

# BACTRACK<sup>®</sup>

SELECT

BREATHALYZER



S50

OWNER'S  
MANUAL



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This device is intended to measure alcohol in human breath. Measurements obtained by this device are used in the diagnosis of alcohol intoxication.

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***Track your B.A.C. – BACTRACK!***

# INTRODUCTION

The **BACTRACK® Select S50 Breathalyzer** is an alcohol screening device, used for the detection of alcohol in the breath. The BACTRACK provides a digital result, displaying an estimate of the subject's BAC (Blood Alcohol Content). Before you begin testing, it is very important to read the entire owner's manual. It is also very important to have the instrument calibrated periodically as recommended on page 12. Failure to do so may result in readings that are inaccurate.

## Alcohol and Its Effects on the Human Body

When a person consumes alcohol, the alcohol is absorbed from the mouth, throat, stomach and intestines into the bloodstream. The alcohol in the bloodstream exchanges with air deep in the lungs. The percent of alcohol in a person's blood (BAC) is proportional to the percent of alcohol in a person's breath (BrAC). The BACTRACK measures a subject's deep lung air alcohol level and converts it to the estimated BAC.

"BAC" means Blood Alcohol Concentration. It is measured in %.

## How does alcohol affect my body?

Alcohol is a depressant. It has a relaxing effect on the muscles in your body. The muscles of your eyes relax and lose focus. Your eyesight will become fuzzy and you may experience

double vision. Brain activity is slowed. Your judgment, reflexes, and coordination are all negatively affected. Some vision impairments that occur when you have been drinking include:

- Narrowing of your field of vision
- Reduction in your depth perception
- Decreased ability to see in darkness
- Increased sensitivity to glare and a longer time for your eyes to readjust from the glare

Some mental (brain) impairment can occur when you have been drinking, including:

- Reduced awareness of danger
- Becoming overly confident and reckless
- Difficulty in making decisions
- Reduction in balance
- Slowed reflexes
- Impaired judgment

Variations among individuals and other factors, such as altitude and air temperature, affect the degree of intoxication. Some individuals may become intoxicated at low BAC levels. A low BAC on a breath alcohol tester does not mean that a person's reaction times can respond to any emergency encountered. Individuals should not drink alcohol and drive or use any machinery after consuming alcohol.

## How does alcohol affect my driving?

We can't emphasize enough how dangerous it is for you to drink and drive. Your vision and your brain are the most important factors in driving safely. If you jeopardize either by drinking, and then you drive, you are likely to be involved in a serious or fatal collision.

**There is no safe way to drive under the influence of alcohol. Even one drink can make you unsafe.**

From California Department of Motor Vehicles (<http://www.dmv.ca.gov>)

## DOSE-SPECIFIC EFFECTS OF ALCOHOL\*

BAC	Dose-Specific Effects <sup>1</sup>
0.02-0.03%	Slight euphoria. Loss of shyness. Depressant effects are not apparent. Impairment possible in some individuals.
0.04-0.06%	Feeling of well-being, relaxation, lower inhibitions and sensation of warmth. Euphoria. Some minor impairment of reasoning and memory. <b>Lowering of caution. Driving skills may be impaired at this level of intoxication.</b>
0.07-0.09%	Slight impairment of balance, speech, vision, reaction time, and hearing. Euphoria. Judgment and self-control are reduced. Caution, reason and memory are impaired. <b>Driving skills are always impaired at this level of intoxication and higher.</b>
0.10-0.12%	Significant impairment of motor coordination and loss of good judgment. Speech may be slurred. Balance, vision, reaction time and hearing will be impaired. Euphoria.

BAC	Dose-Specific Effects <sup>1</sup>
0.13-0.15%	Gross motor impairment and lack of physical control. Blurred vision and major loss of balance. Euphoria is reduced and dysphoria (anxiety, restlessness) is beginning to appear.
0.16-0.20%	Dysphoria predominates. Nausea may appear.
0.25%	Needs assistance in walking. Total mental confusion. Dysphoria with nausea and some vomiting.
0.30%	Loss of consciousness.
0.40% and up	Onset of coma. Possible death due to respiratory arrest**.

<sup>1</sup> Bailey, William J., *Drug Use in American Society*, 3rd ed., Minneapolis: Burgess, 1993

\* The effects of alcohol intoxication are greatly influenced by individual variations among users. Some users will be intoxicated at a much lower BAC than shown above.

\*\*Death can occur at a lower BAC in some individuals.

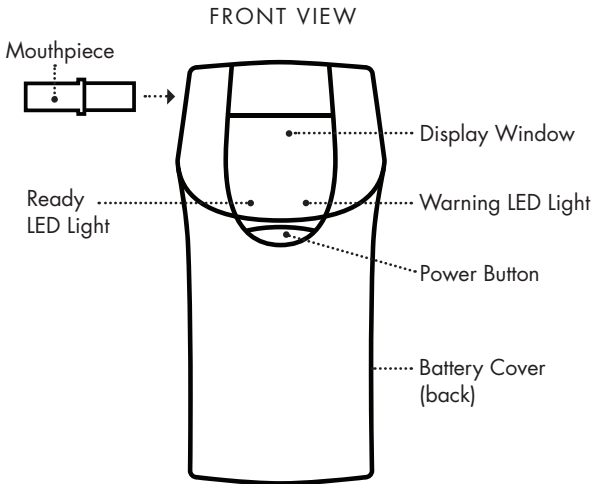
The generally accepted legal standard for alcohol intoxication in the United States is 0.08%. However, your driving skills can be impaired at a level of 0.04% or lower. It is never safe to drink any amount of alcohol and drive.

## PREPARATION

### Installing the Battery

Install two AA batteries in the battery compartment.  
(Batteries are included.)

## COMPONENTS DIAGRAM





# OPERATION

## IMPORTANT!



Test subjects should wait 20 minutes after eating, drinking, or smoking before blowing into the BACTRACK Breathalyzer. **Failure to wait 20 minutes can provide inaccurate test results and damage the sensor.**



**STEP 1:** Insert a disposable mouthpiece. It is recommended to insert a new mouthpiece before each test.



**STEP 2:** Press the POWER button to turn on the BACTRACK. The total number of tests performed since the last service is briefly displayed and then a countdown sequence begins.



**STEP 3:** When the countdown approaches 10, begin to inhale a deep breath.



**STEP 4:** When the countdown reaches zero, the READY light will flash and two beeps will sound. Blow hard, continuously, for five full seconds. While a user is blowing, the BACTRACK will sound a continuous tone. Keep blowing until two beeps are heard.



**STEP 5:** When finished taking a breath sample, the BACTRACK will circle the outer LED fields for three seconds while analyzing the breath sample.



**STEP 6:** Once the sensor technology has analyzed the breath sample, the estimated BAC (Blood Alcohol Content) value is flashed on the screen.

The test result will be displayed for 10 seconds. Then the BACTRACK will beep five times before powering off.

If the BAC reading is over 0.05%, the red WARN lamp will illuminate and a rapid beep alarm will sound.

## Understanding BAC Results

The displayed result is an estimate of the test subject's BAC. A breath alcohol tester cannot determine the exact BAC in the blood of the test subject. Correlation between BrAC and BAC depends on many factors, such as temperature and health conditions. Therefore, only use this device as a tool to screen for the presence of alcohol.

Many people consider a 0.02% or greater a positive test for alcohol in "zero tolerance" screening. Most states have 0.08% as the legal BAC limit for tasks such as operating a motor vehicle. Some states prohibit driving commercial vehicles or any vessel with a 0.04% BAC or higher. Many states and countries prosecute individuals for driving under the influence at any level.

## Alerts



**Battery Low:** The battery power is low. Please replace the batteries.



**Flow Error:** The breath sample was not sufficient. Please repeat the testing process, ensuring a continuous, 5 second breath sample.



**Time Out:** If the user does not blow within 10 seconds, the unit displays [Out] and shuts down.



**Calibration:** The unit requires recalibration or maintenance. Please refer to the Verification and Calibration section of this manual.

## SPECIFICATIONS

Dimensions	2.32 x 4.56 x 1.06 inches (5.9 x 11.6 x 2.7 cm)
Weight	3.88 oz (110 g) with mouthpiece and batteries
Sensor Technology	Advanced semiconductor
Detection Range	0.00 – 0.40 %BAC
Test Count	Displays total number of tests performed
Power Supply	Two AA alkaline batteries, included
Battery Life	Approximately 200~300 times
Warm Up Time	10-30 seconds, depending on last use
Response Time	5 seconds
Sensor Accuracy	+/- 0.01 %BAC @ .02 %BAC
Operating Temperature	50-104 °F (10-40 °C)

This device has been tested using NHTSA/DOT procedures. In this testing, the accuracy of this device was established at Blood Alcohol Concentrations (BAC) of 0.008 and 0.032, but not at greater concentrations. Additional laboratory testing has been performed at concentrations ranging from 0.00 – 0.40% BAC.

## PRECAUTIONS

1. Wait at least 20 minutes after drinking, eating or smoking before testing. Not observing this waiting period can cause inaccurate readings, damage the sensor, and void your warranty.
2. Do not blow smoke, food, or liquids into the BACTRACK as this will damage the sensor.
3. Do not test in areas with strong winds, smoke, or in an area where a large amount of alcohol is being consumed.
4. Replace the two AA batteries when the screen displays [bat].
5. Send your tester in for periodic calibration service as required. (See calibration).
6. The BACTRACK Breathalyzer is designed to be used in a temperature range of 50-104 °F (10-40 °C). Operation of the unit in temperature ranges above or below this range may affect the accuracy of results.
7. Avoid testing in the presence of any substances that contain methyl alcohol, isopropyl alcohol or acetone. These substances may interfere with the results of the test.
8. Diabetes, a low caloric intake diet, or certain health conditions may cause a false positive test when there is an increased ketone concentration in the breath. Consult with a licensed physician to see if this may apply to you.
9. Do not use the BACTRACK as a tool to determine whether you should operate a motor vehicle or equipment, or perform any other dangerous act.
10. Do not drink and drive. Always have a designated driver when alcohol is being consumed.

## VERIFICATION AND CALIBRATION

The BACTRACK Select S50 Breathalyzer is calibrated during manufacture using advanced alcohol simulation equipment. Known alcohol concentrations are passed through the sensor to set baseline values for testing. During testing, the unit compares users' breath samples to these baseline values.

The accuracy of breath alcohol testers can fluctuate after six to twelve months of normal use, depending on the number of tests performed and operating conditions.

If this product is providing inconsistent test results, is not providing any test results, or provides unusually high or low test results, the product should be recalibrated by a trained professional.

The product should be recalibrated at least every six to twelve months depending on frequency of use and operating conditions. We recommend sending the unit in for calibration after 200 tests have been performed, or every 6 to 12 months if less than 200 tests have been performed. If the product is used every day, it may need to be recalibrated as frequently as every month.

### Calibration Instructions

Please visit [www.bactrack.com](http://www.bactrack.com) or call 877-334-6876 for information on how to get your BACTRACK Breathalyzer recalibrated.

During recalibration, a professional technician will reset the sensor baseline values and also perform a full diagnostic check to ensure the accuracy and reliability of the product.

## ONE-YEAR LIMITED WARRANTY

KHN Solutions' warranty obligations for this product are limited to the following:

KHN Solutions warrants this product against defects in materials and workmanship under normal use for a period of ONE (1) YEAR from the date of retail purchase by the original end-user purchaser ("Warranty Period"). Except as provided in the preceding sentence or applicable law, KHN Solutions provides this product "as is". If a defect arises and a valid claim is received by KHN Solutions within the Warranty Period, at its option, KHN Solutions will either (1) repair the product, (2) exchange the product with a product that is new or which has been manufactured from new or serviceable used parts and is at least functionally equivalent to the original product, or (3) refund the purchase price of the product. When a refund is given, the product for which the refund is provided must be returned to KHN Solutions and becomes KHN Solutions' property. This warranty is limited to the original end-user purchaser and is not transferable to, or enforceable by, any subsequent owner.

### **Exclusions, Limitations, and Disclaimers**

KHN Solutions makes no warranties, express or implied, as to the ability of this product to determine whether, or the extent to which, a test subject's mental or physical functioning, or judgment, may be impaired by blood alcohol including whether the test subject is intoxicated under any definition of that word. KHN

Solutions expressly disclaims any liability for direct, indirect, incidental, special, or consequential damages of any nature under any legal theory. Any act or failure to act based on a reading from this product shall be at the test subject's or user's own risk. KHN Solutions assumes no responsibility for consequences to or of test subjects who use this product and later are shown to have been under the influence of alcohol or to have had their judgment or any mental or bodily function impaired by alcohol. Correlation between breath alcohol content and blood alcohol concentration depends on many variables, including environmental factors (such as air quality, wind, humidity, temperature, etc.) and health conditions of the test subject. A low BAC reading does not mean that the test subject's physical or mental performance or judgment (including reaction times) can respond to an emergency. The concentration of alcohol in the blood of a test subject cannot be exactly determined by using a breath alcohol screening product.

KHN Solutions does not warrant that the operation of the product will be error-free. KHN Solutions is not responsible for any consequences arising from failure to follow instructions or relating to the product's use. This warranty does not apply: (a) to consequences caused by accident, abuse, tampering, misuse, flood, fire, earthquake or other external causes; (b) to consequences caused by operating the product outside the permitted or intended uses described by KHN Solutions; (c) to consequences caused by service performed by anyone who is not a representative of KHN Solutions or a KHN Solutions Authorized Service



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Some countries, states and provinces do not allow the exclusion or limitation of incidental or consequential damages or allow limitations on how long an implied warranty or condition may last, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary by country, state or province. This Limited Warranty is governed by and construed under the laws of the country in which the product purchase took place.

## Obtaining Warranty Service

Please be sure to read this instruction manual carefully if you believe your product is not operating properly. If you still feel that your product requires warranty service, please follow these instructions:

Obtain a Return Authorization (RA) number by calling toll-free 877-334-6876 or by emailing [service@bactrack.com](mailto:service@bactrack.com).

When shipping the product back to KHN Solutions, please package the product carefully and ship using a major carrier (UPS, FedEx, USPS, etc). To ensure proper credit for a returned item, be sure to obtain a delivery confirmation on the return shipment. The customer is responsible for all return shipping charges.

Include the following information with your returned product:

- Your Return Authorization number
- Name, address, and phone number as stated at the time of order
- A copy of your original sales receipt

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