



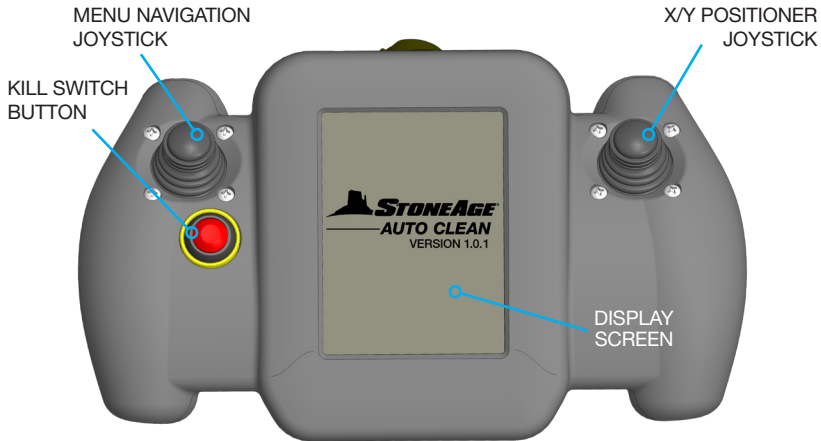
AUTOCLEAN SYSTEM

Controller Guide

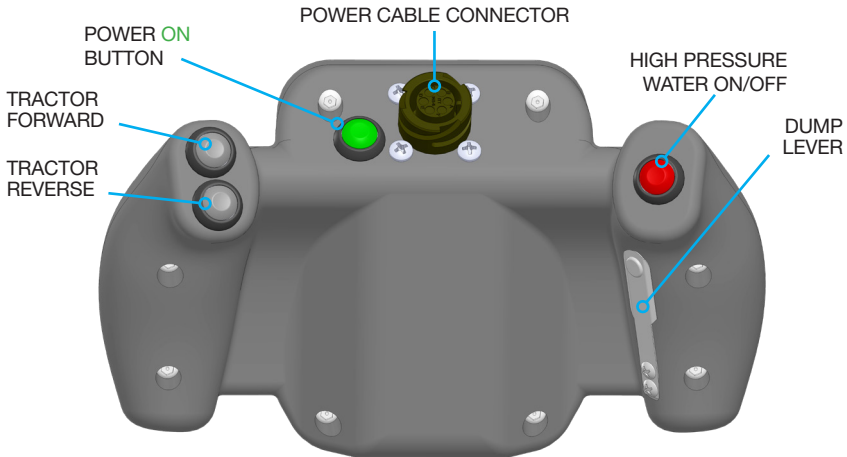
CBE Firmware
Version 1.0.1

CONTROLLER FUNCTION OVERVIEW	3-4
START UP PROCEDURE	5-6
GENERAL PREFERENCE SETTINGS	7
MANUAL PITCH MEASUREMENT	8
ENTER PITCH AND TUBE PATTERN	9-10
PITCH LEARN FUNCTION	11
OPERATION	13-18
SAFETY FEATURES	18

FUNCTION OVERVIEW



FUNCTION OVERVIEW



OPERATING INSTRUCTIONS

These instructions assume that all connections have been made between the Tumble Box, Lightweight Positioner, Autobox Tractor, and Hand Held Controller. It also assumes that the Tumble Box has been plugged in and it has been hooked up to an air supply. The Tumble Box can be connected to US and European power. (50-60Hz 90-260vac)

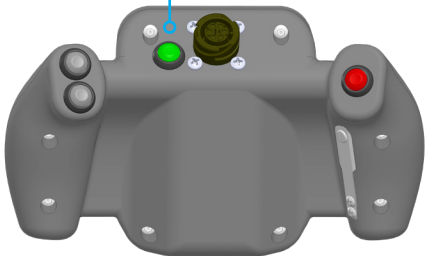
1. Release the E-Stop on the Tumble-Box.
2. Look for the LED power lights to come on to verify the Tumble Box is operational.

POWERING UP

3. Press the **ON** Button on the Controller.
The Start Up Display Screen will appear

with the StoneAge logo.

POWER **ON** BUTTON

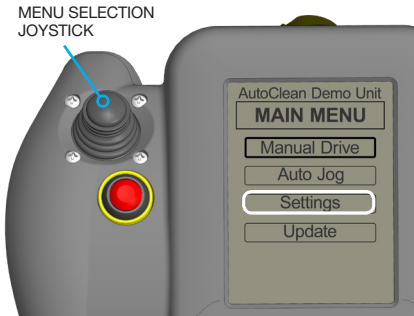


START UP DISPLAY SCREEN



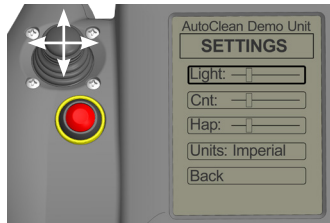
MAIN MENU

- The “MAIN MENU” will appear after the Start Up Display Screen.
- Use the Menu Selection Joystick to navigate to the “SETTINGS” tab. Pressing down on the Joystick = ENTER/SELECT.



- The “SETTINGS” Menu sets the Controller’s general preferences *listed below*. Select the BACK tab to return to the MAIN MENU.

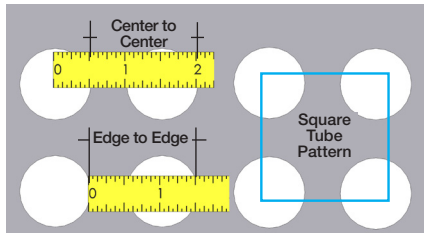
LIGHT:	Screen Brightness
CNT:	Screen Contrast
HAP:	Vibration level for emergency warning
UNITS:	Imperial or Metric
BACK:	Returns to previous screen



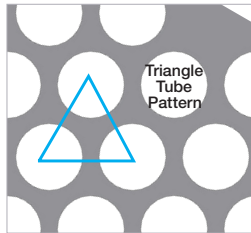
MEASURE PITCH MANUALLY

Before operating the AutoClean System, a measurement of the tube pitch and a tube pattern type (triangle or square) is required to program the Auto Jog function.

- To *manually* measure the tube pitch we recommend the use of digital calipers for the most accurate measurement. The use of a tape measure of ruler will also work.



- Measure the two tubes Center to Center or Edge to Edge. The example below would be 1.5 inches.
- The tube pattern on the left is "Square" because the tubes are parallel to each other. The pattern on the left is "Triangular" because the tubes are in a diagonal pattern.

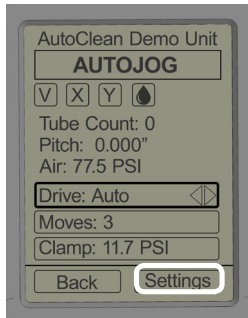
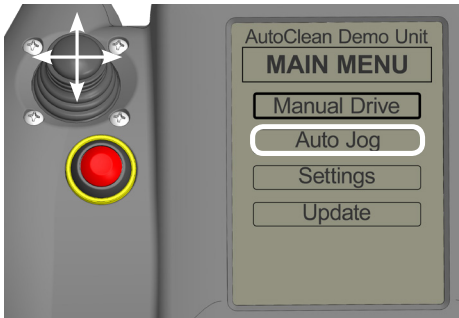


ENTER MANUAL PITCH AND TUBE PATTERN

The Pitch measurement and Tube Pattern will be entered in the JOB SETTINGS screen.

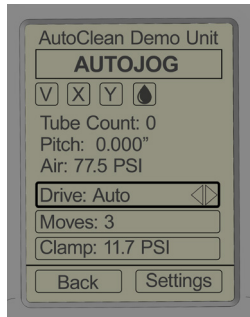
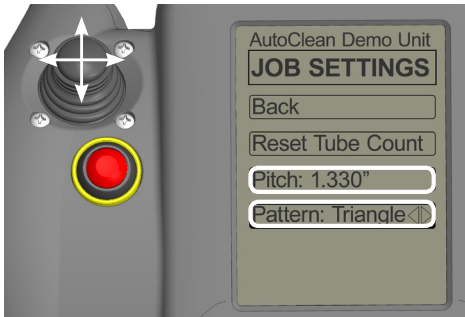
15. From the MAIN MENU screen, select the "AutoJog" box.

16. From the AUTOJOG screen, select the "Settings" box to change the menu to JOB SETTINGS.



17. Select the “Pitch” Box and enter the measurement.
18. Select the “Pattern” Box and toggle to Triangle or Square.

19. After the Pitch and Pattern are entered, select the “Back” box to go back to the AUTOJOG screen.



PITCH LEARNING MODE

10. To use the Pitch Learn Mode to measure the tube pitch, go to the AUTOJOG screen.

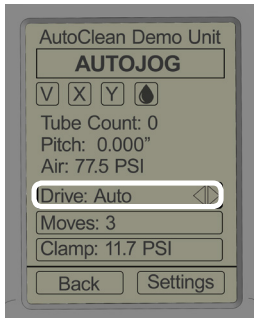
11. Toggle the Drive from Auto to Pitch Learn.

*Moves must be set to the number of tubes cleaned.

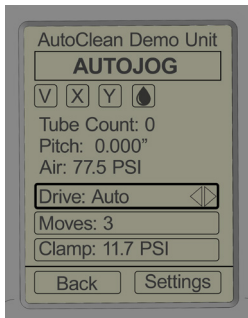
12. Clean an entire row of tubes in “Pitch Learn” mode.


13. Once satisfied, change settings back to “Auto” mode

14.*The controller stores this value for the pitch.



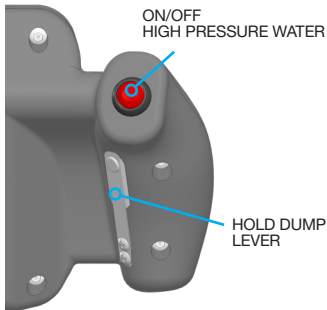
The icons below indicate what system connections are active. This table also describes each function.



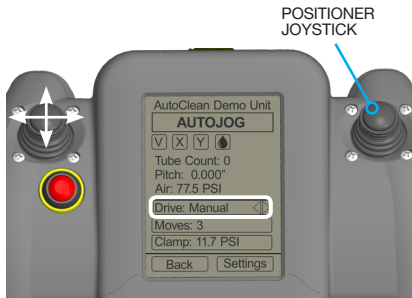
V	Air Valve	X	X Positioner	Y	Y Positioner		Water
Tube Count		Total tubes cleaned					
Pitch		Distance of move					
Air		Level of supply pressure					
Drive		Auto or Manual or Pitch Learn					
Moves		Quantity of tubes that the AutoJog will move					
Clamp		Adjusts the Tractor's Clamp Pressure on the lances					

OPERATION

20. Hold the Dump Lever in with the right hand and test the High Pressure water On/OFF button. If the Dump Lever is released the High Pressure water cuts off.



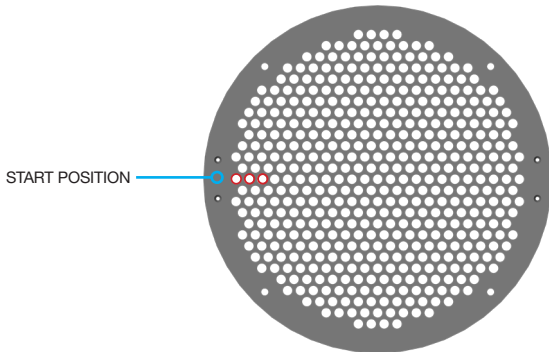
21. From the AUTOJOG screen, select "Manual" in the "Drive" Box.



22. With the X/Y Positioner Joystick, drive the tractor to **Start Position** on the Exchanger face shown below.

23. Go “Back” to the AutoJog screen, change the “Drive” to “Auto.” Enter the number of moves or tubes to be cleaned at one time (1-3).

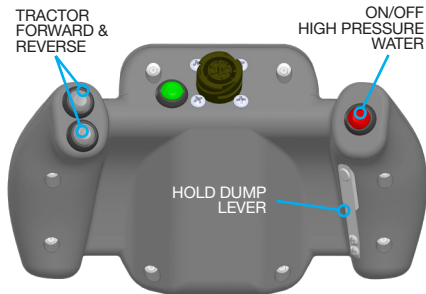
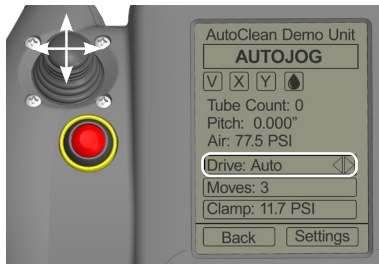
TRIANGLE PATTERN TUBE FACE



TO RUN THE AUTOCLEAN SYSTEM

24. Hold the Dump Lever in and test the High Pressure water On/OFF button
25. Press the Tractor Forward button to feed the lances into the first 3 tubes for at least

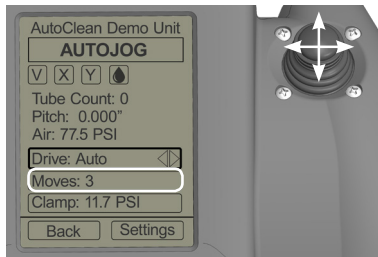
1 second, then withdraw them using the Tractor Reverse button. This will record 3 tubes in the "Tube Count."



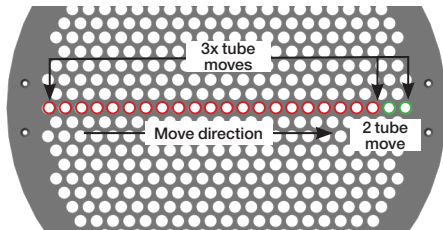
26. Tap the X/Y Positioner Joystick in the direction of the next tubes to be cleaned and it will automatically advance the number of “Moves” indicated on the screen.
27. Continue to move 3 and clean 3 until either the end of the row is reached or there is a different number of moves left to complete

the row. If there are a different number of moves, as in this case. Change the “Moves” to the number that is needed to complete the row. In this case, it is 2.

28. Tap the X/Y Positioner Joystick to the last tubes and finish cleaning the row. The Tube Count for this row would be 23.



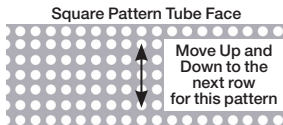
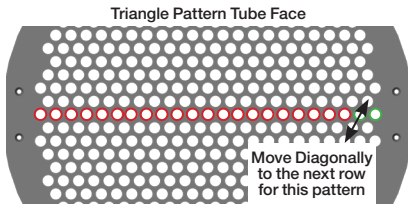
TRIANGLE PATTERN TUBE FACE



29. Tap the X/Y Positioner Joystick up or down to move to a new row of the tubes. The positioner will automatically move up, down, or diagonal by the same Pitch that it moved in the horizontal direction. For

the triangle pattern, tap the joystick up or down in the diagonal direction and straight up and down for square.

30. Repeat the horizontal row cleaning method until complete.



SAFETY FEATURE

31. The “Kill Switch” directly cuts power to the valve pack in the Tumblebox.
32. Use the center button on the left joystick

to return to the main menu, or select “Run” to resume the last operation.

KILL SWITCH BUTTON

