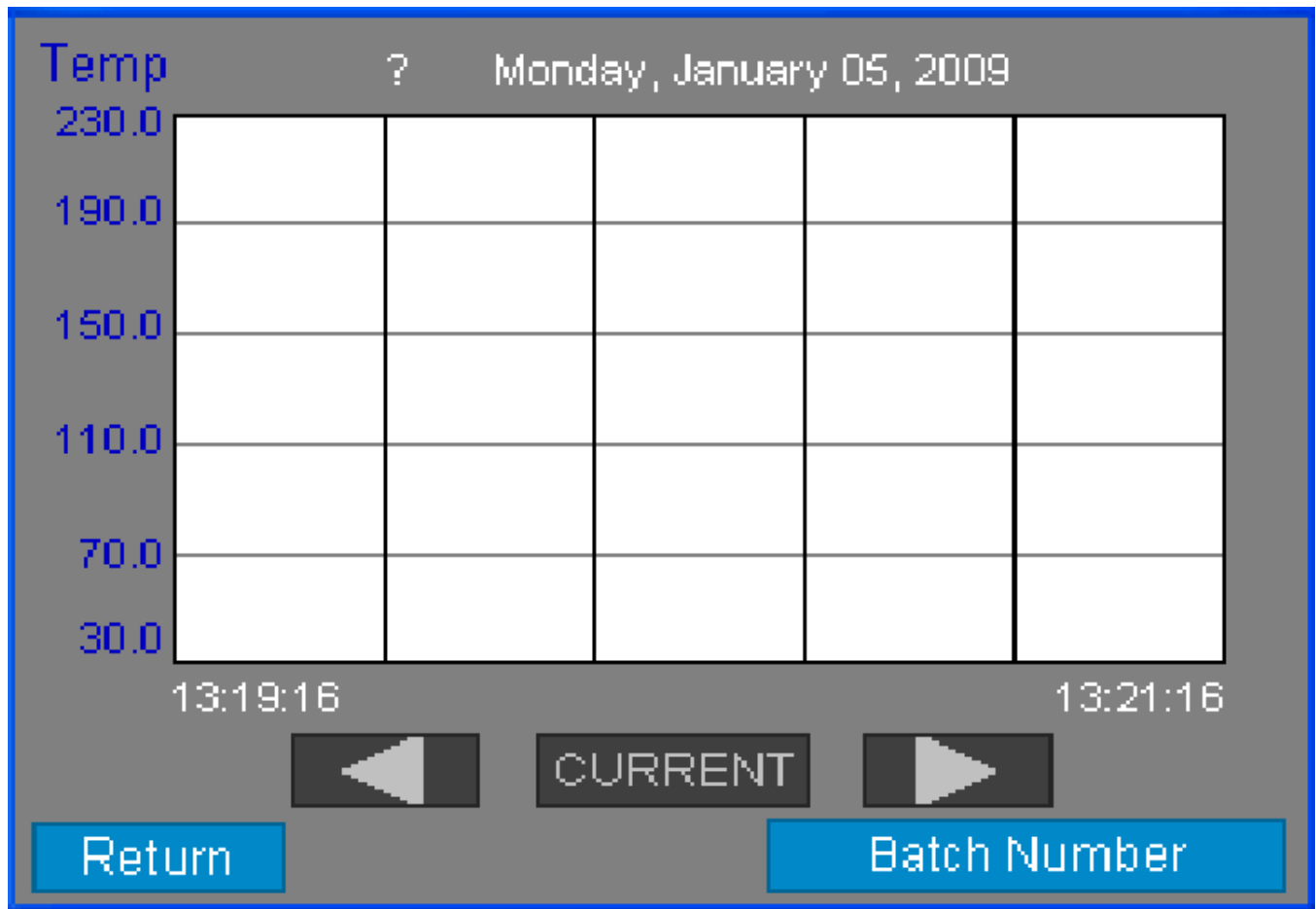
To return to the Run Screen press the blue COOK Screen button in the lower left corner of the screen.

### 2.2.7.2.Product Naming Screen



To enter the product or batch name/number press the light grey text entry field. This will display a text input pop up screen. The name/number can now be entered. To return to the Run Screen press the blue RETURN button in the bottom left corner of the screen.

### 2.2.7.3. Chart Recorder Screen

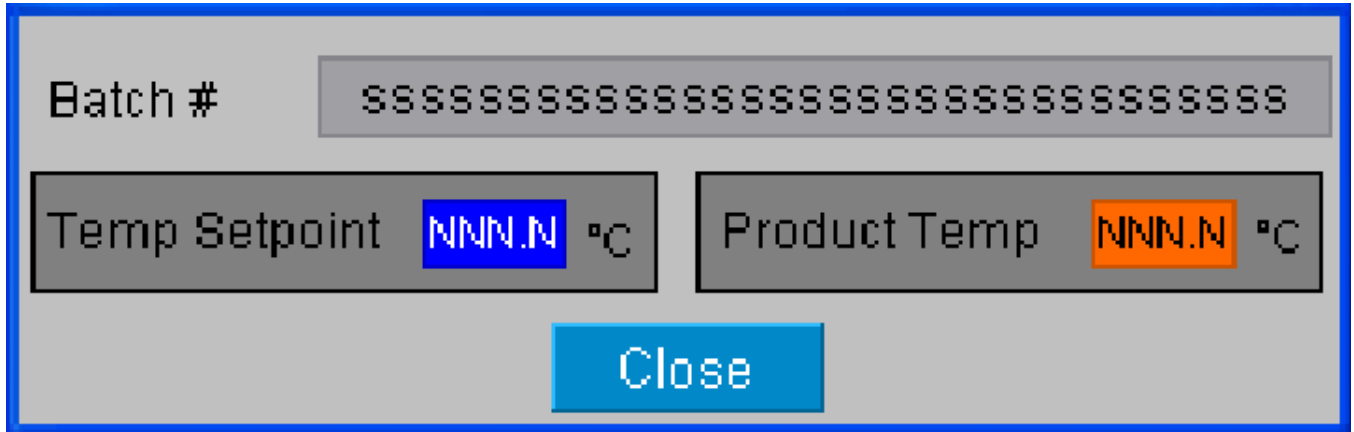


The Chart Recorder Screen shows the current batch trend. The operator can scroll forward or backward by pressing the corresponding arrows.

The product info or Batch Name/Number can be viewed by pressing the blue BATCH NUMBER in the lower right of the screen.

To return to the Run Screen press the blue Return button in the lower left of the screen.

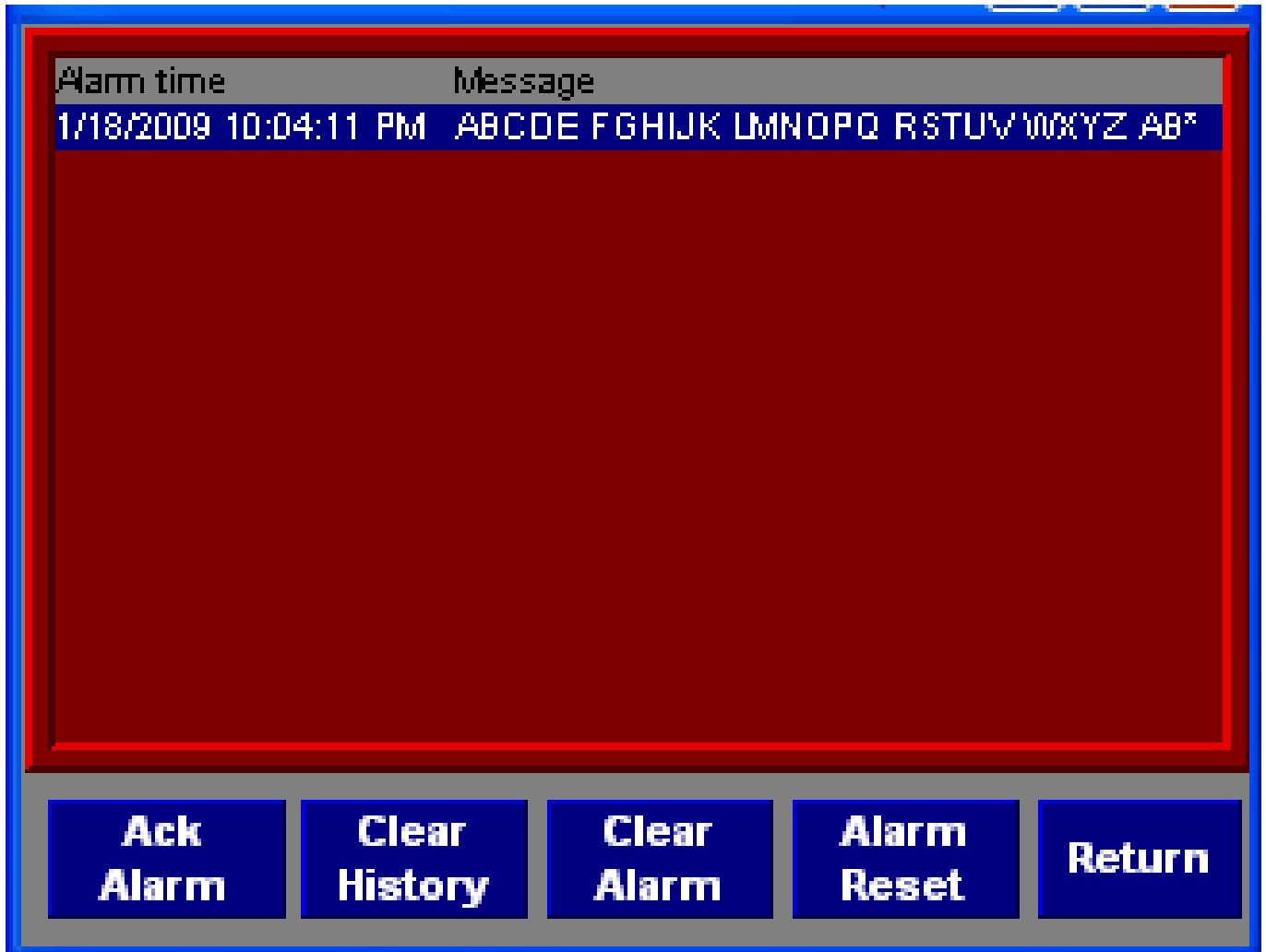
### 2.2.7.4. Product Information Screen



This pop up screen allows the operator to view details of the current batch.

Press the Close button to close pop up.

### 2.2.8. Alarm Screen



This screen provides fault information. This information can be used to pinpoint and expedite any run time issue. See Fault List for more information about Faults and Fault Recovery.

To clear faults press the Clear Alarm button.

To clear alarm history press the Clear History button.

To close the Alarm Banner press the Return button. To exit the Alarm Screen press the Return button.

To Reset Faults press the Alarm Reset button.



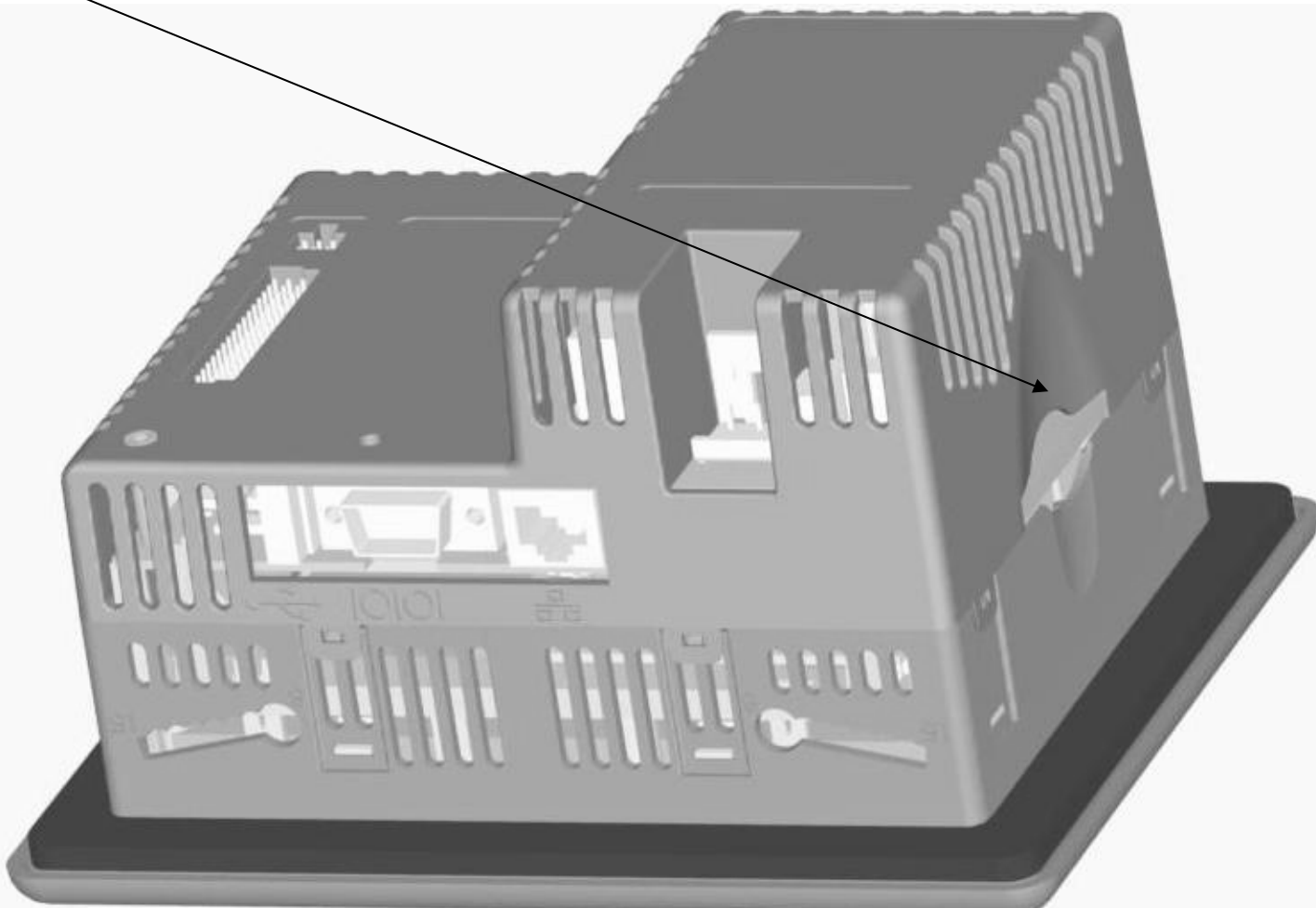
### 2.3. Chart Recorder Data File Retrieval

#### Procedures

To view the log files or copy them from the HMI to a PC the Compact Flash Card must be removed from the HMI. See section below to locate the card in the HMI. Once removed the .log file can be copied from the compact flash card to the PC. After being copied the file will need to be converted using the software described in the sections below. The software has instructional information included and is not covered in this manual.

#### Flash Card

The Flash Card is located on the side of the HMI touch Screen. The Electrical Enclosure must be opened to gain access to card holder. The card is located here:



***WARNING – use extreme caution when opening the electrical enclosure as exposure to high voltage is dangerous. Service should only be provided by qualified personnel. Failure to heed this warning may result in injury or death.***

## Software

The software required to view the data in an Excel format is a DBF to Excel converter available from many vendors. It is available on the Rockwell Automation Website.

### **2.4. Machine Fault Recovery and Troubleshooting**

Most common faults can be recovered from by first rectifying the cause of the faults and then by pressing the Alarm Reset button on either the Alarm Banner or Alarm Screen. To troubleshooting more advanced issues, should they arise, follow the instructions in the list below.

#### **2.4.1. Machine Fault List and Recovery**

- Product Over-Temp Alarm
  - This fault is triggered when the automated control system senses the product temperature is more than twice the Temperature Set Point Deviation. This alarm can be remedied by allowing the temperature to drop below threshold and pressing the Alarm Reset Button on the Alarm Screen or Alarm Banner.
  - This fault could be caused by a malfunctioning steam valve and/or malfunctioning RTD.
  - Verify proper operation of the steam valves and condensate valve using the manual operations screen. If valves are faulty replace valves with replacement from Cleveland Range.
  - Verify proper operation of the RTD temperature sensor by comparing the RTD read out to a hand held cooking thermometer know to be with proper range. If the RTD is found to be faulty replace the RTD with a replacement component from Cleveland Range.
  - If the issue persists and components are found to be functioning properly contact Cleveland Range for further assistance.
- Agitator Motor Drive Fault
  - This fault is triggered when the automated control system receives a fault from the VFD. This alarm can be remedied by pressing the Alarm Reset Button on the Alarm Screen or Alarm Banner.
  - If this fault does not reset, power off the Agitator Contact using the Manual Screen, then attempt again.
  - If the issue persists verify the agitator is not mechanically “bound up”.
  - If the issue persists contact Cleveland Range for further assistance.
- Hydraulic Motor Drive Fault
  - This fault is triggered when the automated control system receives a fault from the hydraulic pump motor drive circuitry. This alarm can be remedied by pressing the Alarm Reset Button on the Alarm Screen or Alarm Banner.
  - If this fault does not reset, check hydraulic fluid level. Add is necessary.
  - Verify proper operation of Hydraulic Pump Motor Starter by using the Manual Screen. The motor starter should energize and the pump should start.
  - If the issue persists verify that the Motor Protector is not tripped.
  - If the issue persists contact Cleveland Range for further assistance.

- Stop Button Pressed
  - This fault is triggered when the automated control system receives a signal that the Panel Stop button has been pressed. This alarm can be remedied by pressing the Alarm Reset Button on the Alarm Screen or Alarm Banner.
  - If this fault does not reset the Panel Stop button or circuitry is faulty.
- Batch Not Labeled
  - This fault is triggered when the operator attempts to start a Batch and the batch has not yet been labeled.
  - This alarm can be remedied by pressing the Alarm Reset Button on the Alarm Screen or Alarm Banner, and adding the Batch Name/Number before starting the next batch.
- Date/Time Not Set
  - This fault is triggered when the operator attempts to start a Batch and the Date/Time has not yet been set.
  - This alarm can be remedied by pressing the Alarm Reset Button on the Alarm Screen or Alarm Banner, and adding setting the Date/Time before starting the next batch.
- Requested Water Volume Not Valid
  - This fault is triggered when the operator attempted to start a Potable Water Automatic Fill with a set point value of equal to or less than zero or a set point value larger than the capacity of the kettle. This alarm can be remedied by pressing the Alarm Reset Button on the Alarm Screen or Alarm Banner. Verify the set point is within limits restart the Potable Water Automatic Fill.
- Water Meter Invalid Count
  - This fault is triggered when the Water Meter Pulse Count is less than zero or is greater than the capacity of the kettle. This alarm can be remedied by pressing the Alarm Reset Button on the Alarm Screen or Alarm Banner.
  - Reset the Water Meter using the Water Meter Reset button located on the Water Control Screen. Attempt the Potable Water Automatic Fill again.
  - If the issue persists contact Cleveland Range for further assistance
- Water Meter/Water Valve Fault
  - This fault is triggered when the Water Automatic Fill is started but water flow is lower than 1 gallon per minute or liter every 16 seconds. This alarm can be remedied by pressing the Alarm Reset Button on the Alarm Screen or Alarm Banner.
  - Verify proper operation of the Hot and/or Cold Water Valve using the manual operations screen. If any valves are faulty replace valves with replacements from Cleveland Range.
  - Verify proper operation of the water meter by setting a low volume and comparing to a graduated measuring device. If the flow results in a reoccurring fault or if the issue persists contact Cleveland Range for further assistance
- RTD Fault
  - This fault is triggered when the automated control system circuitry senses an electrically open or shorted RTD circuit. The RTD and sensor wiring integrity should be verified. If no issues are found reset the alarm by pressing the Alarm Reset Button on the Alarm Screen or Alarm Banner.
  - If the issue persists replace the RTD with a replacement component from Cleveland Range.

If issue persists and components are found to be functioning properly contact Cleveland Range for further assistance.

## 2.4.2. Troubleshooting

***WARNING – use extreme caution when opening the electrical enclosure as exposure to high voltage is dangerous. Service should only be provided by qualified personnel. Failure to heed this warning may result in injury or death.***

- No Screen
  - If the HMI Screen is blank use the following the checklist:
    - Verify that the Power to the Machine is turned on
    - Verify that the System Control Power is turned on
    - Verify power circuit to HMI is ok – check fusing
    - Contact Cleveland Range if further assistance is required.
- No Power
  - If the machine has no power use the following the checklist:
    - Verify that the Power to the Machine is turned on
    - Verify that the System Control Power is turned on
    - Verify power circuit is ok – check fusing
    - Contact Cleveland Range if further assistance is required.
- No Heat
  - If the machine does not heat up or is heating up slowly use the following the checklist:
    - Verify that the steam and condensate valves are functioning properly using the manual screen
    - Verify that the RTD is functioning properly by verifying the RTD reading with a handheld thermometer
    - Contact Cleveland Range if further assistance is required.
- No Cooling
  - If the machine does not cool down or is cooling down slowly use the following the checklist:
    - Verify that the cooling water and cooling water return valves are functioning properly using the manual screen
    - Verify that the RTD is functioning properly by verifying the RTD reading with a handheld thermometer
    - Contact Cleveland Range if further assistance is required.
- No Agitator
  - If the machine agitator does not work properly use the following the checklist:
    - Verify that the Agitator Motor Starter is turned on
    - Verify that the Run signal to the VFD is energized
    - Verify power circuit is ok – check fusing
    - Contact Cleveland Range if further assistance is required.
- No Valve Operation
  - If the machine valves are not functioning properly use the following the checklist below:
    - Verify the Outputs (valves) functionality using the manual screen
    - Verify that the System Control Power is turned on
    - Verify power circuit to the outputs are ok – check fusing
    - Contact Cleveland Range if further assistance is required.

## **Cleveland Range Contact Information**

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