Above is the typical remote panel for Garmat Booths equipped with 99273&275 series mechanicals as well as the Frontier line.

In the center is the touchscreen. It serves as both a display of critical information and an interface to modify settings.

Physical switches

EM STOP: Below the screen on the left is the red Emergency Stop button, also referred to as the EM Stop. This is to shut down the booth in an emergency. To activate it push it until it clicks. In an emergency it is fine to strike the button. To release the button after it is activated twist the button to the right and release. Do not use to shut the booth off in non-emergency situations, use the off switch.

LIGHTS: To the right of the EM Stop is the switch to turn the lights on and off. Rotate the switch to the on position to turn the lights on in the booth and to the off position to turn them off.

OFF/SRPAY/BAKE: Next we have the Off-Spray-Bake switch. To put the booth into spray mode rotate the O-S-B switch to the center Spray position. To put the booth into Bake Mode rotate to the far right Bake position. To turn the booth off rotate left to the Off position. When the booth completes a bake cycle and the following cool down period it will shut off. It is programmed to stay off in the event of a power failure. To restart the booth rotate the O-S-B to the off position, after ten seconds the screen will change from “Cycle Complete” to “Booth Off”

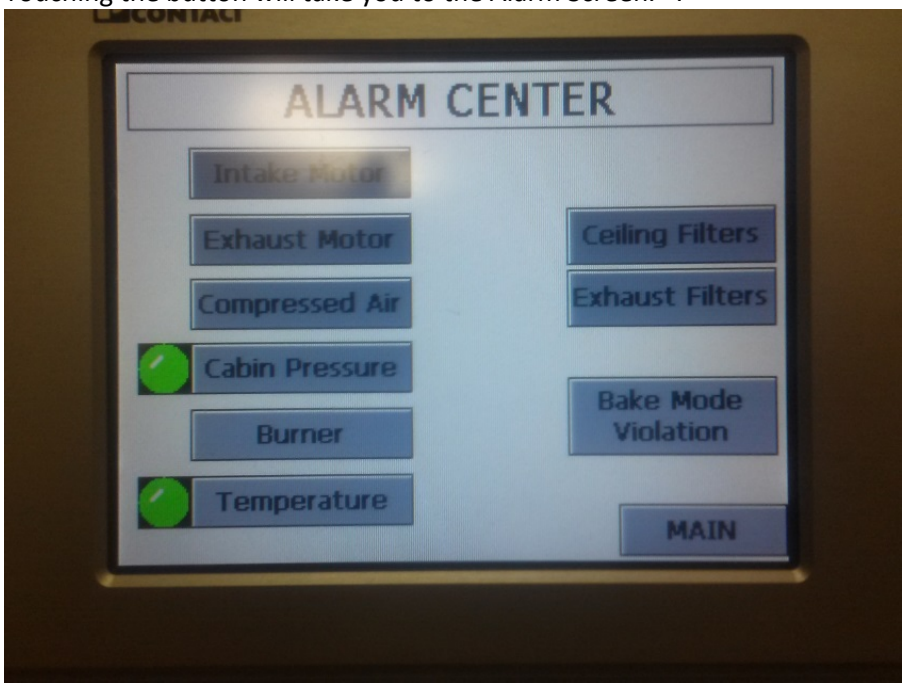
BURNER: On the far right we have the Burner switch. If heat is desired in the Spray mode rotate the switch to the “ON” position. If heat in Spray is not desired rotate to the “OFF” position. In Bake mode the burner is automatically activated and this switch has no effect.

HMI (Human Machine Interface) or Touchscreen

The HMI is the primary display and interface for information. The photo above shows the main screen.

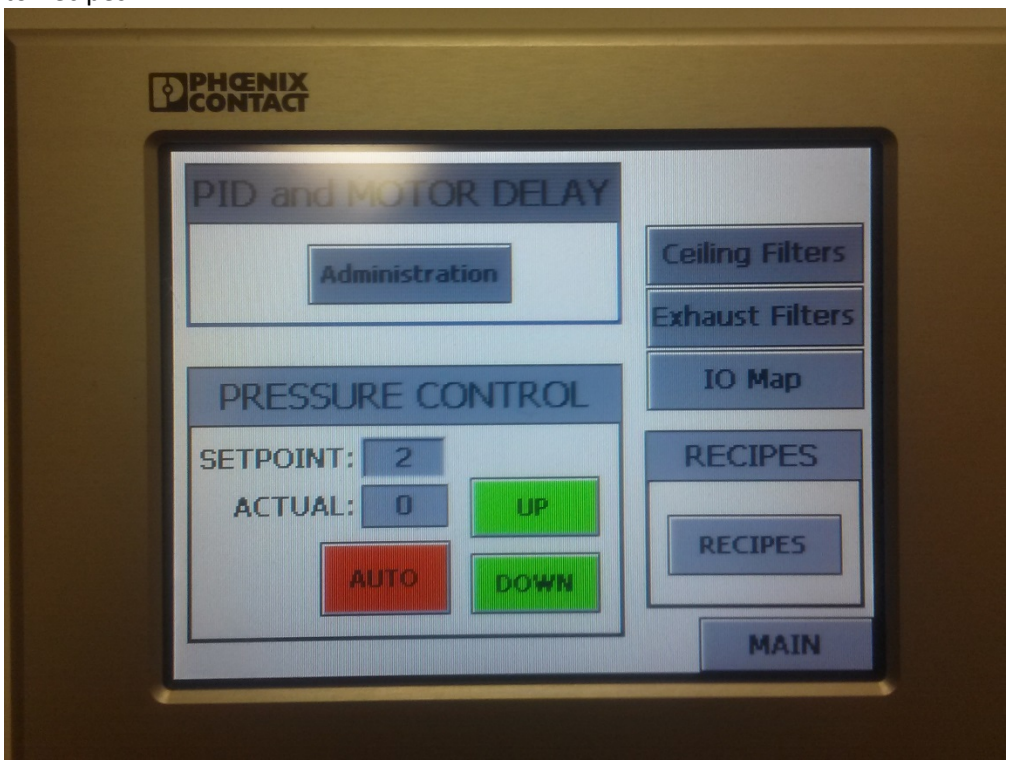
- One the far left is the temperature display. It consists of both a bar graph and a digital value. The bar graph fills in and travels up the scale from 0 to 200F while the numeric value.
- Next to the right is the Pressure gauge. This displays the pressure difference between the interior and exterior of the cabin. The scale is from -10 to 10. Ideally the booth should be slightly positive with the bar hovering around the mark for 2. Due to the dynamic nature of air moving systems this will fluctuate slightly.
- Above the pressure graph is "Total Hours". This displays the operational hours of the booth. Touching this label will display the number of hours spent in Spray, Bake and Energy Conservation.
- In the center of the screen is the mode and time display. In the photo above it is showing "Cycle Complete" and Mode Time 00:00:00. During each operational mode of the booth this will display what the current mode is and the time remaining in that mode. The options are as follows
    - "Booth Off" Booth is off. Lights may be operated.
    - "Spray Mode" Booth is operating in the spray mode for finish application
    - "Flash Mode" Mode to flash between coats of finish. Elevated temperature and automatic operation of waterbourne curing systems.
    - "Energy Conservation" No activity in booth, changes to recycle to conserve fuel while maintaining spray temperature. Timer will count will increase showing the time spent in this mode.

  - "Purge Mode" First stage of the Bake Cycle (Purge, bake set points 1 -3 and cool down). Unit maintains spray set point while exhausting the cabin of remaining fumes. Timer on top will count down remaining time while the bottom timer displays the time remaining in the complete Bake cycle.
  - "Bake Set Pt 1"
  - "Bake Set Pt 2"
  - "Bake Set Pt 3"
  - "Cool Down"
  - "Cycle Complete"
- Touching the Garmat Logo at the top center of the screen will open instruction summary pages for the unit.
- Along the bottom are five indicators showing the status of the booth. When the indicator is blue it is active, when it is gray it is not.
  - The "OFF" indicator shows that the O-S-B switch is in the off position and the booth is not operating.
  - The "SPRAY" indicator shows that the O-S-B switch is in the Spray position and the booth is running in the SPRAY mode.
  - The "FLASH" indicator is an active button. Touching this button will start the flash mode. During this mode the spray air will shut off, the burner will come on and the temperature go the set pt for Flash. In addition an air curing systems can be automatically activated.
  - The "BAKE" indicator shows that the O-S-B switch is in the Spray position and the booth is running in the BAKE mode.
  - The "BURNER" indicator shows that the Burner Off-On switch is in the On position and the burner should be operating.
- Vertically along the right edge are several buttons for accessing the parameters of the unit.
  - At the top is the Alarm button. This button will change to Red if there is a system alarm. Touching the button will take you to the Alarm Screen. .



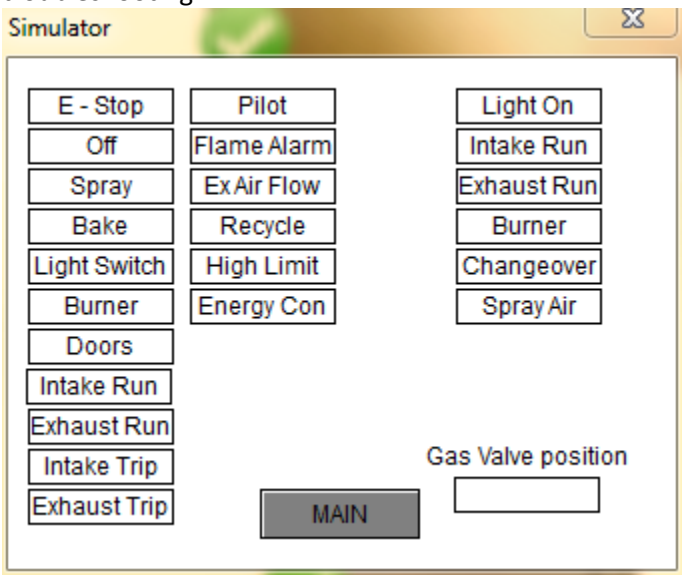
The various systems are shown on buttons in this screen. Buttons without an indicator to the left of them are currently inactive. Buttons with a green indicator are active and function properly. Buttons with a red indicator are in alarm; touch that button for an explanation of the alarm and items to check.

- The next button down is “Maint” which stands for Maintenance. The maintenance screen has information for the technicians, filters, pressure control (optional) and access to Recipes.

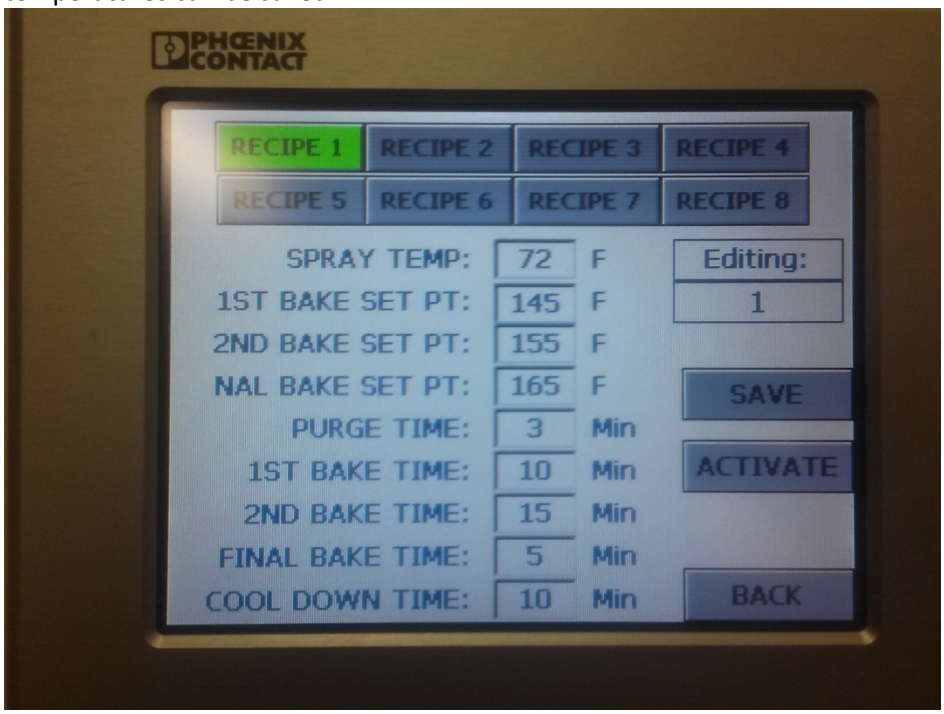


  - The box labeled “PID and MOTOR DELAY” leads to a screen for the service technician to use during setup and maintenance of the booth.
  - The “PRESSURE CONTROL” box is an option that is available with manual pressure control such as units with Curtains. Press the up arrow to increase the amount of Exhaust airflow and the down arrow to decrease it. The goal is to get the curtains to hand neutrally or just slightly drawn in.
  - On the right are buttons for the filters “PRE-filters”, Ceiling Filters and Exhaust filters. Touching these will open a window showing the number of hours since the time was last reset. This can be seen in the following example. Each time the filters are changed the timer can be reset here.

- The IO Map button opens a screen that shows the various physical inputs and outputs of the PLC system. This is useful in the event of an error for troubleshooting

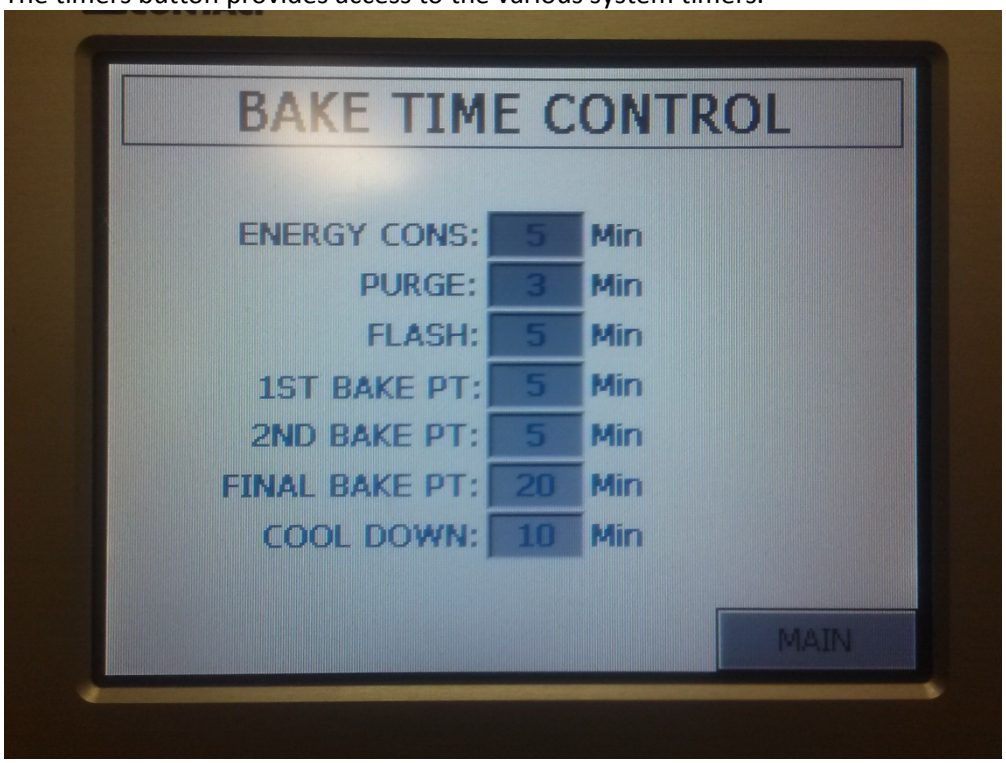


- The Recipes button takes you to a screen where all of the presets, timers and temperatures can be saved.



Up to Eight different recipes with different times and temperatures can be saved. In the above example Recipe 1 is active, this is known because it is green and the editing box has the number one. Down the center of the screen are the values for each of the settings. To accept and activate these values press the button labeled “ACTIVATE”. It edit the values touch the desired value and enter on the keypad that pops up. Press Save to save the changes to Memory.

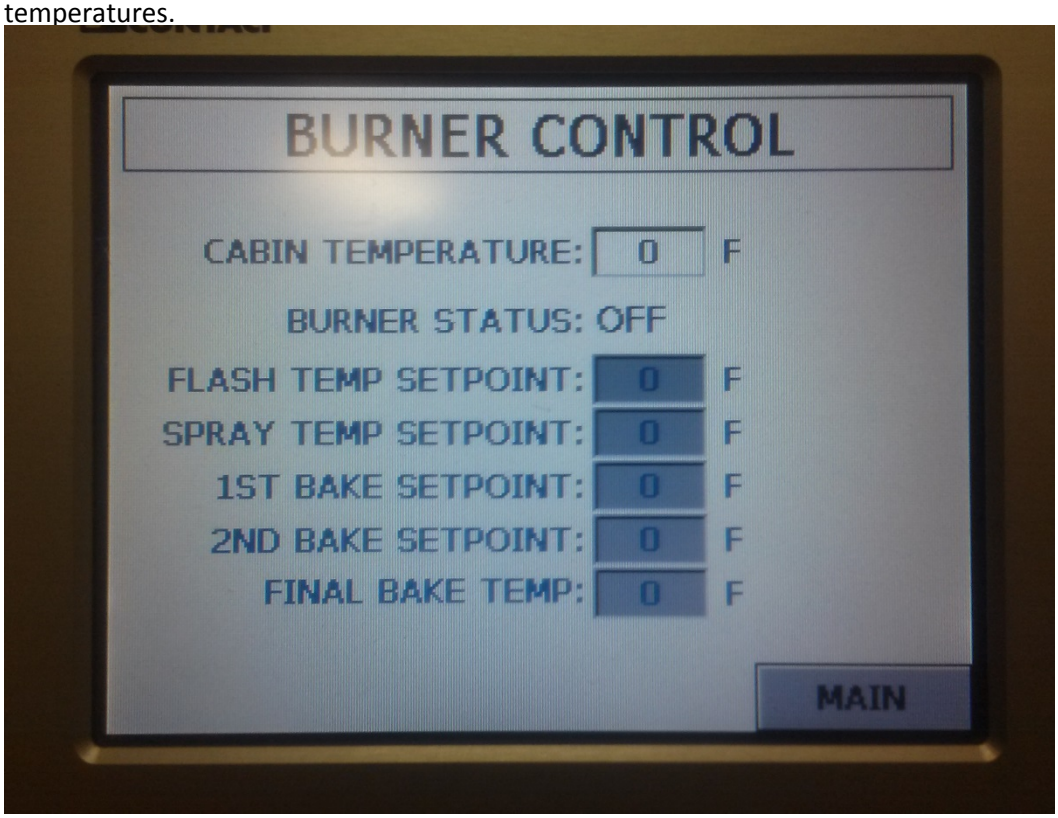
- The timers button provides access to the various system timers.



Each of the values here corresponds to a system timer. To change a set point touch the number beside the desired mode. A keypad will popup and you can enter the appropriate value

- Energy Cons: Optional mode where the system will go to recycle to conserver fuel when painting is not occurring. This value is how long it takes from when spraying stops to when the booth will change modes
- Purge. This is the time between spraying and curing of the paint. During this time the spray air is disabled and the cabin is being purged of flammable fumes. The minimum setting for this is 3min.
- Flash: This regulates the amount of time spent in the flash mode when activated.
- 1st, 2nd and Final Bake pt: Each one corresponds to a temperature set point. During the bake mode the booth will maintain the first temperature set point for the time value of the 1st Bake Pt, the second temperature set point for the time value of the 2nd Bake pt and so on. If only one temperature set pt is desired set the time for the other two set pts to zero.
- "COOL DOWN" is the mode after the cure cycle. The booth will change back to 100% fresh air and if the burner is on lower the temperature to the spray set point. If the burner is off it will only draw outside air. This cools off both the booth and the vehicle.

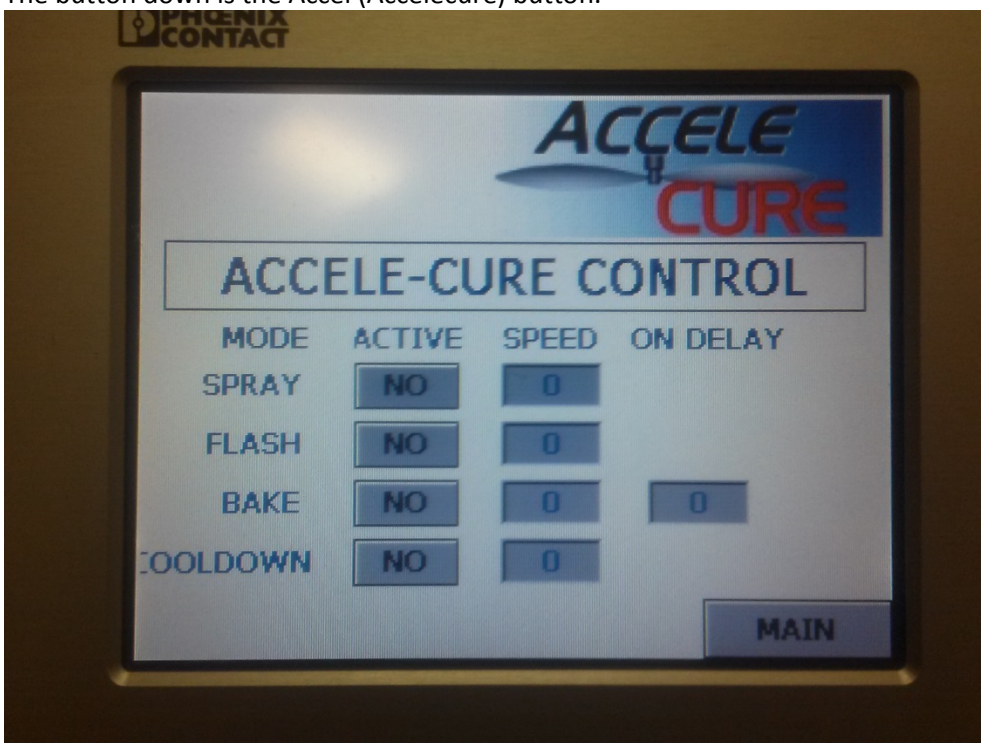
- The “Temp” button leads to the Burner Control screen to set the desired booth temperatures.



To change a set point touch the number beside the desired mode. A keypad will popup and you can enter the appropriate value.

- The top line is the current Cabin Temperature. This is not a selectable field
- The next line is the status of the burner, either ON or OFF
- Flash Temp SetPoint is the temperature the booth will maintain in the Flash mode
- Spray Temp SetPoint is the temperature the booth will maintain in the Spray mode if the burner is ON.
- Each of the bake set points corresponds to the timer of the same name. For example if the 1st Bake Setpoint timer is set for 10 minutes and the 1st Bake Setpoint temperature is set for 150F then the booth will maintain 150deg for 10 minutes. After that time it will proceed to the 2nd set point time and temperature and then after that the third or final.

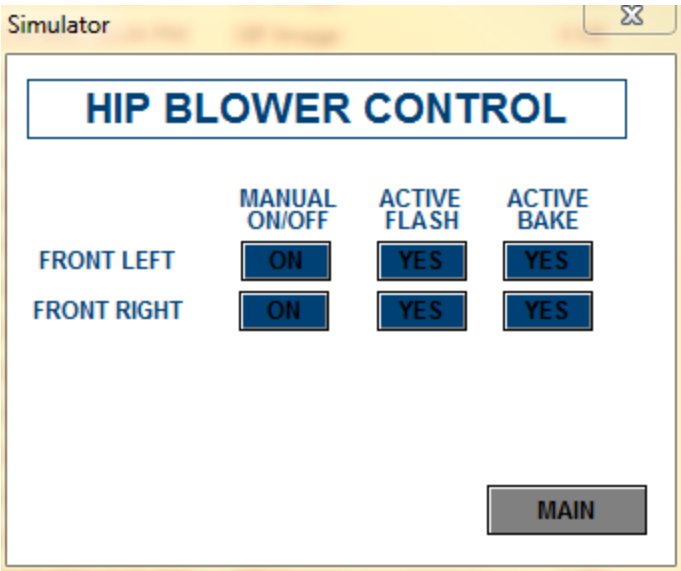
- The button down is the Accel (Accelecure) button.



This screen contains all of the options for the Optional Accelecure air drying system.

  - On the right are the various modes , Spray, Flash, Bake and Cooldown.
  - The next column "ACTIVE" has a box that is YES or NO. YES means the system is on in that mode, NO means it is off. The SPEED column is the desired speed. This is a number from 0 to 100%. In the spray mode Touching this button will turn the system on, it can also be turned on from the push button in the booth. Flash, Bake and Cooldown are automatic. When the button is set to YES, they will come on in that mode. Set to NO they will not function.
  - The last column is a delay feature for Bake. If set the system will wait for this timer to elapse before starting. It can be set from 0 to 99 Minutes.
- Next is the "Lights" Indicator. The "LIghts" indicator shows that the Lights Off-On switch is in the On position. The lights in the booth will shut off in the Bake Mode or the Cycle complete mode even if the switch is in the on position.
- The blower switch is next. This takes you to the control screen for the optional blower system.

HMI Operation Instructions



In example above we have a two blower system. There can be 2, 4, or six blowers in a unit.

- The left column indicates the position of the blower.
- The next column is the manual ON/OFF button. Press to turn the blower on or off. Blue with the text ON is running and Red with the text OFF is not.
- The next two columns are for the modes Flash and Bake. If YES the blowers will come on at the start of the mode.