ONE TOUCH
ANAEROBIC CHAMBERS

Model

AC505A/515A

Instruction Manual
- January 2017 -

- Thank you for purchasing One Touch Anaerobic Chambers, AC505A/515A of Yamato Scientific.
- To use this unit properly, read this "Instruction Manual" thoroughly before using the unit.
  Keep this instruction manual around this unit for reference at any time.

⚠ WARNING:
Carefully read and thoroughly understand the important warning items described in this manual before using this unit.

Contents

General Information

The One-Touch Anaerobic Chamber Glove Box has been designed and engineered to provide a controlled temperature, oxygen, and pressure controlled work area. The Anaerobic Chamber features an internal catalyst heater unit, single electrical receptacle, and clear acrylic transfer chamber. One pair of glove ports with CSM (Hypalon™) gloves are mounted on the main chamber.

The control system features a color operator touch screen. Features of the touch screen include: oxygen monitoring and control (1ppm-20.9%), pressure monitoring and control for both the main and transfer chambers, on-screen data logging, external data logging via USB port, pressure relief valve, and on/off switches for main power and the LED light package.

AC505A One-Touch Anaerobic Chamber (Front View)

The basic housing is formed of .375” thick clear cast acrylic and white high-temperature thermoset resin bottom. The transfer chamber is constructed of .375” thick acrylic plastic which is also rigid. The clear acrylic provides constant visual observation over any items being transferred into or out of the glove box.

Main Features:

Clear Acrylic Transfer Chamber mounted to the right side of the Anaerobic Chamber. It includes inner and outer doors with black neoprene gasket, continuous stainless steel hinge and stainless steel toggle clamps (two per door); push-to-seal fitting for inert gas source, and vacuum transmitter.

Main Chamber includes one piece formed clear acrylic top with one piece thermoset white bottom, one pair of glove port rings with white CSM (Hypalon™) gloves, two (2) optional gas purging valves, and single electrical receptacle. An unmounted multiple outlet electrical strip is included if additional power receptacles are required. The main chamber also includes a top-mounted control system.

Control System features automatic oxygen reduction and pressure/vacuum control for the main chamber, and automatic purging for the transfer chamber and main chamber. The control system includes: color operator touch screen, LED lighting, optical oxygen sensor (1ppm-22.0%), pressure/vacuum transmitters for transfer chamber and main chamber, 1/4” hose barb gas connections for both nitrogen and anaerobic gas mix, on/off switch for main power, USB port for long-term datalogging, set of three drying train cannisters (mounted to the back wall of the glove box), digital catalyst heater unit and palladium catalyst canister. The catalyst heater unit and palladium catalyst canister are placed inside the main chamber of the glove box.

The gases required for the control system are: 99.9% Nitrogen and anaerobic gas mix (85% N2, 10% H2, and 5%CO2).

During “Go Anaerobic™” operation the control system will automatically purge the main chamber of the glove to achieve oxygen levels below 5ppm. This automatic purge cycle takes approximately 75 minutes.

Electrical requirement for the chamber:

AC505A	110/120V, 5 amp, 50/60 Hz. single phase.
AC515A	220V, 3 amp, 50/60 Hz. single phase

A six foot (1.5 meter) long power cord is included with the Hypoxia Chamber.

INITIAL SET-UP

1. Remove packaging from the chamber. Unwrap the bubble pack protecting the power cord. Position the chamber in the desired location.

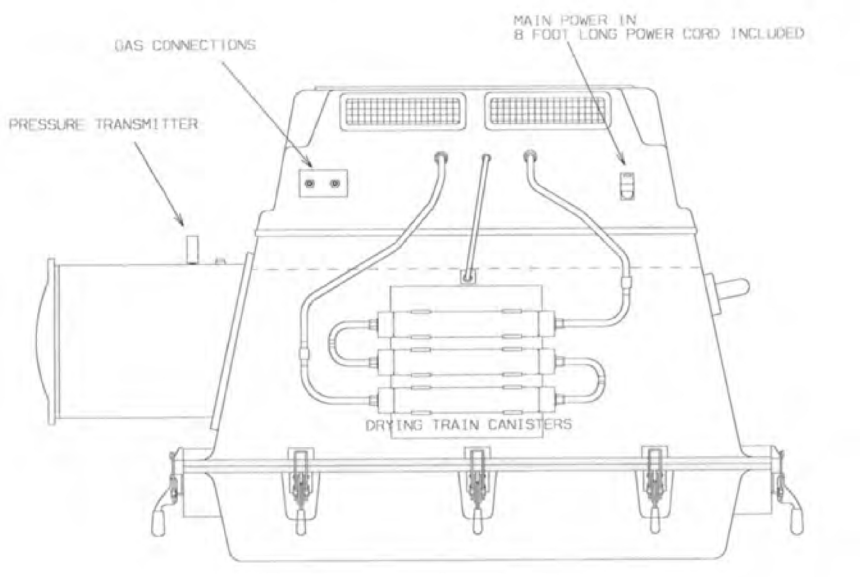
2. Remove loose box from inside the crate and unpack the catalyst heater unit and two palladium catalyst canisters.

3. Remove the product literature from the circular transfer chamber and place the heater and one palladium catalyst canister inside the main chamber of the anaerobic chamber. The extra palladium canister is a spare.

4. Unpackage the multiple outlet strip that is inside the main chamber. If multiple power receptacles are required inside the anaerobic chamber, plug the outlet strip into the single receptacle on the top left side of the main chamber. If no additional receptacles are required, remove the electrical strip from the main chamber.

5. Plug the catalyst heater into single receptacle or multiple outlet strip.

   From the back of the Anaerobic Chamber:



6. Connect the N2 and anaerobic mix gas sources to the back of the control system.
   NOTE: Gas connection 1/4" hose barb (serrated nipple).
   Incoming pressure should be set to 50 psi.

7. Connect quick connect fittings on the drying train canisters.

8. Verify that all sensors and hose connections are secure on the back of the Anaerobic Chamber.

9. Attach the power cord to the inlet power filter module.

10. Check gloves for any tears or cuts before using. If there are any you will need to replace the glove or gloves. To install gloves, place the beaded end of the glove's arm around the glove port ring. Using vinyl tape wrap the tape two to three times around the glove port ring. Make sure there are no wrinkles in the tape. Then carefully place the large steel glove port ring clamp around the taped assembly and tighten.

11. Plug main power cord into 220VAC, 5 amp wall receptacle.

12. Turn the gas sources for nitrogen and the anaerobic gas mix on. Incoming pressure should be set to 50 P.S.I. (777 mm/Hg.) on both gases. Verify the gas connections are leak-free.

YOU ARE NOW READY TO TURN THE GLOVE BOX ON

1. The main power switch for the control system is located on the front of the top black shroud. The USB port is located on the right side of the shroud. Insert a USB thumb drive if you wish to record your data log.

2. Turn the main power switch on. Note: if no USB thumb drive is inserted, a USB warning window will pop up, press Ignore to continue.

3. Upon start up, the operator touch screen will open.

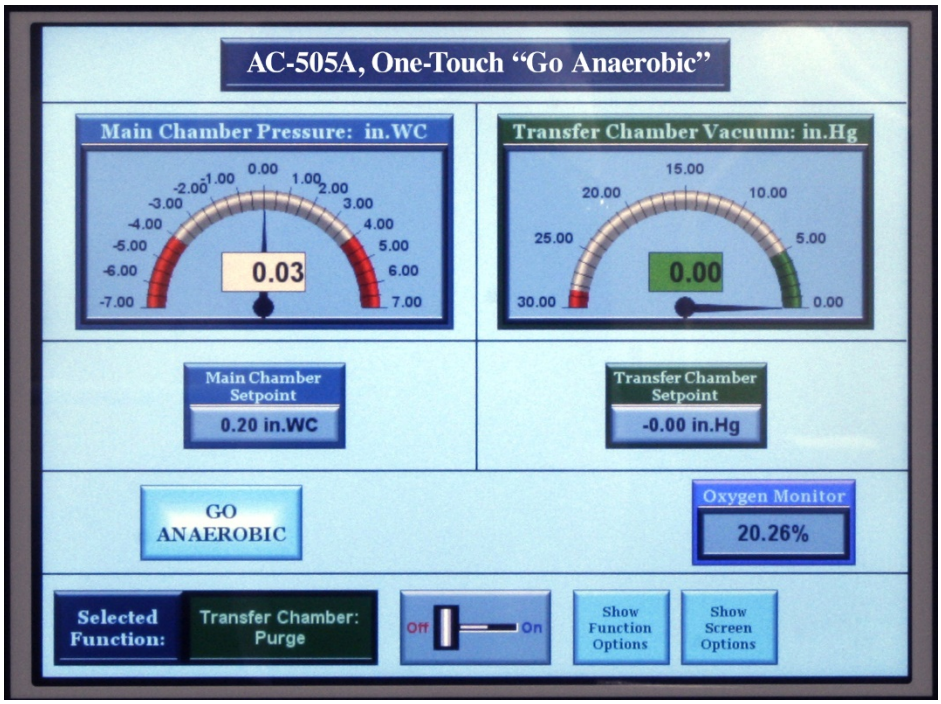


Fig. 1 Main Operating Screen with alarm conditions

HOW THE CONTROL SYSTEM WORKS:

The sensors on the Anaerobic Chamber constantly send an analog signal back to the internal programmable logic controller (PLC). The PLC, along with the operator touch screen, monitor the oxygen level in the main chamber and pressure inside the main chamber and transfer chamber. The "Go Anaerobic™" button on the touch screen will automatically begin the purging sequence on the main chamber. A purging cycle consists of drawing a slight vacuum (-2.00" W.C.) and then filling with a gas to a slight positive pressure (+3.00" W.C.). During "Go Anaerobic" operation, the first four purge cycles use nitrogen gas. After the fourth cycle, the PLC switches to anaerobic gas and adjusts the vacuum level to 0.0" W.C. The PLC will continue this purge sequence (+3.00" W.C. to 0.0" W.C.) until the oxygen levels are below 5 ppm. You must use the catalyst heater unit and palladium catalyst during the "Go Anaerobic™" operation for the oxygen to be reduced to a water vapor.

THE BASIC CHEMICAL REACTION

In simplest terms; when trace amounts of Oxygen come into contact with Hydrogen and the Palladium Pellets (with heat), Oxygen is reduced to water vapor.

$$O_2 + H_2 + Palladium + Heat = H_2O$$

This water is produced in the form of vapor (fog).

ANAEROBIC GAS MIXTURE RECOMMENDED MIX PERCENTAGES

The preferred gas mixture for use with the catalyst heater unit in the Model AC505A/515A is as follows:

Nitrogen N_2 =	**85%**
Hydrogen H_2 =	**10%**
Carbon Dioxide CO_2 =	**5%**
Total Mixture =	**100%**

⚠ WARNING:

Do not use more than 10-15% Hydrogen in your gas mixture. This is a standard safety precaution, since 20-80% Hydrogen is explosive.

4. From inside the main chamber, turn the catalyst heater unit on. Position the thermocouple (temperature sensor) off the floor and away from the heater. The thermocouple measures temperature from the fused tip of the wires.

5. Check the temperature setpoint on the heater. To do this, press and hold the "*" button on the heater controller. The temperature should be set to 37.0° C. This is the optimal temperature for catalytic reactions.

6. Allow 5-10 minutes for the heater to reach set point and then place the palladium catalyst canister on top of the heater.

7. Press the "Go Anaerobic" button on the operator touch screen.

Go Anaerobic Sequence:
Once the "Go Anaerobic" button has been pushed, the PLC will flow nitrogen into the main chamber until +3.00" W.C. is achieved.

NOTE: to the right of the Go Anaerobic button, floating text will display what the PLC is doing; i.e. "Filling Main Chamber with Nitrogen".

Once +3.00" W.C. pressure is reached, the PLC will turn off the nitrogen and turn on the vacuum pump. The pump will pull the main chamber down to -2.00" W.C. and then shut off. This completes one purging cycle.
The PLC will execute three more purging cycles with nitrogen and then switch over to the anaerobic gas mix.
A total of 27 purging cycles make up the Go Anaerobic operation. During the last purge cycle the vacuum will stop at a slight positive pressure.

NOTE: At any time, you can press the On/Off toggle button on the main operator window to stop the Go Anaerobic operation.

8. After the Go Anaerobic operation has completed, press the "Show Function Options" button. Then press "Main Chamber: Go to Setpoint" under the "Select Function".

9. From the Function Options window, press the "Main Chamber setup" button. A new window will open. Under the "To-Setpoint" options: change setpoint to 0.0" W.C.; make sure anaerobic gas is selected, and the hold pressure function is on. Press "OK" to return to the main operator window.

10. From the main operator window, press the on/off toggle button to activate the Go-To-Setpoint function. The PLC will automatically adjust the main chamber pressure to maintain 0.0" W.C.

The Pressure Hold function is quite useful while working in the glove box. When activated, the PLC will automatically adjust the main chamber pressure as you move your hands in and out of the glove box (volume change). The\is will also prevent “glove fight back”, a condition that occurs when too much pressure is on the main chamber and it makes it difficult to work.

A helpful hint when first getting the glove box anaerobic:

During the catalytic oxygen reduction reaction, moisture is created. It is beneficial to have three or four paper towels in the main chamber before beginning the Go Anaerobic™ sequence. During the purging process most of the moisture is generated is on the gloves. After the Go Anaerobic™ sequence is completed, us the paper towels to wipe down the gloves.

NAVIGATING THE MAIN OPERATING SCREEN

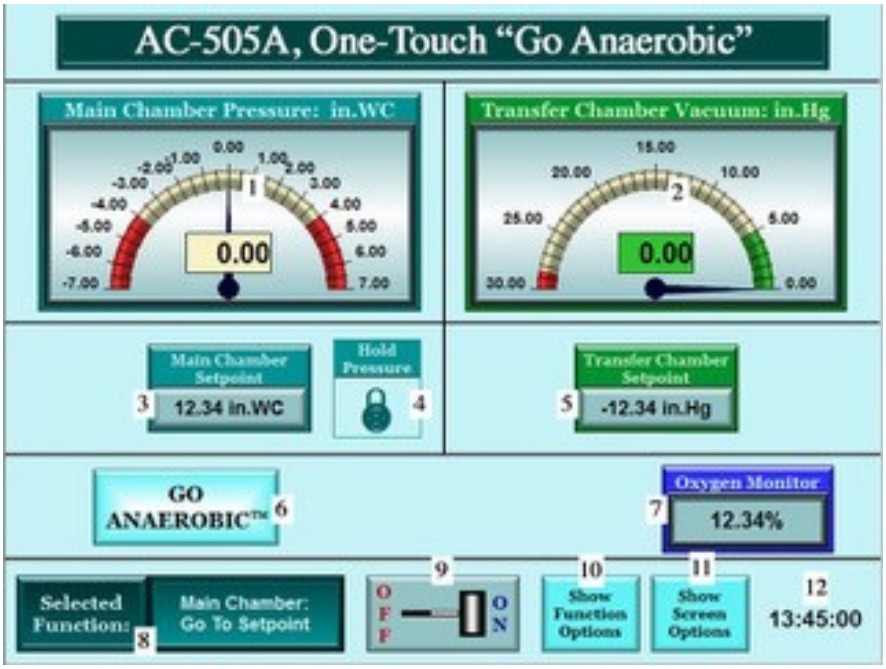


Fig. 2 Main Operating Screen

1. **Main Chamber Pressure Gauge.** Shows the actual pressure/vacuum condition inside the glove box inside the glove box.
2. **Transfer Chamber Vacuum Gauge**. Shows the actual vacuum level inside the transfer chamber.
3. **Main Chamber Setpoint**. Displays the current parameter setpoint. Setpoint changes can be made by pressing on the setpoint value. Adjustable from -4.0" WC to +4.0" WC (-1,000 to +1,000PA).
4. **Pressure Hold Icon.** Press the icon to turn the pressure hold function on or off.
5. **Transfer Chamber Setpoint.** Displays the current parameter setpoint. Setpoint changes can be made by pressing on the setpoint value. Adjustable from 0 to +25.5" Hg. (0 to +86 KPA).
6. **Go Anaerobic™.** Press this button to start the Go Anaerobic™ purging sequence. See page eight (8) for further details.
7. **Oxygen Monitor.** This displays the oxygen level inside the main working chamber for the glove box. Monitor will change from percent readout to ppm readout at 0.4% (4,000ppm).
8. **Selected Function.** This indicates what function has been selected. Please see page 11 for further information.
9. **On/Off Toggle Switch.** Press this toggle button to turn the selected function on and off. For example, if "Main Chamber: Go to Setpoint" (+2.00" WC) is selected and you turn the toggle button on. The PLC will either flow in gas into the main chamber until the setpoint it reached. The gas will then shut off. If the pressure hold function is activated, gas will automatically flow into the main chamber to maintain the setpoint.
10. **Show Function Options.** Press the button to view the main chamber and transfer chamber functions. Please see page 11 for additional information.
11. **Show Screen Options.** Press this button to view screen options (US/metric, Administration, and Datalogger). Please see page 11 for additional information.
12. **Real Time Clock**.

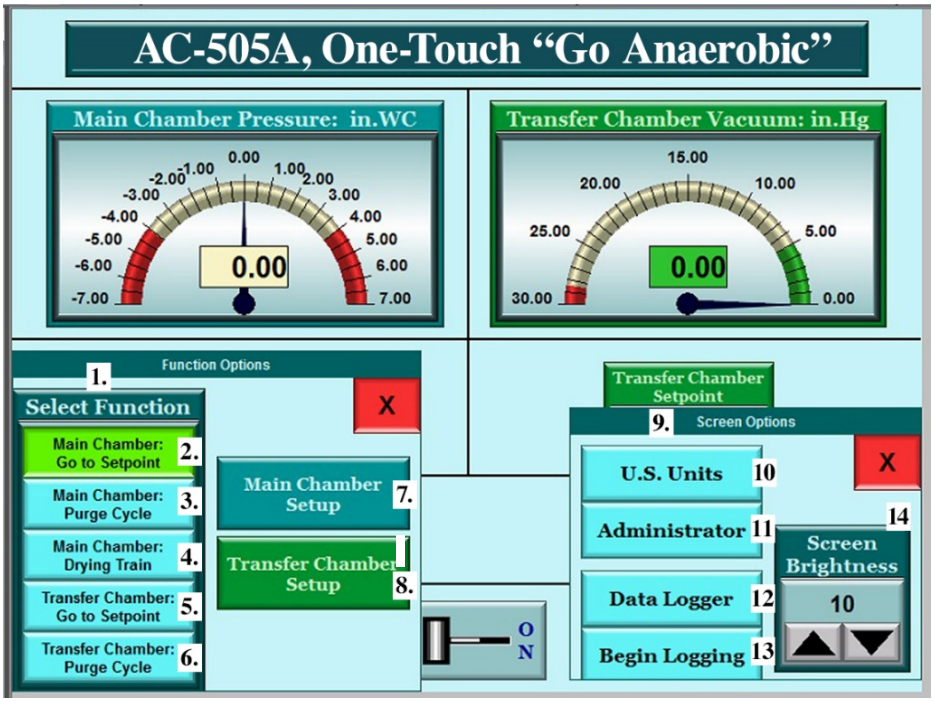


Fig. 3 Function/Screen Options

FUNCTION OPTIONS

1. **Function Options Window**. This window pops open when the "Show Function Options" button is pressed. See page 10, item # 10.
   SELECT FUNCTION - Press the buttons to select the following function:
2. **Main Chamber**: Go to Setpoint. See page 12.
3. **Main Chamber**: Purge Cycle. See page 12.
4. **Main Chamber**: Drying Train. See page 12.
5. **Transfer Chamber**: Go to Setpoint. See page 13.
6. **Transfer Chamber**: Purge Cycle. See page 13.
7. **Main Chamber Setup**. Press this button to access the Main Chamber setup window. See page 12 for additional details.
8. **Transfer Chamber Setup**. Press this button to access the Transfer Chamber setup window. See page 13 for additional details.

SCREEN OPTIONS

9. **Screen Options Window**. This window pops open when the "Show Screen Options" button is pressed. See page 10, item #11.
10. **U.S./Metric button**. Press this button to change the unit of measure. Note, this button is password protected. When you press the button, a keypad will pop up. Enter "0" and then press "Enter.".
11. **Administrator button**. Press this button to access the Administration window. Password protected. See page XX for additional information.
12. **Data Logger button**. Press this button to access the data logging window. See page XX for additional information.
13. **Begin Logging**. Press this button to begin datalogging. This button is only available when a thumb drive is inserted in the USB port.

MAIN CHAMBER SET-UP SCREEN

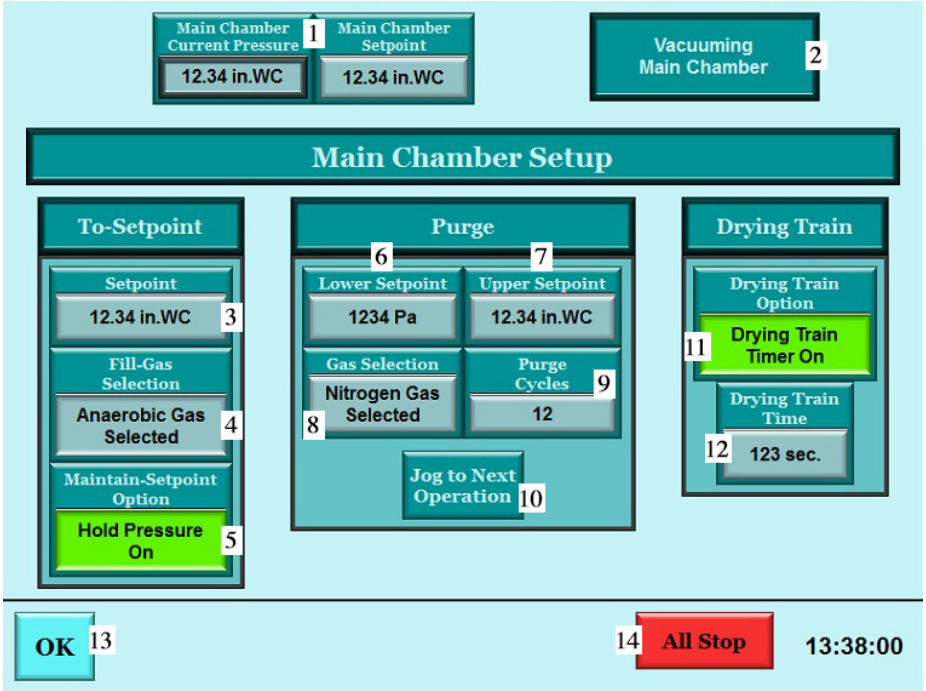


Fig. 4 Main Chamber Setup Screen

1. **Main Chamber Setpoint.** Displays the current pressure or vacuum in the main chamber of the glove box.
2. **Function Display.** Displays what the PLC is doing.

To-Setpoint. These parameters are used when the "Go-to-Setpoint" function is selected.

3. **Setpoint.** Press this button to change the setpoint.
4. **Fill-Gas Selection.** Press this button to select the fill gas; either Nitrogen or Anaerobic Gas.
5. **Maintain Setpoint.** Press this button to turn the Pressure Hold function on and off.

Purge. These parameters are used when the "Purge Cycle" function is selected.

6. **Lower Setpoint.** Press this button to change the lower setpoint value.
7. **Upper Setpoint.** Press this button to change the upper setpoint value.
8. **Gas Selection.** Press this button to select the purging gas; either Nitrogen or Anaerobic Gas.
9. **Purge Cycles.** Press this button to select the number of purging cycles.
10. **Jog to Next Operation.** Press this button to jog to the next operation in the purge cycle.

Drying Train. These parameters are used for the Drying Train operation.

11. **Drying Train Options.** Press this button to turn the drying train timer on and off.
12. **Drying Train Time.** Press this button to select the amount to time you want the drying train to run.

13. **OK**. Press this button to return to the main operator screen.
14. **All Stop.** Press this button to turn all functions off.

TRANSFER CHAMBER SET-UP SCREEN

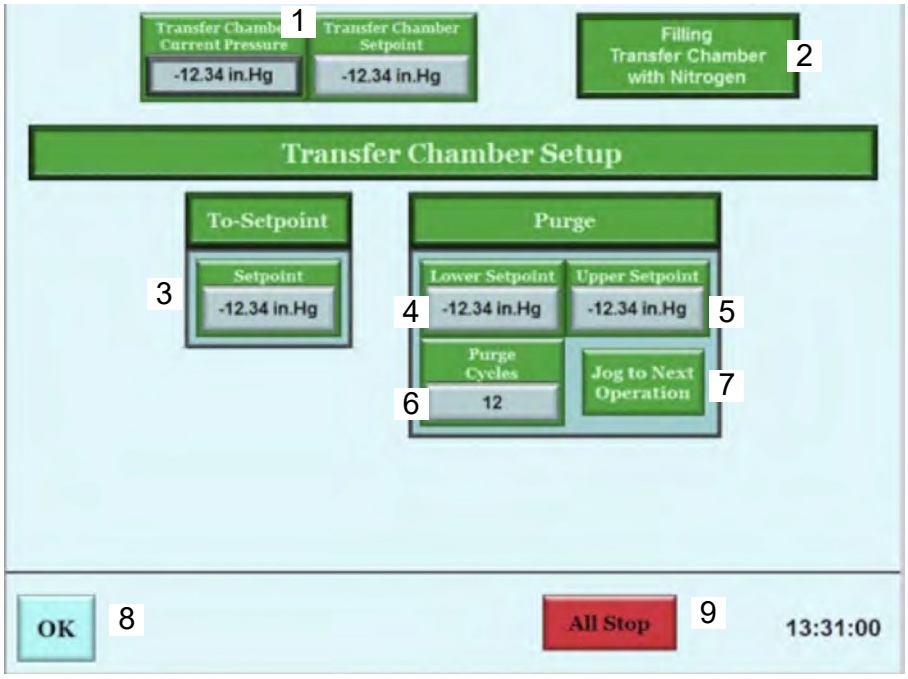


Fig. 5 Transfer Chamber Setup Screen

1. **Transfer Chamber Setpoint.** Displays current vacuum level in the transfer chamber.
2. **Function Display.** Displays what the PLC is doing. Note: if all functions are off, display will be blank.

To-Setpoint. This parameter is used when the “Go-to-setpoint” function is selected.

3. **Setpoint**. Press this button to change the setpoint.

Purge. These parameters are used when the “Purge Cycle” function is selected.

4. **Lower Setpoint**. Press this button to change the lower setpoint.
5. **Upper Setpoint**. Press this button to change the upper setpoint.
6. **Purge Cycles**. Press this button to change the number of purging cycles.
7. **Jog to Next Operation**. Press this button to jog to the next operation in the purge cycle.

8. **OK**. Press this button to return to the main operator screen.
9. **All Stop**. Press this button to turn off all functions.

DATA LOGGING SCREEN

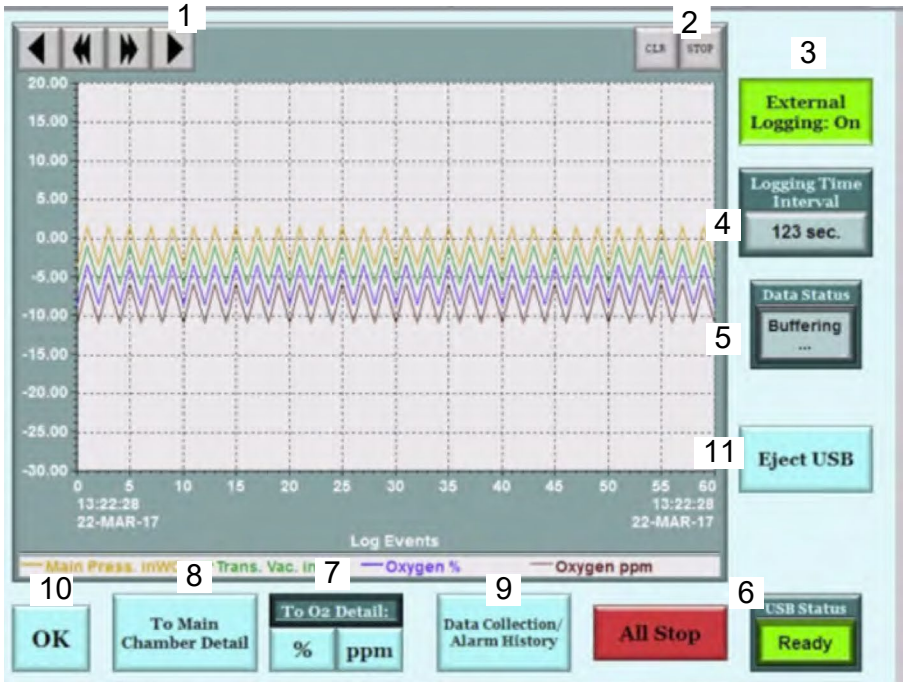


Fig. 6 Data Log Screen

1. **Scrolling Buttons**. Press the single arrow button to move half a screen forward or backward. Press the double arrow button to go to the beginning or end of data log.
2. **CLR/STOP**. Press the CLR button to clear the data. Press the Stop button to stop data logging.
3. **External Logging.** This button only appears when a USB thumb drive is inserted into the USB port. Press this button to turn external data logging on and off.
4. **Logging Time.** This button only appears when a USB thumb drive is connected. This displays how often data points will be sent to the USB thumb drive. Adjustable from 1-999 seconds. Press on the time value to open a numeric keypad to change the value.
5. **Data Status.** This indicates whether the data is writing or buffering the data. Status is blank when a USB thumb drive is not connected.
6. **USB Status.** This indicates whether a USB thumb drive is connected. Display will read “Ready” when a thumb drive is present and “Off” when a thumb drive is disconnected.
7. **To O2 Detail.** Press this button to display a detail log of O2 data.
8. **Main Chamber Detail.** Press this button to display a detailed log of the temperature data.
9. **Data/Alarm History.** Press this button to display a log of data collection changes and alarm conditions.
10. **OK.** Press this button to return to the Main Screen.
11. **Eject USB**. Press this button to safely remove the USB drive.

ADMINISTRATION SCREEN

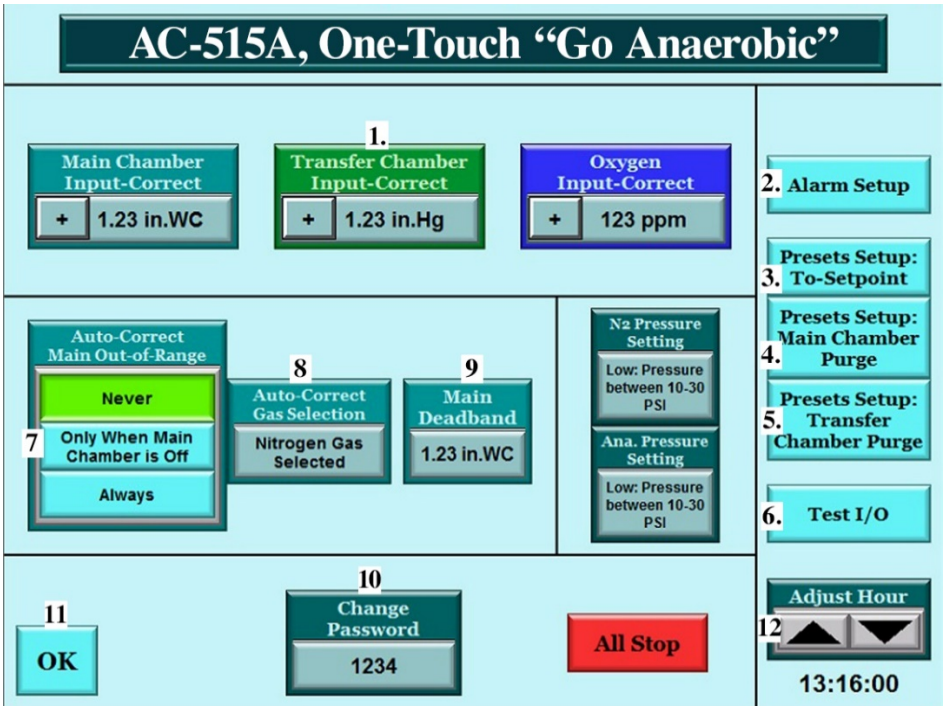


Fig. 7 Administration Screen

1. **Input Correction.** Use to adjust the current value above or below (+/-) zero-adjustment to match the reading of a calibration device.
2. **Alarm Setup**. Press this button to open the Alarm Setup window. See page 16 for additional information.
3. **Presets Setup-To Setpoint**. Press this button to open the Presets Setup window for the To-Setpoint function. See page 17 for additional information.
4. **Presets Setup-Main Chamber Purge**. Press this button to open the Presets Setup window. for the Main Chamber Purge function. See page 18 for additional information.
5. **Presets Setup-Transfer Chamber Purge.** Press this button to open the Presets Setup window for the Transfer Chamber Purge function. Please see page 19 for additional information.
6. **Test I/O**. Press this button to open the Test I/O window. See page 20 for additional information.
7. **Auto Correct**. This function is used to automatically correct for over pressurization in the glove box. For example, if the glove box is at a high pressure and the heater is turned on, excess pressure will be created. If Auto correct is on, the PLC will automatically turn the vacuum pump when pressures exceed 4" W.C. (1000 Pa).
8. **Auto Correct-Gas Selection**. Press this button to select default gas (nitrogen or anaerobic gas mix).
9. **Deadband**. This value centers on the setpoint (SP) for each parameter. It specifies the range above and below (1/2 of the value to either side of SP) were no control action will occur. When within the deadband, the outputs will remain at 0%. See PID Setup on page XX for additional information.
10. **Change Password**. Press this button to change the Administrator password.
11. **OK**. Press this button to return to the main operating window.
12. **Time Adjust.** Press + button increase the time by 1 hour. Press - button to decrease the time by 1 hour.

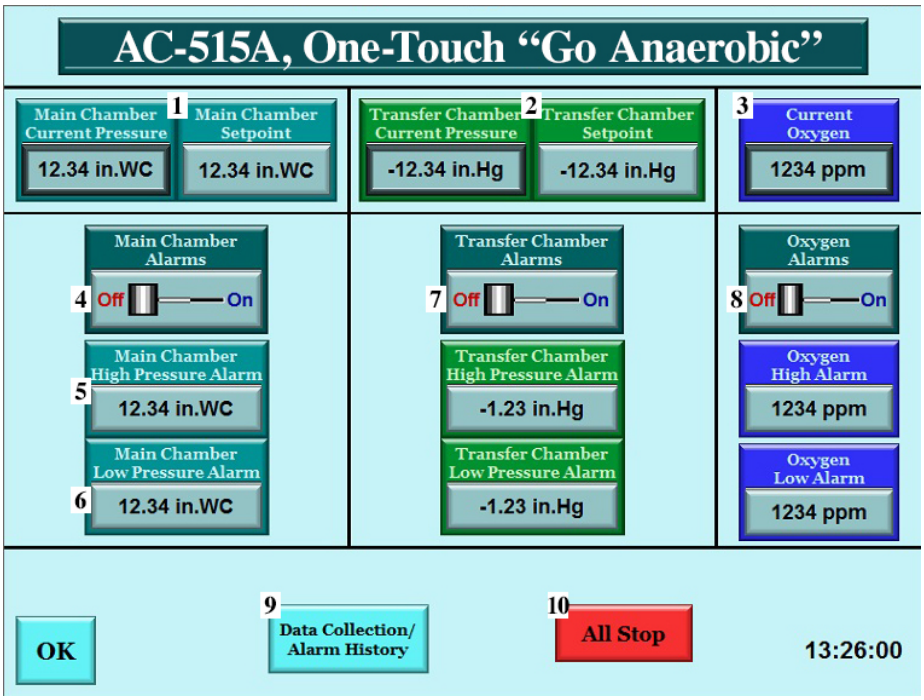


Fig. 8 Alarm Screen

1. **Main Chamber Pressure & Setpoint**. Displays main chamber pressure and setpoint value.
2. **Transfer Chamber Pressure & Setpoint.** Displays transfer chamber pressure and setpoint value.
3. **Current Oxygen**. Displays the oxygen level inside the main chamber of the glove box. Oxygen level will change between percentage and ppm when the O_2 levels are < 0.5%
4. **Main Chamber Alarms.** This is the on/off toggle switch for the main chamber alarms.
5. **High Pressure Alarm.** Press this button to set the high pressure alarm. When pressure exceeds the high pressure alarm, a visual alarm indicator will be displayed on the main operator window. This is not a latching alarm. When the pressure falls below the alarm set point, the visual alarm indicator turns off.
6. **Low Pressure Alarm.** Press this button to set the low pressure alarm. When the pressure falls below the set point, a visual alarm indicator will be displayed on the main operator window. This is not a latching alarm. When the pressure falls below the alarm set point, the visual alarm indicator turns off.
7. **Transfer Chamber Alarms.** This is the on/off toggle switch for the transfer chamber alarms. High and Low alarms operate in the same manner as #5 and 6 above.
8. **Oxygen Alarms.** This is the on/off toggle switch for the oxygen alarm.
9. **Data Collection/Alarm History.** Press this button to open the Data Collection/Alarm History window. All alarm conditions will be recorded on this window.
10. **All Stop**. Press this button to turn all controlling action (gas flow, vacuum pump, etc.) off.

PRESET OPTION: TO SET POINT SCREEN

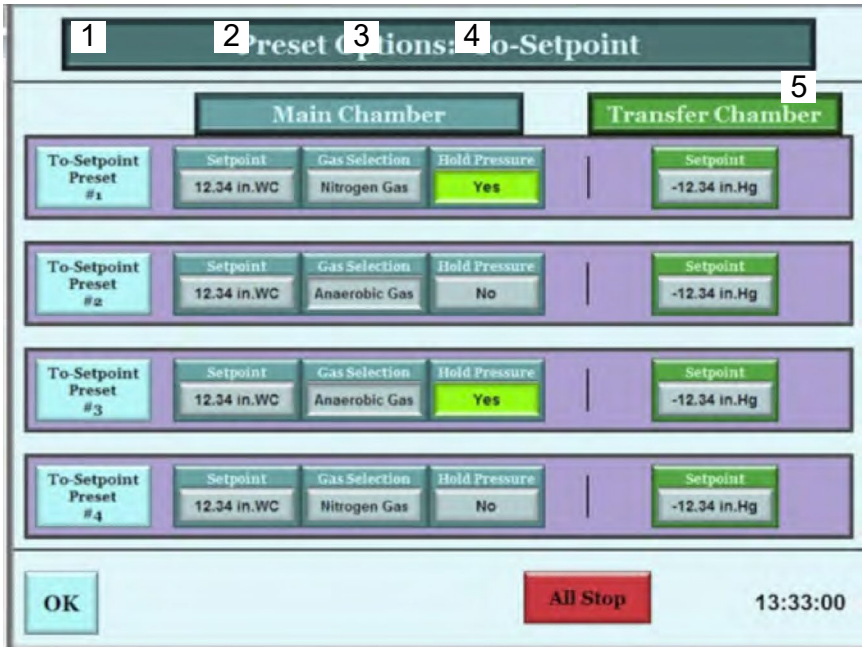


Fig. 9 Preset Option: To Set Point

The Presets allow you to preset up to four different “to set point” conditions. This is beneficial if several different set points and gas combinations are used throughout the day.

1. **To Set Point-Preset #1**. Press this button to load the preset selections.
2. **Set Point**. Press this button to enter your set point (vacuum or pressure).
3. **Gas Selection**. Press this button to change the gas (nitrogen or anaerobic gas mix).
4. **Hold Pressure**. Press this button to turn the pressure hold function on and off.
5. **Transfer Chamber** Press this button to change the transfer chamber set point.

PRESET OPTION: MAIN CHAMBER PURGE SCREEN

Fig. 10 Preset Option: Main Chamber Purge

The Preset options for the Main Chamber purge allow you to set up four pre-configured main chamber purges. This is beneficial if several different purging conditions are required.

1. **Main Chamber Purge Preset.** Press this button to load the preset selections.
2. **Lower Set Point**. Press this button to enter your lower set point.
3. **Upper Set Point.** Press this button to enter your upper set point.
4. **Gas Selection.** Press this button to change the gas used during purging (nitrogen or anaerobic gas mix).
5. **Purge Cycles.** Press this button to change the number of purging cycles.

PRESET OPTION: TRANSFER CHAMBER PURGE SCREEN

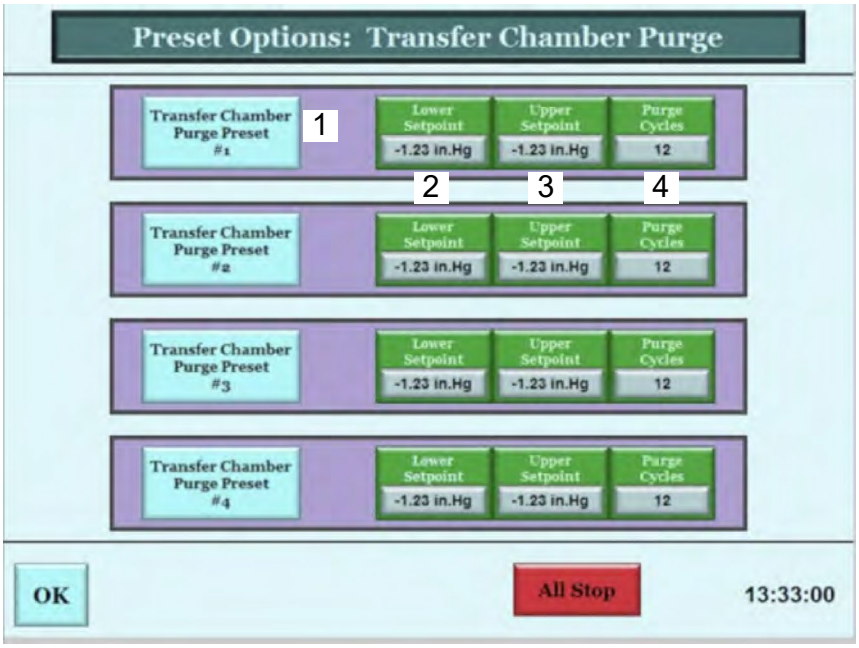


Fig. 11 Preset Option: Transfer Chamber Purge Screen

The Preset options for the Transfer Chamber purge allow you to set up four pre-configured transfer chamber purges. This is beneficial if several different purging conditions are required.

1. **Transfer Chamber Purge Preset.** Press this button to load the preset selections.
2. **Lower Set Point.** Press this button to set up the lower set point for transfer chamber purge.
3. **Upper Set Point.** Press this button to set up the upper set point for the transfer chamber purge.
4. **Purge Cycles.** Press this button to set up the number of purging cycles.

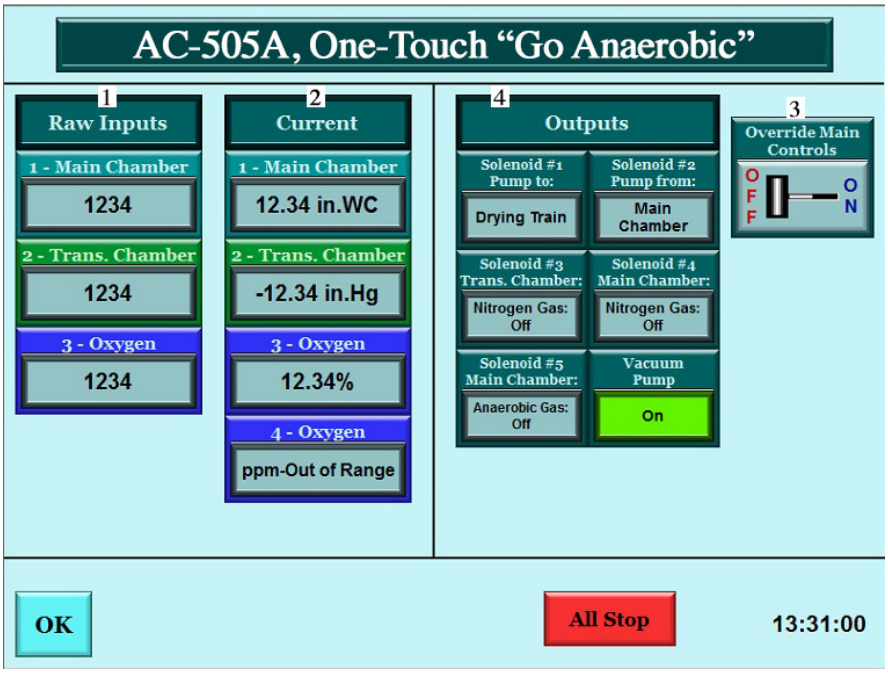


Fig. 12 Test I/O Screen

The Test I/O screen is used to troubleshoot the outputs on the AC505A/515A, One Touch Anaerobic Chamber.

1. **Raw Inputs**. These are the raw inputs for Main Chamber pressure, Transfer Chamber vacuum and oxygen levels. The raw inputs are used to calculate the current inputs. If the raw inputs are reading 0 or 9999, the respective input is off-line and further investigation is required.
2. **Current Values**. The current values are the actual values for their respective input. Note: ppm oxygen values will remain "off-line" until the oxygen level falls below 0.5% O2. At this point, the percent oxygen will go "out of range" and the ppm value will be displayed.
3. **Override Main Controls**. Press this button to override the main controls. By turning the main control override on, all outputs will turn off.
4. **Outputs**. These buttons represent all the outputs on the AC505A/515A. When control override is off, the outputs will turn on and off as the control program requires. When the control override is on, you can press on each output to turn it on and off (one press to turn on, one press to turn off). This will allow you to test the outputs to make sure they are working.

ENTRY THROUGH THE TRANSFER CHAMBER

It is important to keep the inner Transfer Chamber door closed during normal operation. This is a safeguard in case the outer door is opened by mistake.

Entry into the Glove Box:

1. Open the exterior door and place the desired material inside the transfer chamber.

2. Close and latch the outer door.

3. From operator touch screen, select the “Transfer Chamber: Purge Cycle” function (see pages 10-12).

4. Press the On/Off Toggle switch to begin the purging sequence. Please note that the purge sequence is based on parameter values entered. See page 12.
   NOTE: the transfer chamber is not designed to hold positive pressure.
   DO NOT Pressurize.

5. Optional: On the final inert gas backfill, unclamp the inner door clamps. As the vacuum pressure reaches 0, the inner door will open.

GENERAL MAINTENANCE SCHEDULE

Weekly: General cleaning (see cleaning procedures). Check ultrasonic fogger water levels.

Monthly: Check gloves for obsessive wear.

Annually: Check black neoprene gasketing on transfer chamber and between top and bottom sections of the glove box. Recalibrate the O2 transmitter. Please consult factory for calibration instructions.

Glove Change-out

The glove change-out procedure should well defined and practiced before the change-out takes place. The most ideal time to change a glove is during scheduled maintenance or when the glove box is not in use. It is recommended that all jewelry is removed during glove box operation.

To change a glove:

1. Remove stainless steel worm drive clamp from the glove port ring.
2. Remove the yellow vinyl tape.
3. Pull glove out of the glove box.
4. Place new glove through the glove port ring. Pull the sleeve of the glove over the glove port ring. **NOTE turn the glove on the glove port ring until the thumb of the glove is pointing upward.**
5. Using vinyl tape, secure the glove onto the glove port ring. NOTE: wrap 2-3 times around the glove port ring.
6. Place the stainless steel worm drive clamp over the glove and tighten.

CLEANING AND STERILIZING

Most components consist of cast acrylic, thermoplastics and 304 stainless steel. Like any piece of fine laboratory equipment, care should be taken to avoid dropping, mishandling, and misapplication.

Cleaning

Cleaning thermoplastics is best accomplished with a non-abrasive soap or detergent and water solution. In cases where residues left by the agents is undesirable, special cleaning solvents may be used. Soaps and detergents will not harm plastics, but several common solvents will. Recommended cleaners include Novus™ Plastic Polish #1, Brillianize™ cleaner, and Rez-N-Kleen™

In general, aromatic and chlorinated hydrocarbons will attack most plastic surfaces. This applies to all plastics used in these products.

Examples of these products include, but are not limited to, acetone, ether, gasoline, lacquer thinner, methyl-ethyl-keytone, methylene chloride, and toluene.

Polishes

While the above cleaning solutions have some polishing capabilities, they will not remove scratches from plastic. This can only be done with automotive type waxes or the finer grades of rubbing or polishing compounds. These products should be specifically for acrylic enamels and lacquer base paint.

Scratch Removers

Deep scratches should be first sanded with a fine grit (600 or finer) wet sandpaper. Steel wool (0000 finest grade) is also very helpful. Use the polishing materials (rubbing compounds) mentioned above for the final stage.

Stainless Steel Components

Stainless steel is resistant to all solvents and detergents. Polishing can be accomplished by using fine grades of steel wool and/or #707 Scotch™ Brite pads. For the final stage use any type of stainless steel spray polish.

Sterilizing

There are several commercially available sterilizing agents and technologies that can be used on the cast acrylic isolator. These include:

- Formaldehyde
- Vaporized Hydrogen Peroxide (VHP)
- Chlorine Dioxide gas
- Clidox™
- Diluted Isopropyl alcohol

REPLACEMENT PARTS

Part #	Description
800-GH	White CSM (Hypalon™) gloves, size 9 hand
HW3077	Clamp, worm-drive, stainless steel
MS2027	yellow 3M™ vinyl tape
EL1511	LED Light strip, 12” long
EL1512	LED Light Connector
EL1514	Power Supply, LED
EL1125	Switch, rocker SPST
EL1041	Relay, 24VDC SPST
EL1641	Solenoid Valve, 24VDC, 2 way
EL1642	Solenoid Valve, 24VDC, 3-way
MS2029	Gasket, Neoprene 1” wide
MS2028	Gasket, Neoprene 2” wide
EL1062	Axial Fan, 110V.
EL1689	Oxygen Sensor
EL1690	Cable, oxygen sensor
800-MOLS/M	Molecular Sieve, 1500 grams

Responsibility

Please follow instructions in this document when using this unit. Yamato Scientific has no responsibility for accidents or breakdown of device due to failure to comply. Never conduct what this document forbids as unexpected accidents or breakdown may result.

Instruction Manual for One Touch Anaerobic Chambers
Model AC505A/515A
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