

**Lifeloc**  
TECHNOLOGIES



# Lifeloc LX9

## Operations Manual

Unlock the Power of  
Alcohol Testing

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Congratulations on your purchase of a Lifeloc LX9 advanced Breath Alcohol Detector. For over 30 years Lifeloc Technologies has been providing technologically advanced alcohol detection instruments and training to Law Enforcement and Corrections' Professionals and internationally, workplace and school markets. We are a leader in product innovation, precision instrumentation, ease of use and Five Star Customer Care.

The LX9 is manufactured in Wheat Ridge, Colorado by Lifeloc Technologies Inc. and produced under our ISO-9001 quality management system. Lifeloc offers premium quality products combined with exceptional service and support.

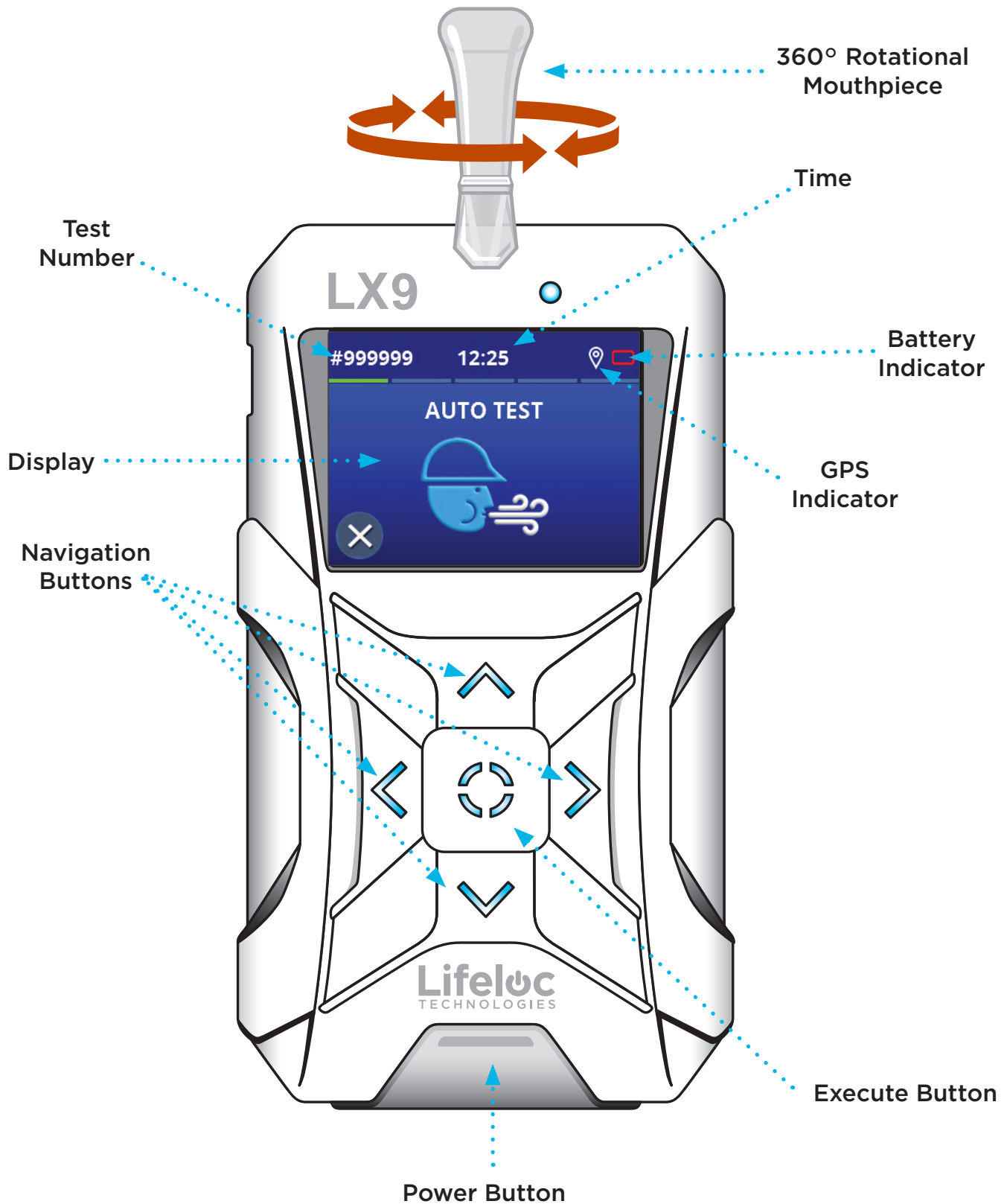
The LX9 incorporates cutting edge features including:

- Secure Bluetooth LE communication for printing and data entry.
- Advanced digital calibration protocol.
- Wide operating temperature range 14° to 130° F (-10° to 55°C).
- Full color graphic display visible in daylight or dark.
- Easy intuitive menu system for operational efficiency.
- Two levels of security for added flexibility.
- Up to 10,000 test memory complete with relevant data fields.
- Fast charge NiMH batteries or optional AA alkaline batteries.
- 360° Rotational Mouthpiece

The LX9 includes many other features including calibration/accuracy check lockouts, long/short print options and multiple test modes.

In the following pages this manual will assist you in understanding all that the LX9 has to offer and how to operate this cutting edge instrument.

### LX9 Front View



## Features<sup>1</sup>

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**Large Color Display:** 2.2 inch full color display readable in daylight or dark.

**Digital Calibration:** Complete record keeping of calibration events including as found and as left accuracy measurements<sup>2</sup>. The LX9 can be calibrated with wet bath simulators or dry gas cylinders.

**Lockouts:** User selectable settings for calibration and accuracy check reminders and lockouts to prevent using an out of compliance instrument.

**Bluetooth Low Energy Connectivity:** Truly mobile testing utilizing Bluetooth 4.1.

**GPS:** Accurate positioning information with onboard GPS technology.

**L360 Mouthpiece:** Mouthpiece rotates to the position you feel safest, right or lefthanded.

**Security:** Multi-level password protection for critical functions and settings.

**Auto Test Mode:** Easiest way to take a test. Unit automatically samples at proper time of breath exhalation.

**Manual Test Override:** Enables the operator to control exact point of breath sample.

**Passive Test Mode:** An automatic sample of exhaled breath without a mouthpiece, used to check for the presence of alcohol in breath.

**Passive Test Override:** Used to detect alcohol in a cup or open container.

**User Selectable Test Order:** Choose between Auto Test or Passive Test upon start up.

**Memory:** Stores up to 10,000 tests in memory.

**Power:** Choose between a fast charge rechargeable battery pack or optional three AA alkaline batteries.

**Data Entry:** Highly flexible data options including multiple data fields.

**Bluetooth Printing:** Print results using Lifeloc's Bluetooth Printers with up to 33' (10 m) range.

**History:** Keeps a log of all the tests, calibrations and accuracy checks in memory. Can be printed by date, date range or test number.

**User Interface:** Easy to navigate menu driven software design.

**Auto Print:** Automatically print results at the end of a test.

**Air Blank:** Initiate your testing process with a test of ambient air.

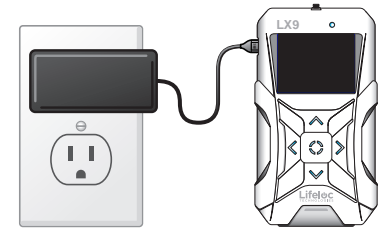
**Language:** Select between languages without reprogramming firmware.

<sup>1</sup> Note: all features may not be available in your model.

<sup>2</sup> See Specifications for more information.

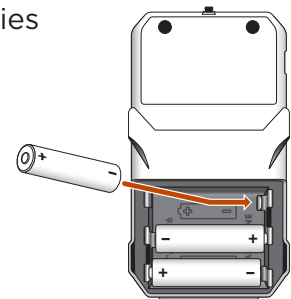
## Rechargeable Battery Pack Option

The LX9 comes with an internal rechargeable NiMH battery pack that should be charged before initial use. When used with the LX9 charger and cable included in your unit the battery pack will fully charge in approximately two hours.



## AA Batteries Option

If you have the LX9 battery option, you will need to load 3 AA Alkaline batteries into the unit before use.



## Powering the LX9 On and Off

Press and hold the **Power** button located on the bottom of the front of the unit until the 3 center buttons light up blue. The LX9 then performs an automatic internal diagnostic check and will display the Blowing Man Icon when ready.

To turn the unit off, press and hold the **Power** button until you hear the tone. The unit will shut down.

**Note:** Momentarily pressing the **Power** button, when the unit is on, will return you to the main menu.



## Navigating the Menu

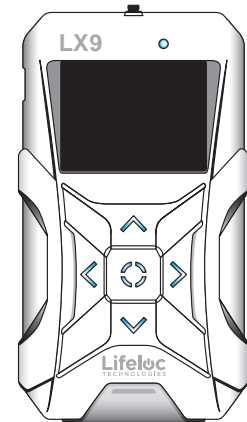
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The LX9 is designed with an intuitive menu system to make operation easy.

There are 4 **Navigation** buttons used to move throughout the menu system. With these you can move through all the screens and internal keyboards

There is one central **Execute** button to select and enable features and functions.

Selecting the menu icon takes you to the “Menu” screen. From here you can choose which process you need.



## Observing the Subject

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The LX9 delivers a highly accurate reading of breath alcohol acquired by sampling deep lung air (alveolar). Readings can however be affected by residual mouth alcohol.

To prevent mouth alcohol from affecting a test, make certain that the subject is not allowed to put anything in their mouth for 15 minutes prior to taking a test. This will ensure all residual alcohol has completely dissipated and test results will be valid.

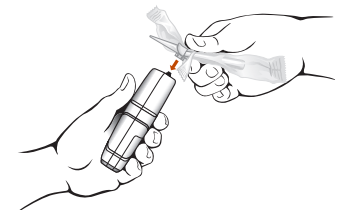
## Attaching a Mouthpiece

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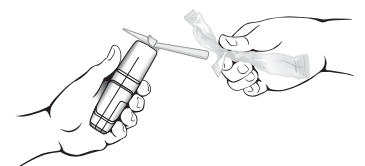
Remove the mouthpiece from its wrapper, making sure not to touch the end which the subject will blow into.



Attach the mouthpiece to the port on the top of the LX9.



Press the mouthpiece onto the port to snap in place. Ensure it is securely attached.

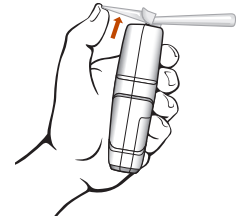




## Removing the Mouthpiece

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Eject the mouthpiece by pressing up with your finger underneath the tab.



## Breath Testing Modes Explained

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The LX9 has 4 test functions.

**Auto Test** is the typical way to take a deep lung breath test. The LX9 monitors the subject's breath and automatically takes the sample near the end of the breath flow.

**Manual Override Test** is used only when the subject is unable to provide a sufficient breath sample for the automatic test.

**Passive Test** is a quick screen, without a mouthpiece, to detect alcohol but is not designed to quantify the results. Passive results are reported as "POS" if alcohol is detected, "NEG" if alcohol is not detected. In this mode, a passive cup may be used.

**Manual Override Passive Test** is used to determine if alcohol is in liquid in a cup or container.

## Automatic Air Blank Explained (Optional)

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An automatic air blank is a test of the ambient air. It checks to ensure that no alcohol is present, which could affect the test result.

If enabled, this option inserts an air blank (test) function in front of Auto, and Passive tests.

If Auto Air Blank is enabled, the LX9 will prompt you to take an ambient sample before testing the subject and will not let you proceed with testing if the result is not .000.

To initiate the air blank test, press the **Execute** button at the "Sample" prompt. Press the right **Navigation** button to proceed with an Auto Test.

At this point you must proceed with the test or enter the reason the test was not completed. The options are to complete the test, select "Subject Refusal" or "Operator Terminated".

Do not blow into the mouthpiece while taking an air blank.

Auto Air Blank is normally utilized to satisfy the requirements of a specific testing protocol.

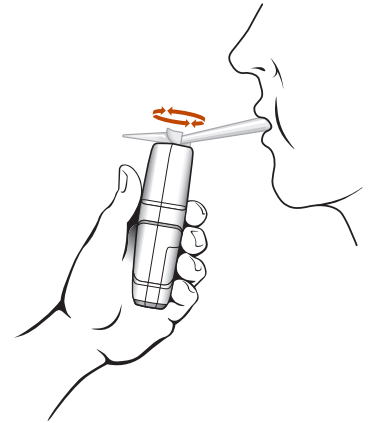
## Conducting an Automatic Test

Turn the LX9 on.

Verify the display reads “AUTO TEST” and you see the Blowing Man icon.

Attach the mouthpiece to the top of the unit and rotate to the position desired.

Instruct the subject to blow into the mouthpiece **firmly and steadily for as long as they can**. (But not necessarily as hard as they can.) The unit calculates volume and will give an error message if the subject cannot reach 1.3 liters of breath.



Read the result.

After taking a test, the LX9 will display the results in large numbers on the display.

The result is stored in memory and available for viewing and printing at a later date.

Momentarily press the **Power** button to return to the test mode.

## Automatic Test Screen Displays

### Blowing Man Screen



The LX9 is ready to take an AUTO TEST.

### Breath Flow Screen



As the subject blows into the mouthpiece, the LX9 will show a graph of the breath flow on the display.

### Alcohol Curve Screen



If the LX9 detects alcohol, the alcohol level is graphed and will be displayed before the result.

### Result Screen



After the alcohol is graphed, the test result is displayed. The result will remain on the screen until the Power button is pressed or until shut-off time is reached.

## Conducting a Manual Override Test

**Note:** This feature allows the completion of a test in the occasional instance when the subject may have diminished lung capacity and cannot activate the Auto Test.

Turn the LX9 on.

Attach a mouthpiece to the top of the unit and verify the display reads “AUTO TEST” with the Blowing Man icon.

Instruct the subject to blow into the mouthpiece **firmly and steadily for as long as they can.**

While they are blowing and when they are near the end of their breath, press the **Execute** button to take the sample.

Read the result.

**Note:** Manual Override testing is pressure activated. If the subject does not blow air into the mouthpiece, the test cannot be conducted.



## Conducting a Passive Test

The LX9 monitors pressure at the sample port and automatically takes a passive test when it senses the subject's breath flow.

Passive testing can be done either with or without a cup, which makes passive testing on multiple subjects easier.

Turn the LX9 on.

From the Blowing Man icon, press the right arrow key to enter Passive Test mode.

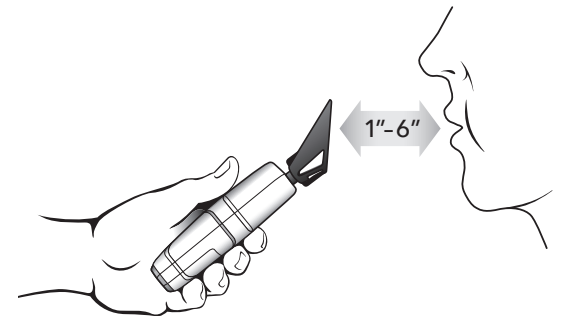
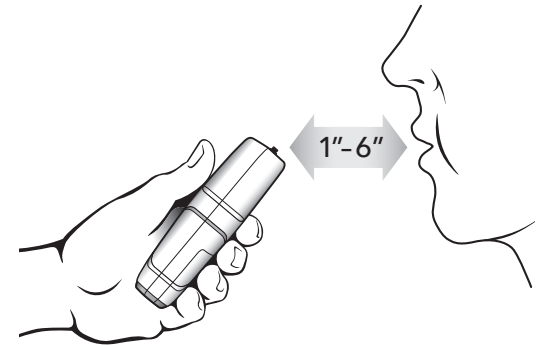
Verify the display shows "Passive Test" and there is no Blowing Man icon.

Hold the LX9 sample port on top of the unit about between 1-6 inches from the subject's mouth.

Have the subject blow toward the port.

The LX9 will display a graph of the subject's breath flow and when high enough, take the sample.

Read the result. The unit will only display "POS" or "NEG". It will not display the actual numerical result.



## Manual Override Passive Test

When using the LX9 to detect alcohol in an open container, position the unit over the end of the container and press the **Execute** button.

Read the result. The unit will only display "POS" or "NEG". It will not display the actual numerical result.



## Passive Test Screen Displays

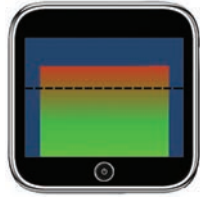
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### Passive Test Screen



When taking a passive test, the Blowing Man icon is not displayed and Passive Test is displayed.

### Breath Flow Screen



As the subject blows into the mouthpiece, the LX9 will show a graph of the breath flow on the display.

### Alcohol Curve Screen



If the LX9 detects alcohol, the alcohol level is graphed and will be displayed before the result.

### Results Screen



The unit will only display "POS" or "NEG". It will not display the actual numerical result.

## Printing Current Test Results

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Take a test.

Ensure the printer is on and connected. See page 21 for printer connection instructions.

Using the **Navigation** buttons select the Printer icon and press **Execute**.

## Printing a Specific Test in Memory

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Ensure the printer is on and connected.

From the "History" menu select "Tests".

Choose the date and test number of the test you wish to print.

## Printing a Range of Tests in Memory

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Ensure the printer is on and connected.

From the "History" menu select "Print Date Range".

Then select type of test and date range to print.

## Printing Calibration/Accuracy Check Data

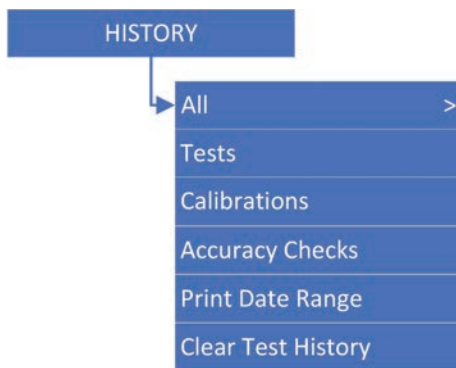
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Ensure the printer is on and connected.

Follow the procedure for printing test results except choose “Calibration” or “Accuracy Check.”

## History

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The History menu is where all tests, calibrations and accuracy checks are stored. The LX9 can store up to 10,000 tests in memory. Any test, calibration or accuracy check in memory can be viewed or printed.

Results sorted by date. Select a date to see all the tests from that date in test numerical order.

**All** - View or print any test, calibration or accuracy check in memory.

**Tests** - View or print any test in memory, sorted by date.

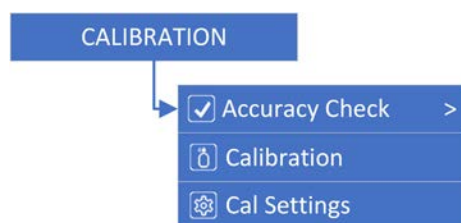
**Calibrations** - View or print any calibration in memory, sorted by date.

**Accuracy Checks** - View or print any accuracy check in memory, sorted by date.

**Print Date Range** - View or print all tests, calibrations or accuracy checks by a selected date range.

**Clear Test Memory** - Deletes test results in memory, does not delete accuracy checks or calibrations stored in memory.

## Calibration Menu



Use this menu to choose type of calibration, concentration of reference standards, and to calibrate or perform accuracy checks on your LX9. The LX9 can be calibrated or have its accuracy checked using either a wet bath simulator or an Ethanol/Nitrogen cylinder. The LX9 can be calibrated or have its accuracy checked using either a wet bath simulator or an Ethanol/Nitrogen cylinder (Dry Gas Tank.)

## Accuracy Checks

An Accuracy Check is a test on a known standard to verify proper function of the LX9. Accuracy checks are used to verify the LX9 is calibrated correctly and is within the acceptable accuracy range. Accuracy Checks are also referred to as “Verifications” or “Cal Checks”.

See Specifications for recommendations regarding regularity of accuracy checks.

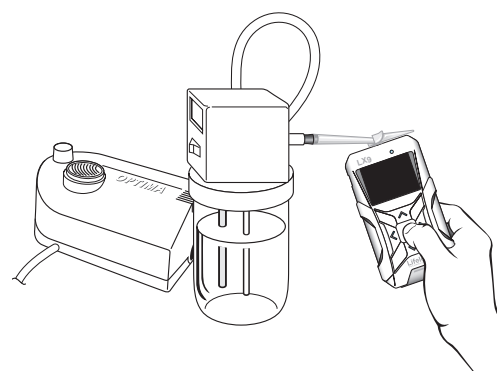
## Wet Bath Simulator Set-Up

Pour a bottle of certified alcohol solution into the simulator jar and hand tighten lid.

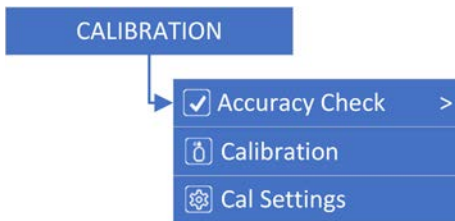
Connect 11-12” long tube from input port to output port so no alcohol escapes while the simulator heats up.

Plug in the simulator and turn it on. The simulator automatically heats the solution to 34° C (93.2° F) in about 5 to 10 minutes.

*Proper operating temperature is important for accuracy so be certain to check temperature before proceeding*



## Performing a Wet Bath Accuracy Check or Calibration



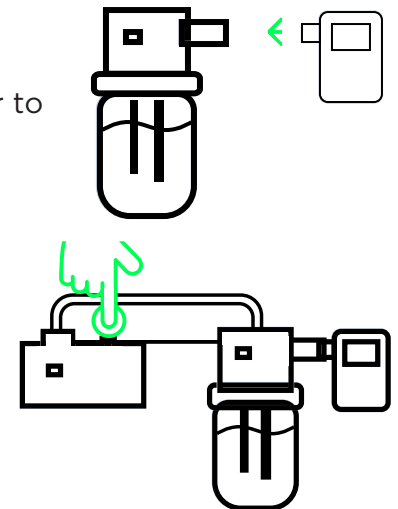
From the LX9 menu choose either Accuracy Check or Calibration and verify your standard concentration.

When you see this image on the LX9 connect the tube from the simulator input to a pump or a calibration mouthpiece, then use a calibration adapter to connect the simulator output to the LX9 mouthpiece.

When you see this image on the LX9, turn on the pump or blow into the simulator at a rate that creates about 0.5 inches (12 mm) bubbles on the surface of the solution and press the Execute button to begin the LX9 sample countdown.

After 3 seconds the LX9 will take the sample, after 6 seconds you can turn off the pump or stop blowing.

Remember when using a wet bath you do not adjust for altitude.

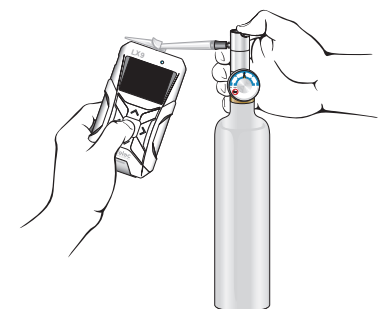


## Dry Gas Tank Set-Up

Attach the regulator to the dry gas tank.

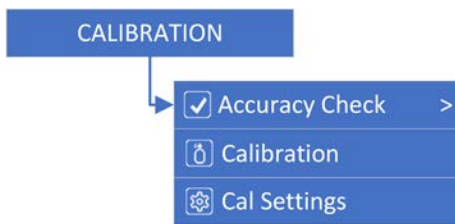
Attach the mouthpiece adapter to the output port on the regulator.

Securely fit the mouthpiece to the mouthpiece adapter.



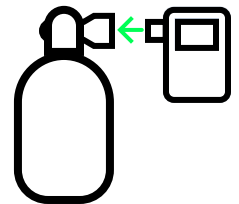


## Performing a Dry Gas Accuracy Check or Calibration

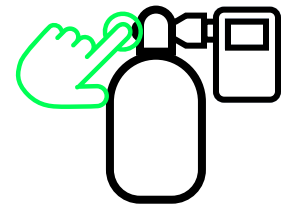


From the LX9 menu choose either Accuracy Check or Calibration and verify your standard concentration.

When you see this image, connect a mouthpiece from the LX9 to the Calibration Adapter on the regulatory and press the Execute button.



When you see this image start the gas flow by pressing the button on the dry gas regulator, then press the Execute button to start the LX9 sample countdown.



The LX9 will sample after 3 seconds and you can shut off the gas after 6 seconds.

Remember, with the LX9 you do not adjust for altitude when using dry gas standards.

## Calibration

A calibration is a test on a known standard to verify accuracy of the LX9. The calibration process compares the LX9 accuracy against the standard and *if needed* adjusts the internal measurement to correct the instrument accuracy.

The initial calibration test records the condition of the instrument when calibration is started commonly referred to as *As Found*. If an adjustment is made, then the following accuracy check will record the *As Left* condition.

Calibrations are typically performed by trained individuals and to calibrate the LX9 internal temperature must be between 68° and 95° F (20° - 35° C).

See Specifications for recommendations regarding regularity of calibrations.

**Note:** The LX9 has an internal barometric pressure sensor to simplify the use of dry gas when performing a calibration. Do not adjust the values of dry gas standards for altitude as this is done automatically by the unit.

## Calibration “As Found” Result outside Accuracy Range

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The results will show on the display with a red X. When ready to proceed with adjustment, choose **Execute**. The LX9 will adjust based upon the initial calibration test. A 2 minute timer will start to make ensure the instrument is ready before proceeding.

The LX9 will then display instructions to connect it to a cylinder or simulator. Choose **Execute** and start your gas flow. A timer will display showing 6 seconds that calibration gas should flow. The LX9 will take the sample at the 3 second mark.

This accuracy check will record the condition of the instrument *As Left*.

**Note:** If the *As Left* accuracy check is outside of the specified accuracy range of the instrument, it will proceed with adjustment again. To cancel this process, momentarily press the **Power** button but understand that the instrument is not yet properly calibrated.

## Cal Settings

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**Calibration Type** selects between wet bath simulators “Wet” and dry gas ethanol in nitrogen tanks “Dry”.

**Cal Standard** selects between the 4 default standard concentrations or allows selection of a custom standard value.

**Note:** The LX9 has an internal barometric pressure sensor to simplify the use of dry gas when performing a calibration or accuracy check. Do not adjust the values of dry gas standards for altitude as this is done automatically by the unit.

## Lockouts Explained

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Lockouts are powerful features to ensure conformity to your program standards. Lockouts are set separately for calibrations and accuracy checks and include the following options:

Lockout	Enable/Disable lockout feature
Type	Choose to lock testing so the device cannot be used or just warning allowing usage.
Time	Use the <b>Execute</b> button to choose between days, number of tests or both days and tests. The right <b>Navigation</b> button will allow you to set time (days) or number of tests.
Reminder	Used to set up a reminder that your unit will need a calibration or an accuracy check in a selected time frame. This will give the operator notification in a selectable time or test number range that the LX9 will need a calibration or accuracy check.

Changes to calibrations types, standards and lockouts are retained in memory and do not have to be changed unless the method used to perform calibrations or accuracy checks changes.

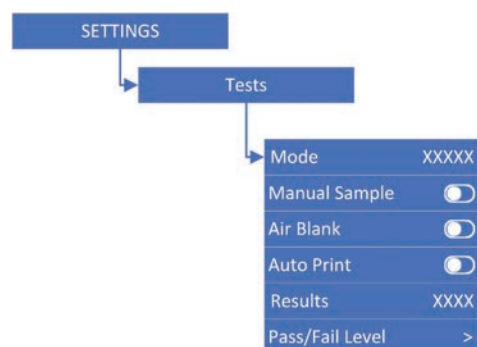
## Settings

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The settings menu contains the functional configurations of the LX9.

### Test Settings

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**Mode** -Selects test order. Pressing **Execute** will change between test orders.

Test Order 1	Test Order 2 (Default)	Test Order 3
Auto Test	Auto Test Passive Test	Passive Test Auto Test

**Note:** By selecting test order 3 you will disable passive testing.

**Manual Sample** -Enables Manual Override of Automatic and Passive Tests. Press **Execute** to turn manual sampling on or off.

**Air Blank** -Select **Execute** to enable or disable Automatic Air Blank.

**Auto Print** -The LX9 can be configured to automatically print test results when a test is complete.

**Results**- Test results for Auto and Manual Override tests can be displayed in a “NUMERIC” or “PASS/WARN/FAIL” (PWF) format. Levels will only be available when PWF is selected.

Numeric results are in a 3-digit format.

PWF results display as either PASS, WARN or FAIL. Example, if “Pass” is set at .040 and “Fail” is set at .080 (the default settings on your LX9), then:

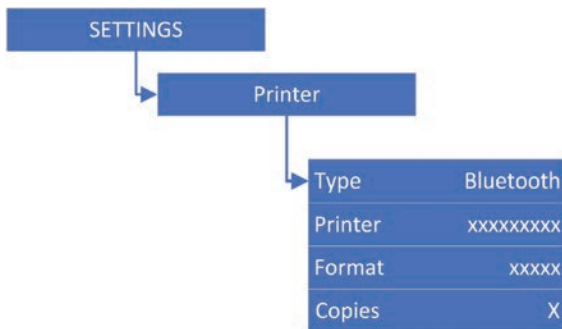
- Test results from .000 - .040 will display PASS
- Test results from .041 - .079 will display WARN
- Test results from .080 and above will display FAIL



**Pass/Fail Level** -Used to select the levels for “Pass” and “Fail”. If the “Pass” and “Fail” level are next to each other then you will not see “Warn”.

**Note:** you cannot set the “Pass” level higher than the “Fail” level.

## Printer Settings



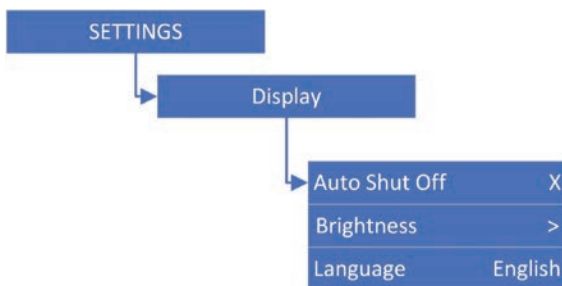
**Type** - Displays the type of printers your LX9 can connect to, the default is Bluetooth.

**Printer** will display the Bluetooth ID code if a printer is currently connected and opens the “BLUETOOTH” menu to find and connect printers.

**Format** selects between short and long printouts. See sample printouts on page 30.

**Copies** select the LX9 to print between 1 and 4 printouts with every test result.

## Display Settings



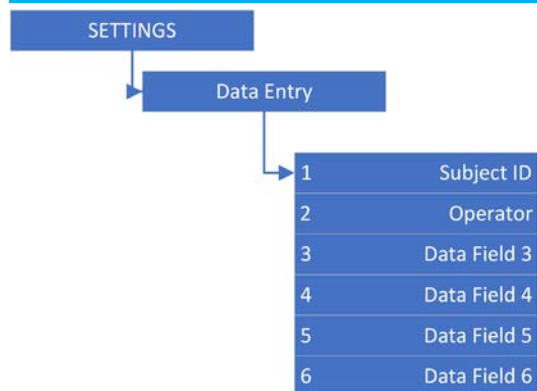
**Auto Shut Off** sets the time the unit will stay on without a keypress. Press **Execute** to select time.

**Brightness** sets the level of display brightness. Choose from 0% to 100% or select “Auto” for automatic adjusting.

**Note:** higher backlight levels will consume more battery power.

**Language** (Optional) if factory enabled allows selection of language for the operation of the LX9.

## Data Entry



## Data Entry Explained

The LX9 allows you to enter subject I.D. numbers or additional information that will be printed with every test result. Default factory settings for the LX9 contain 6 data fields. Each data field can hold up to 30 alpha numeric characters and are either “Fixed” with static data that does not change per test or “User Input” (dynamic) that will be entered for each test.

**Subject ID** - Used to identify a unique test subject. If enabled the LX9 will prompt you to enter name or number each time you prepare to administer a test. The “Subject ID” will then appear with that test printout and retained with the test record.

**Operator** - Used to identify an operator. If enabled the LX9 will allow you to enter the operator’s name or number and will print that data with each test and retain it with each test record.

**Data Fields 3 to 6** - Can be used to hold either “Fixed” or “User Input” information. Fixed information is typically entered once and then stored with each test record. User Input information will be completed with each test.

## Configuring a Data Field

**Data Entry** - Displays all data fields enabled in the LX9. Select a data field to modify settings for that field.

**Data Field** - Displays settings for the selected data field.

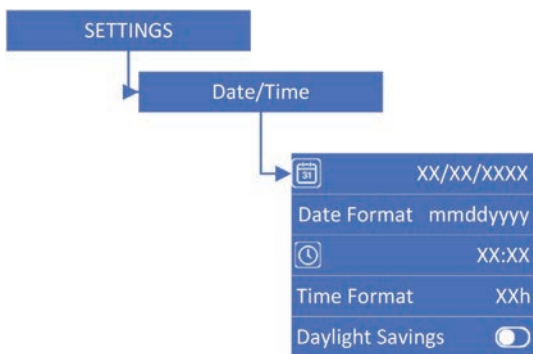
**Enabled** - Turns a data field on or off.

**Label** - Changes the name used to identify the data field.

**Type** - Choose between “User Input” or “Fixed”.

**Data** - If “Type” is “Fixed” data is entered here.

## Date/Time



**Date** - Sets the date for the LX9 clock.

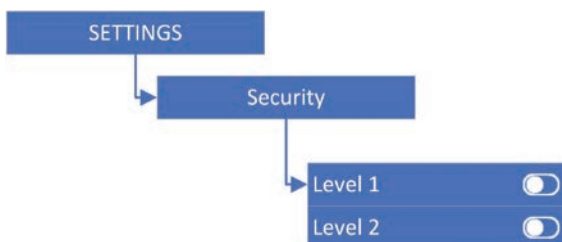
**Date Format** - Sets the date format as either “mmddyyyy” or “ddmmyyyy”.

**Time** - Sets the time of day.

**Time Format** - Selects between 12 hour (AM/PM) and 24-hour time display.

**Daylight Savings** - Moves the clock ahead or back one hour.

## Security



### Security Settings Explained

Passwords can be set to protect access to calibration, calibration check, calibration settings and user settings. The LX9 comes standard with 2 levels of security set up and default passwords assigned to those levels. You should change those passwords if you need secure protection against unauthorized adjustments.

The LX9 levels of security protocol

**Level 1** controls access to the “Calibration” and “Accuracy Check” menu

**Level 2** controls access to the “Test” settings menu and “Date/Time” menu

Without a password, users are still able to conduct Automatic, Manual Override, Passive and Open Container tests; print test results; and check battery status and temperature

#### Changing a Password

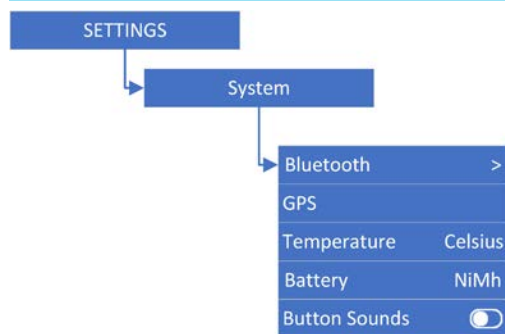
To change a password, you enter the existing password and from the menu go to SETTINGS-Security-Level 1 and turn off that level of password protection.

To then enable a new password from the menu, go to SETTINGS-Security-Level 1 and turn on that level of password protection. The system will prompt you to create a password at that time.

**Note:** The factory default password for level 1 is 1 and the default password for level 2 is 2. You should change these passwords or turn password protection off! If you elect to use passwords record and store your password in a safe place. Lifeloc does not have access to your password. Anyone with a password can change the password, so use caution with password disclosures.

If password is lost, the only way to reset the unit is through Lifeloc Tech Support.

## System



## Bluetooth Menu

**Bluetooth** - Enabled Bluetooth communications on the Lx9.

**Connected Devices** - Displays the number of currently connected devices and lists previously connected devices to select from if changing.

**New Devices** - Used to search for and connect to new devices.

## Connecting a Printer

Select “Connected Devices”. The display will show a list of previously selected devices, currently paired devices will display a green check mark next to their Bluetooth ID, inactive devices will not.

If the printer is not paired but visible in the list, select to pair and press the **Execute** button.

If not, use the **Navigation** buttons to go back one screen and select “New Devices” to search for and pair the printer.



## Keyboard Features Explained

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**Keyboard** - The LX9 allows for data input using an optional Bluetooth (BTLE) keyboard. With the keyboard, you can easily enter text or numbers in “Subject” or “Data” Fields and have full command of the LX9 menu.

If you purchase the Data Management System (DMS), your LX9 will come with a Bluetooth (BTLE) keyboard standard.

When a keyboard is paired with the LX9 the keyboard icon will show at the top of the LX9 display.

### Keyboard Navigation Instructions

Bluetooth Keyboard	LX9
Arrow Keys	<b>Navigation</b> Buttons
Enter Key	<b>Execute</b> Button
Tab Key	Completes data field entry in LX9 keyboard screen
Escape	<b>Power</b> Button

When paired with a keyboard, your LX9 unit will automatically connect when it and the Bluetooth keyboard is powered on.

## Connecting a Keyboard

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Select “Connected Devices”. The display will show a list of previously selected devices. Currently paired devices will display a green check mark next to their Bluetooth ID, inactive devices will not.

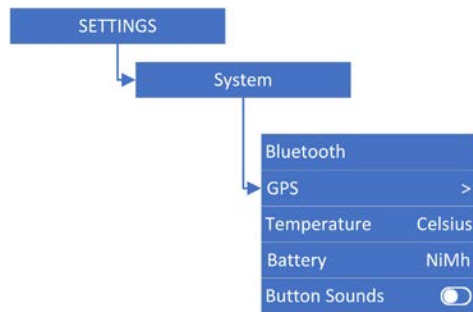
If the keyboard is not paired but visible in the list, select to pair and press the **Execute** button.

**Pair a new keyboard** - On the Bluetooth keyboard, first turn ON the power switch located on the back of the keyboard. Briefly press **Fn + F1**. Press and hold **Fn + F2** for about 5 seconds. Ensure green LED on top right of keyboard is blinking.

From the LX9 select “New Devices”. From the list of new devices found select the keyboard and press **Execute**. Bluetooth keyboard pairing is complete.

## GPS Explained

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The LX9 is equipped with a receiver that can be enabled to capture the current GPS coordinates when you take a test.

When GPS is enabled, the LX9 will upon power up, attempt to retrieve GPS satellite data required for determination of your location. This process initially can take up to a minute to capture the necessary data. If the GPS receiver cannot locate satellites the process will time out in 120 seconds.

GPS works best with a clear view of the GPS satellites and may not capture location data inside a building or where there is no clear view of the sky.

Once captured GPS data is included with each test record and printout.

## GPS Settings

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**Location** - Turns on and off the GPS functions.

**Display type** - Select between GPS data types, Decimal Degrees (DD) or Degrees-Minutes-Seconds (DMS).

## Using GPS

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LX9, upon power up, will search for GPS satellite data. While doing this, the left and right **Navigation** buttons will alternatively blink. Initial searching and downloading of GPS data can take up to a minute.

Once coordinates are found, the LX9 will display them and be ready to take a test. The GPS data is updated as you move and included with every test result.

## Other System Settings

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**Temperature** - Choose between Celsius and Fahrenheit.

**Battery** - NiMH rechargeable or Alkaline, these settings are determined at the factory.

**Button Sounds** - Enables audible feedback of button presses.

## Messages Explained

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- Insufficient Breath** ..... ► Subject breath flow ended early. Instruct the subject to try again or use manual override.
- >0.600** ..... ► BAC is above the instrument's maximum measurement range. Subject may require medical attention.
- Cal/Accuracy Check Expired** ..... ► Perform a Calibration or Accuracy Check.
- Cal/Accuracy Check Needed XX days.** ..... ► The LX9 is within XX days of Calibration or Accuracy Check lockout time.
- Invalid Test** ..... ► No alcohol was detected during a Calibration or Accuracy Check.
- Low Battery** ..... ► Battery voltage is too low to take a test, recharge or replace batteries.
- Printer not Found** ..... ► When attempting to print the LX9 could not find the paired printer. Check printer power.
- Temperature** ..... ► When calibrating or taking a test while the LX9 is outside of temperature limits.  
 Calibration range = 68° - 95° F (20° - 35° C)  
 Testing range is 14° to 130° F (-10° to 55°C)

## Service

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If your LX9 should require repairs or maintenance, Lifeloc is here for you. Just an email or phone call will put you in contact with our technical support personnel. To reach our service department call 303.431.9500 or email [techsupport@lifeloc.com](mailto:techsupport@lifeloc.com).

**Note:** To prevent delays in service or additional charges make certain you receive an authorization number before sending your equipment to Lifeloc.

### International Service

Contact your local factory authorized service center or email Lifeloc Technologies at [techsupport@lifeloc.com](mailto:techsupport@lifeloc.com).

## Extended Service Plans

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In the U.S., Extended Service Plans are available for your LX9. These provide complete coverage for an additional year at a reasonable cost and include free factory diagnostic checks. Call Lifeloc for details.

## Notices

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The LX9 is a professional device designed to be used by trained operators in conjunction with a specified, periodic maintenance and calibration/calibration check regimen. **Use by untrained operators or without periodic calibration or accuracy checks may result in invalid results or incorrect interpretation of results. The LX9 is not to be used by children under 12 years of age.**

**DO NOT DRINK AND DRIVE.** Lifeloc strongly recommends that no vehicle or machinery be operated after alcohol consumption. Even small quantities of alcohol can result in driving impairment.

The LX9 is not waterproof and should not be immersed in or exposed to excessive water. The LX9 is not suitable for use in a potentially explosive environment. The LX9 cannot be used inside an oxygen tent.

If the LX9 is equipped with Alkaline batteries and will not be used for more than 6 months remove batteries to avoid damage caused by leaking battery acid.

### Disposal of Instrument



At the end of the instrument's service life:

- Do not dispose of the LX9 as unsorted municipal waste.
- Dispose of the LX9 in accordance with national waste disposal regulations.

## Specifications and Technical Data

Sensor	Electrochemical Fuel Cell
Accuracy	<p>Meets or exceeds DOT specifications of +/- .005 BAC up to .100 5% from .100 BAC to .400 BAC</p> <p><b>BAC, BrAC, g/210L</b>  <math>\leq .100</math> BAC +/- .005 BAC  <math>\geq .100</math> BAC +/- 5% of measured value</p> <p><b>mg/L</b>  <math>\leq 0.50</math> mg/L +/- 0.02  <math>\geq 0.50</math> mg/L +/- 5% of measured value</p>
Measurement Range	.000 a .600 BAC (0.00 a 2.85 mg/L)
Analysis time	Approximately 6 seconds at 21° C (70° F)
Display	2.2" 240 x 320 color TFT display visible in daylight or dark
Memory	Up to 10,000 tests with all associated data
Communications	Bluetooth 4.1, USB
Power Supply	Fast charge NiMH battery pack or three AA Alkaline batteries
Printing	Bluetooth wireless printing
Calibration Frequency	Lifeloc recommends calibrating the LX9 at least once a year or more often if specified by your internal policies and procedures.
Accuracy Checks	Lifeloc recommends performing accuracy checks on your device once a month or more often if specified by your internal policies and procedures to ensure proper operation between calibrations.
Calibration Adjustment	Lifeloc recommends that you adjust your LX9 during calibration process if the as found condition is greater than +/- .003 BAC of your calibration standard. (if your calibration standard is less than or equal a .100 BAC).
Size	~2.75" X 5" X 1.3" (70 X 127 X 33 mm)
Weight [w/ batteries]	8 oz. (227 grams)
Operating Conditions	14° - 130° F (-10° - 55°C) 10 to 90% Relative Humidity (non-condensing)
Storage Temperature	-13° - 158° F (-25° - 70° C)
Electromagnetic Compatibility	EN 55011 Class A Group 1 FCC Part 15, Subpart B, Class A EN 61326-1 2013
Disposal of Electronic Equipment	This device is manufactured under EU Directive 2011/65/EU (RoHS 2) and should be disposed of according to local laws.

## Sample Printouts

### Long Printout

```

Lifeloc Technologies, Inc
LX9    v1.2.11/v1.5.17
Serial #    18101234
Units      BAC

-----

Auto Test #      501
Date:           11/15/2018
Result :        .126
Time :          12:41

LAST CALIBRATION
Date :          11/01/2018
Time :          11:31
Standard :      .040

LAST ACCURACY CHECK ,
Date :          11/08/2018
Time :          13:58
Standard :      .040
Result :        .039

Subject ID
John Doe
Operator
Officer Smith
    
```

### Short Printout

```

Lifeloc Technologies, Inc
LX9    v1.2.11/v1.5.17
Serial #    18101234
Units      BAC

-----

Auto Test #      501
Date:           11/15/2018
Result :        .126
Time :          12:41

Subject ID
John Doe
Operator
Officer Smith
    
```

### Calibration Printout

```

Lifeloc Technologies, Inc
LX9    v1.2.11/v1.5.17
Serial #    18101234
Units      BAC

-----

CALIBRATION
Date :          11/01/2018
Time :          11:31
Standard :      .040
As Found Result : .042
Adjusted :      YES

ACCURACY CHECK ,
Date :          11/08/2018
Time :          11:33
Standard :      .040
Result :        .039

-----
    
```

## Settings Chart



Auto Test
Manual Test

Tests
Calibrations
Accuracy Checks
Print date Range
Clear Test History

Accuracy Checks
Calibrations
Cal Settings

Tests
Printer
Display
Data Entry
Date/Time
Security
System

About
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## Lifeloc Factory Warranty

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The LX9 comes with a one year limited parts and labor warranty, effective on the date of purchase by the end-user.

### The Warranty covers:

- Parts and labor on covered repairs
- Software updates, as applicable
- Air freight back to the customer after the unit is repaired (U.S. only)

### The Warranty does not cover:

- Freight to the Lifeloc factory
- Misuse, abuse, negligence or accidents

Lifeloc Technologies, Inc. (“Lifeloc”) warrants to the buyer that at the time of shipment from Lifeloc’s facilities, all new Lifeloc Equipment purchased through Lifeloc or one of our authorized distributors will be free from defects in material and workmanship, under normal use and service, provided that the buyer gives Lifeloc written notice of any defect within twelve (12) months from original invoice date (the “Warranty”). The term “Lifeloc Equipment” includes all [portable hand-held and fixed station breathalyzers manufactured by Lifeloc], as well as all printers, keyboards, cables, cases, and power supplies purchased as part of a new Lifeloc kit configuration. Software is warranted to perform substantially in accordance with Lifeloc user manuals and to be free from defects in materials and workmanship under normal use and service for a period of twelve (12) months from original invoice date.

The Warranty does not apply if the product has been altered, customized, repaired, reported stolen or modified by someone other than a Lifeloc factory authorized technician, or if parts other than Lifeloc approved parts are used in replacement or repair.

The buyer’s exclusive remedy and Lifeloc’s sole liability for breach of the Warranty shall be repair, replacement or, at Lifeloc’s option, refund of the original purchase price paid by the buyer to Lifeloc for the Lifeloc Equipment that is shown, to Lifeloc’s reasonable satisfaction, to be defective in breach of the Warranty (“Defective” and, the defect causing the Lifeloc Equipment to be Defective, a “Defect”). Under no circumstance shall Lifeloc be liable for an amount that exceeds the lesser of the cost of replacement or the original purchase price paid by the buyer to Lifeloc for the Lifeloc Equipment. Lifeloc shall not be responsible for any customer software, customer settings or configuration data or customer test records resident in any products returned for service, repair, warranty or recertification.

Lifeloc assumes no risk for damage in transit. If Lifeloc determines that a Defect was outside of or not covered under the Warranty, Lifeloc will estimate repair and service charges and obtain the buyer’s



authorization prior to conducting any work to repair the Defective Lifeloc Equipment. Following repair, the Lifeloc Equipment will be returned to the buyer via standard ground transportation prepaid. Express charges, if authorized by the buyer, will be invoiced at the difference between the express charges and the standard return shipping charges.

Lifeloc shall not incur costs related to loss, damage or incomplete or inaccurate paperwork of returned product regardless of origination point.

THIS WARRANTY IS THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. LIFELOC SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, INCLUDING LOSS OF DATA, WHETHER ARISING FROM BREACH OF WARRANTY OR BASED ON CONTRACT, TORT, RELIANCE OR ANY OTHER THEORY.

NOTWITHSTANDING ANYTHING TO THE CONTRARY IN THE FOREGOING WARRANTY, OR IN ANY AGREEMENT BETWEEN THE BUYER AND LIFELOC PERTAINING TO ANY LIFELOC EQUIPMENT, OR AT LAW OR IN EQUITY:

THE WARRANTIES, OBLIGATIONS, AND LIABILITIES OF LIFELOC, AND THE REMEDIES OF THE BUYER SET OUT IN THE FOREGOING WARRANTY, ARE SOLE AND EXCLUSIVE, AND ARE MADE AND ACCEPTED BY THE BUYER IN LIEU OF, AND THE BUYER WAIVES AND RELEASES, ALL OTHER WARRANTIES, OBLIGATIONS, AND LIABILITIES OF LIFELOC, AND ALL OTHER CLAIMS AND REMEDIES OF THE BUYER, EXPRESS OR IMPLIED, ARISING BY STATUTE OR OTHERWISE, WITH RESPECT TO ANY DEFECT IN LIFELOC EQUIPMENT, INCLUDING BUT NOT LIMITED TO THE WAIVER AND RELEASE BY THE BUYER OF THE FOLLOWING: (i) ANY STATUTORY OR IMPLIED WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR ANY PURPOSE, (ii) ANY IMPLIED WARRANTY ARISING FROM COURSE OF DEALING, COURSE OF PERFORMANCE OR USAGE OF TRADE, AND (iii) ANY OTHER RIGHT, CLAIM, OR REMEDY WHATSOEVER OF THE BUYER OR OF ANY PERSON OR ENTITY CLAIMING BY, THROUGH, OR UNDER THE BUYER AGAINST LIFELOC, WHETHER ARISING PURSUANT TO THE FOREGOING WARRANTY, PURSUANT TO ANY AGREEMENT PERTAINING TO LIFELOC EQUIPMENT, OR IN CONTRACT, IN INDEMNITY, IN TORT (INCLUDING, BUT NOT LIMITED TO, NEGLIGENCE), IN PRODUCTS LIABILITY, IN STRICT LIABILITY, OR OTHERWISE. BY ACCEPTING OR USING LIFELOC EQUIPMENT, THE BUYER FURTHER ACKNOWLEDGES, UNDERSTANDS, AND AGREES THAT NO STATEMENT OR REPRESENTATION HAS BEEN MADE BY LIFELOC, OR RELIED UPON BY THE BUYER, THAT IS INCONSISTENT WITH THE FOREGOING WARRANTY.

Without prejudice to the foregoing, Lifeloc shall not have any obligation or liability, and the buyer acknowledges that Lifeloc shall not have any obligation or liability whatsoever, to the buyer, or to any person or entity claiming by, through, or under the buyer, whether arising pursuant to the foregoing Warranty, pursuant to any agreement pertaining to Lifeloc Equipment, or in contract, in indemnity, in tort (including, but not limited to, negligence), in products liability, in strict liability, or otherwise,

(i) for any transportation, installation, removal, reinstallation, adjustment, or other expenses related to any Lifeloc Equipment covered by the Warranty or to other property, (ii) for any damage or loss to any property other than the Lifeloc Equipment covered by the Warranty, or (iii) for any special, indirect, incidental, or consequential damage or loss, even though such expenses, damages, or losses may be foreseeable, including, but not limited to: loss of profits or revenues, loss of use or equipment, cost of capital, cost of substitute equipment, repairs, or facilities, cost of downtime, or cost of purchased or replacement equipment or parts.

The limited remedies of the buyer set forth above shall be exclusive even though they may fail of their essential purpose. No agreement varying or extending the foregoing Warranty, no remedies, no exclusions, or no limitations shall be effective unless in a writing signed by an executive officer of LIFELOC. The correction of any Defect shall in no way extend the duration of the Warranty; only the unexpired warranty term of the Lifeloc Equipment applies to any repaired or replacement Lifeloc Equipment that is provided under the Warranty.

The Warranty is non-transferable and is effective on all Lifeloc Equipment purchased from and after [September 1, 2014]. Rights and recourse may vary by country.

# Lifeloc

TECHNOLOGIES

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