

AlcoPatrol®

AP338 User's Manual

User's Manual for Professional Breath Alcohol Tester With Fuel Cell Sensor

Model: AP338

Version: EN 1.8

GIMA 24486

REF 338-02030-FG



Manufacturer:

A&A Product Manufacturing Limited
Workshop 9, 18/F, Tower A, New Trade Plaza, 6
On Ping Street, ShaTin, New Territories,
Hong Kong
sales@aap.com.hk

Imported by:

Gima S.p.A.
Via Marconi, 1 - 20060 Gessate (MI) Italy
gima@gimaitaly.com - export@gimaitaly.com
www.gimaitaly.com



AP338 User's Manual

Contents

1.	Introduction.....	3
2.	Definitions.....	3
3.	Components.....	4
4.	Packing list.....	5
5.	Precautions.....	5
6.	Conditions to be observed before alcohol tests.....	5
7.	Pretest Requirements.....	6
8.	Charging the Device.....	6
9.	Powering up the Device.....	6
10.	Operating Instructions.....	6
10.2	Quick Test.....	9
10.3	Passive.....	9
10.4	Test Records.....	9
10.5	Sensor.....	10
11.	System Setting:.....	11
12.	GPS:.....	15
13.	Time and Date:.....	15
14.	System information:.....	16
15.	Torch Light.....	16
16.	Cleaning.....	16
17.	Maintenance.....	17
18.	Calibration and Service:.....	17
19.	Technical Specifications.....	18
20.	Warranty.....	19
21.	Disposal:.....	20

AP338 User's Manual

IMPORTANT NOTES:

1. As many factors such as residual gases present in the air, smoke and various substances present in the human mouth may affect the Blood Alcohol Concentration (BAC) level, the measurements obtained by AP338 are for reference, only.
As such, neither the sellers nor manufacturer accept any liability arising from the use of this unit.
2. It is highly recommended not to drink before driving. Hence, our motto is: “DO NOT drink before driving”.
3. This manual should be read before using the Professional Breath Alcohol Tester

AP338 User's Manual

1. Introduction

Thanks for purchasing our Professional Breath Alcohol Tester.

Professional Breath Alcohol Tester model AP338 referred to as the “AP338” or “Device” in this manual, is an advanced alcohol tester used to measure Breath Alcohol Concentration and consequently the Blood Alcohol Concentration by professionals.

AP338 gives you a precise digital indication of your breath alcohol content and thus your possible concentration of intoxication.

The Fuel Cell sensor of the Device uses electrochemical reaction of platinum with ethanol molecules, providing the most stable and reliable alcohol measuring technology available.

Using AP338 requires full understanding of the device and strict observation of the instructions provided in this Manual.

To achieve high accuracy measurements, users should study this manual carefully before using it.

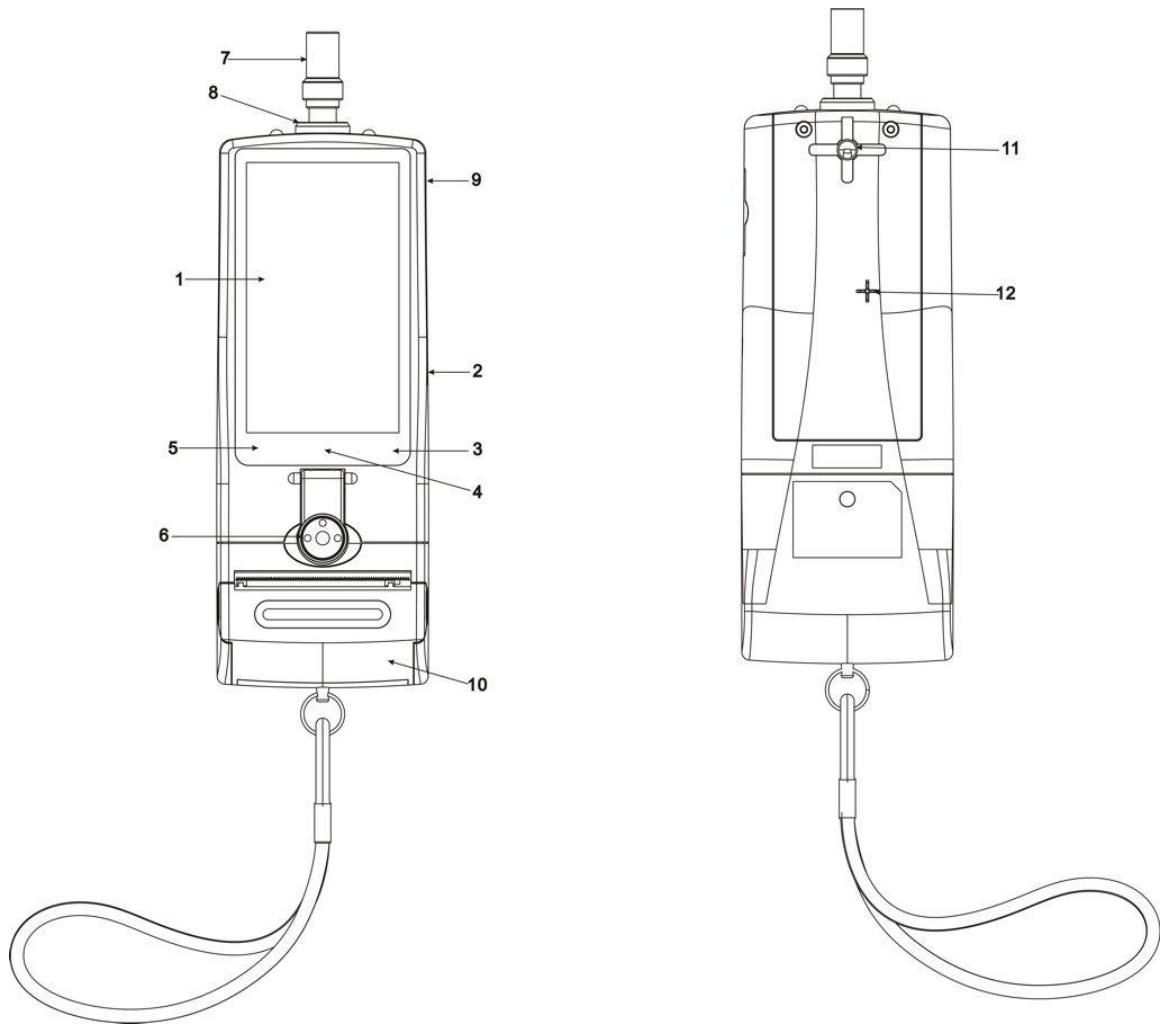
2. Definitions

BAC: Blood Alcohol Concentration

BrAC: Breath Alcohol Concentration

AP338 User's Manual

3. Components



- 1: LCD display with touch panel
- 2: Power Key
- 3: Back Key
- 4: Home Key
- 5: Function Key
- 6: Camera
- 7: Mouthpiece
- 8: Inner tube
- 9: USB Jack (Connect computer/Charging)
- 10: Printer
- 11: Gas Outlet 1
- 12: Gas Outlet 2

AP338 User's Manual

4. Packing list

#	Part List	Quantity (pcs)
1	Instrument (AP338)	1
2	Mouthpiece	10
3	Blowing Funnel	1
4	Leather sheath	1
5	Printer paper	4
6	USB cable	1
7	Car adaptor	1
8	USB Charger	1
9	CD for Download software	1
10	User's Manual	1

5. Precautions

- Do not store the Device in high temperature, high humidity or highly dusty environment.
- Gently handle the Device and don't knock it against rigid surfaces
- Do not press the TFT-LCD by force.
- Do not dismantle the Device
- Do not use alcohol, thinners or benzene to clean the surface of the product and its components.
- Do not use the Device in the places that using of wireless devices is prohibited.
- Do not use the Device in the flammable and explosive environment.
- Do not unscrew the AP338 or loosen its screws. **Warranty may not be valid** if doing so
- Do not allow high concentrations of alcohol vapor or alcohol containing solutions to reach the sensor of the Device. Alcoholic drinks, foods containing alcohol or mouth washers containing alcohol are examples of such materials.
- Do not use power supply units not approved by AlcoPatrol. Using these units for charging the Device may cause burns and electric shocks.
- Do Not operate the device during charging the battery,

6. Conditions to be observed before alcohol tests

- Fully charge the Device before use by using the provided battery charger
- Use a new mouthpiece for each test or each person being tested.
- Make sure there is no alcohol or hydrocarbons (such as solvents and disinfectants) in the ambient air.
- Keep the Device away from the antenna of mobile phones or transmitters.
- Use the touch pen when conducting the calibration

7. Pretest Requirements

- Rinse out your mouth with water or non-alcoholic drinks before using the unit.
- Abstain from smoking (for 15 minutes) or drinking (for at least 15 minutes.) before the test. Residual alcohol in the mouth may enhance the measured values. This may also occur by aromatic drinks (e.g. fruit juices), alcoholic mouthwashes or mouth sprays, medicines and drops, as well as by burping and vomiting.
- Do not eat for 15 minutes prior to undertaking a test. Failure to do so may impair results and damage the unit.
- Breathe evenly and normally before the test.
- Wait for 3 minutes between the tests.

8. Charging the Device

The battery needs to be charged when the battery symbol on the display indicates “empty”.

The charging of the battery can be performed in two ways; putting the Device on the provided power adaptor with the connecting to the provided car charger.

Connect the USB-C cable to the USB-C port of the device and the charger.

During the charging of the Device the battery charging indicator will turn on with red color. This indicator turns green when the battery is fully charged.

Charge the device only in a room temperature of 10-30 degrees C.

9. Powering up the Device

1. Press the “Power Key” for 2 seconds to turn ON the Device then enter the main interface.
2. Press and hold the “Power Key” for about 2 seconds to turn it OFF.

Note 1: If no input is made to the Device for 10 minutes, the Device will turn off, automatically.

Note 2: The default screen saver time is 3 minutes which can be changed if required.

10. Operating Instructions

10.1 Active Test:

Under this mode, the device will initialize the sensor condition. Depending on the different conditions it will take a few seconds to 2 minutes for device to become operational.

1. Insert a new mouthpiece in **CORRECT** orientation into the inner tube chamber inlet.
2. Press the “Active Test” icon on the main menu, The LCD will show “Tester Ready, Please Blow Continuously”. Now the user can start the alcohol test.
3. Evenly blow into the mouthpiece for about 3-8 seconds with a continuous “Beep” sound announcement. (**Active test**)

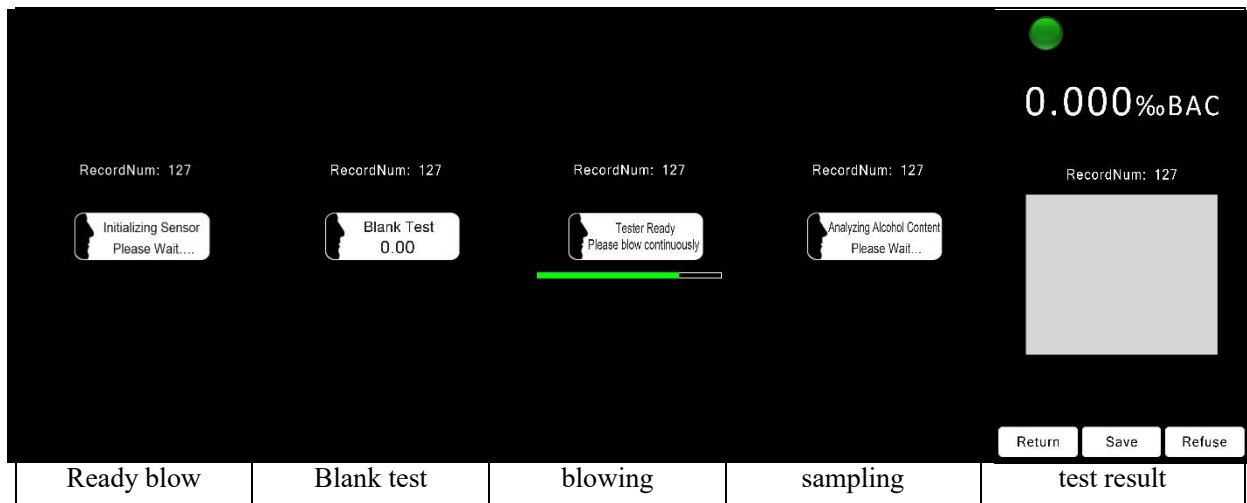
Note: The blowing time depends on the blowing pressure to achieve the minimum breath volume

AP338 User's Manual

required.

4. If the breath sample flow rate is too low or blowing duration is too short, “Blow Abort or too Short” will be shown on the display. In this case The Device will return to the main menu automatically. If this happens repeat the above-mentioned steps again.
5. If the breath sample is taken successfully, the display will show “Analyzing Alcohol Content. Please wait...” Then the Device will analyze the breath sample, and the test result will then be shown on the display

Active test sequences:



6. Press “Retest” icon to start another test or press “Save” to input the relevant information. Press “Return” to return into the main menu.
7. If the breath sample is not taken successfully. Then “blow time-out” or “blow abort” message will appear as shown in the following figures and the test needs to be reconducted again.

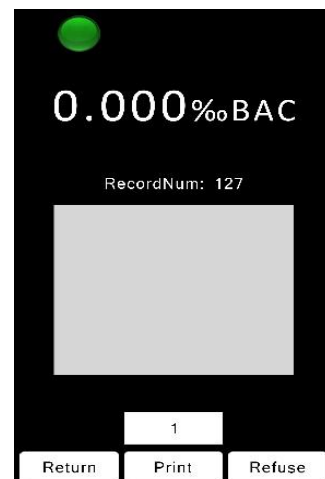


8. Press “Save” to save the analyzing results as shown in the following captured data:

AP338 User's Manual

Name of Officer <-- OK --> ~ 0 1 2 3 4 5 6 7 8 9 Q W E R T Y U I O P A S D F G H J K L Shift Z X C V B N M Del #+= En SPASE Clear	Officer Badge No <-- OK --> ~ 0 1 2 3 4 5 6 7 8 9 Q W E R T Y U I O P A S D F G H J K L Shift Z X C V B N M Del #+= En SPASE Clear	Remarks/Notes <-- OK --> ~ 0 1 2 3 4 5 6 7 8 9 Q W E R T Y U I O P A S D F G H J K L Shift Z X C V B N M Del #+= En SPASE Clear
Vehicle Number <-- OK --> ~ 0 1 2 3 4 5 6 7 8 9 Q W E R T Y U I O P A S D F G H J K L Shift Z X C V B N M Del #+= En SPASE Clear	License No <-- OK --> ~ 0 1 2 3 4 5 6 7 8 9 Q W E R T Y U I O P A S D F G H J K L Shift Z X C V B N M Del #+= En SPASE Clear	Name of Driver <-- OK --> ~ 0 1 2 3 4 5 6 7 8 9 Q W E R T Y U I O P A S D F G H J K L Shift Z X C V B N M Del #+= En SPASE Clear

- After entering the relevant information, the Print or Retest interface will be displayed on the LCD.
- Press "Print" key to print out the test result or press "Retest" to start another test or press "Return" key to return, as shown in the following photo



AP338 User's Manual

Note: The Printout contains instrument name & number, Police information, Driver information, Test Date & Time, Vehicle Number & Test result.

11. To ensure accuracy, wait for 2 minutes to perform the next test.
12. Blow fresh air to clear the residue.

Note: Install a new mouthpiece for each test

Note: If the Device is used for more than 15 minutes or water vapor condenses inside the inner tube, blow fresh air to clean the inner tube or allow the device to rest for 15 minutes.

10.2 Quick Test:



Under this mode, the device allows it to test without initializing the sensor condition. i.e., without paying attention to the test environment temperature & residual alcohol. In this mode the test can be conducted immediately when the Device is powered on.

For quick breath alcohol test repeat steps 1 to 7 of section 10.1.

10.3 Passive Test:

1. Press “Power” key for taking breath sample.
2. blow for 1-2 seconds to take breath sample

The sequences of the display are shown in the following photos

Ready-blow	Blowing	Sampling

10.4 Test Records:

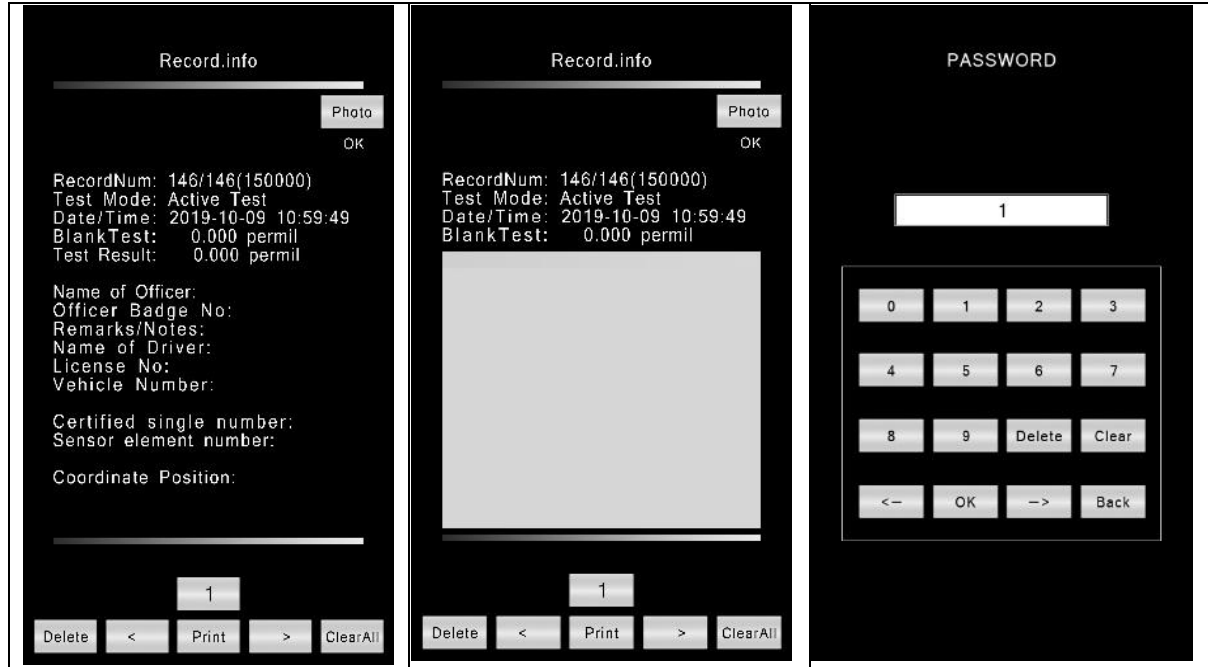


In this mode user can review, print or delete the records. Clearing all of the records can also be performed in this mode.

1. Review all records by pressing “←” or “→” icon.
2. Print: print out the test record, also can print out the photo after show the photo.
3. Delete: to delete the test record, need input user password

AP338 User's Manual

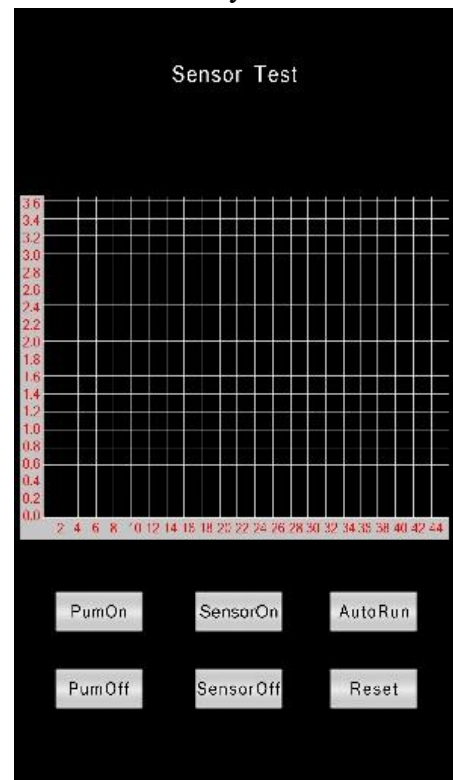
4. Exit: return to previous menu.
5. Deleting all records needs to input user password.
6. When the memory reaches its capacity limit: The warning message shows on the display” Memory Full”. In this case delete the records by entering user password on the record screen or plugging them to a computer to download the records or delete the records.
7. The said displays are shown in the following photos



10.5 Sensor Test:



Press “Sensor Test” icon and enter the sensor test screen. Press “Auto” icon, then blow **alcohol Air** (about 0.10%BAC) into chamber through the blow tube for about six seconds and observe the sensor sensitivity & waveform as attached. If the curve is a straight line, it means the sensor already lost the sensitivity and needs to be changed with a new sensor.



AP338 User's Manual

11. System Setting:



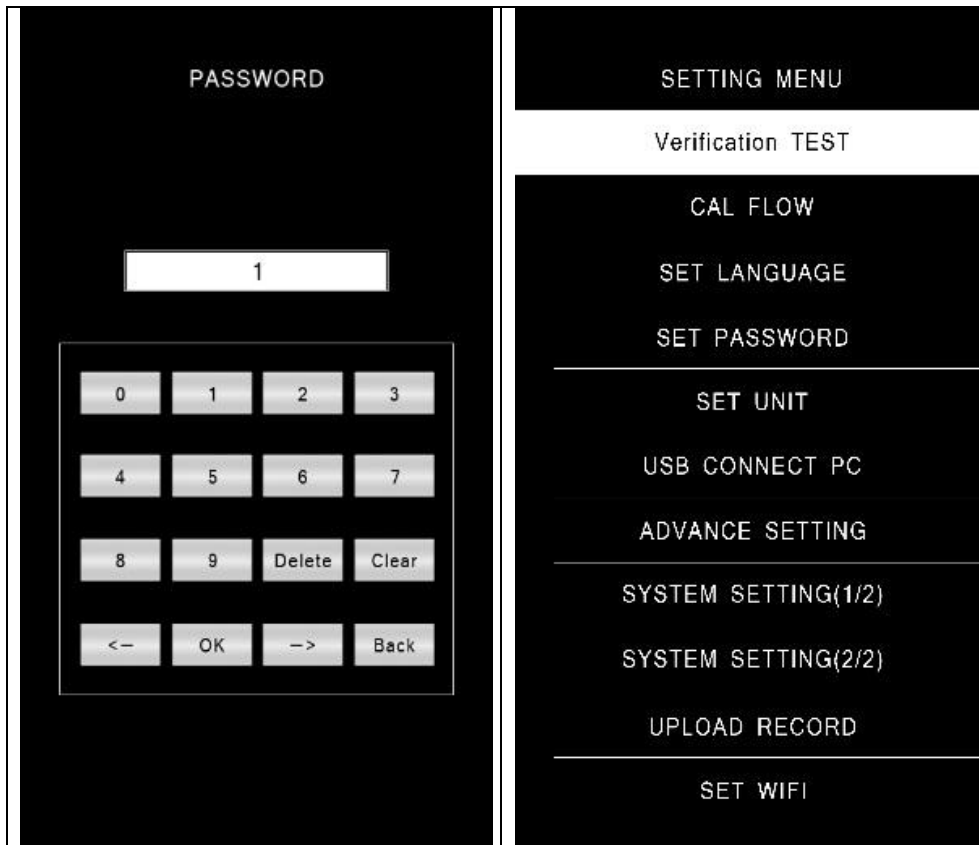
(Available for Service Center only)

Select the “Settings” menu, and enter the password

Note: The default password is nothing, only press the OK key to

Go to the system setting). The sub-menu will be shown as follows:

“Verification TEST”, “CAL Flow”, “SET LANGUAGE”, “SET PASSWORD”, “SETUNIT”, “USB CONNECT PC”, “Advance Setting”, as shown in the following photo.



Caution:

The calibration of the Device is done before shipping. If the user alters the setting parameters, it will override all calibration data.

Only AlcoPatrol authorized technicians are allowed to modify the calibration data.

① “Verification TEST”

This is the test for verification the accuracy for Lab Certification / Verification only.

② “CAL Flow”

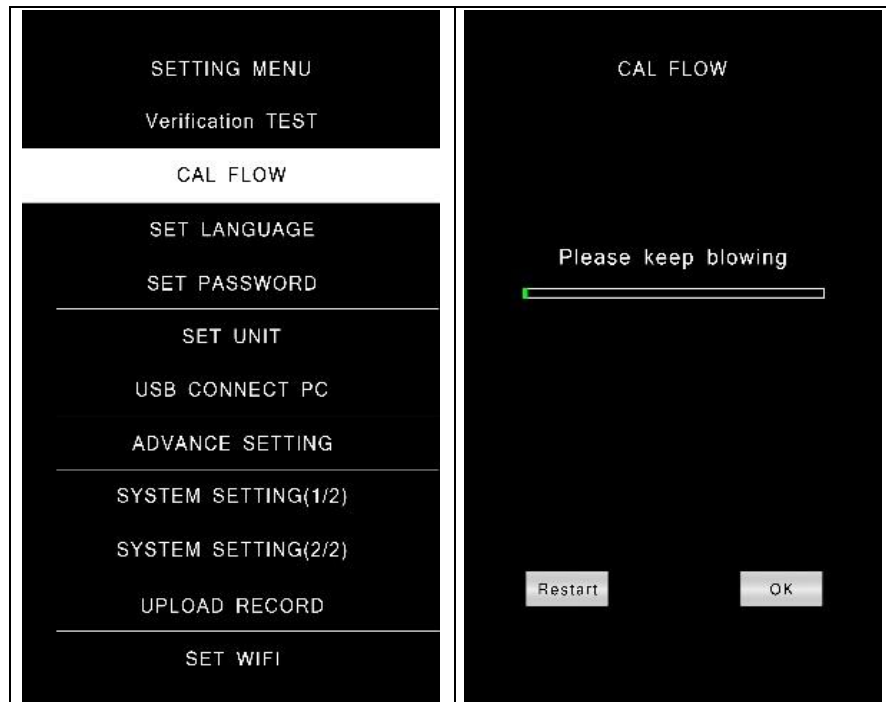
To calibrate the Device for breath flow/pressure proceed as follows.

Blow to the device with a flowrate of 9 Liter/minute for 6 seconds, while the Device has Long “beep” Sound.

A “beep beep” sound will be heard when the calibration is finished. In this case the screen shows flow data.

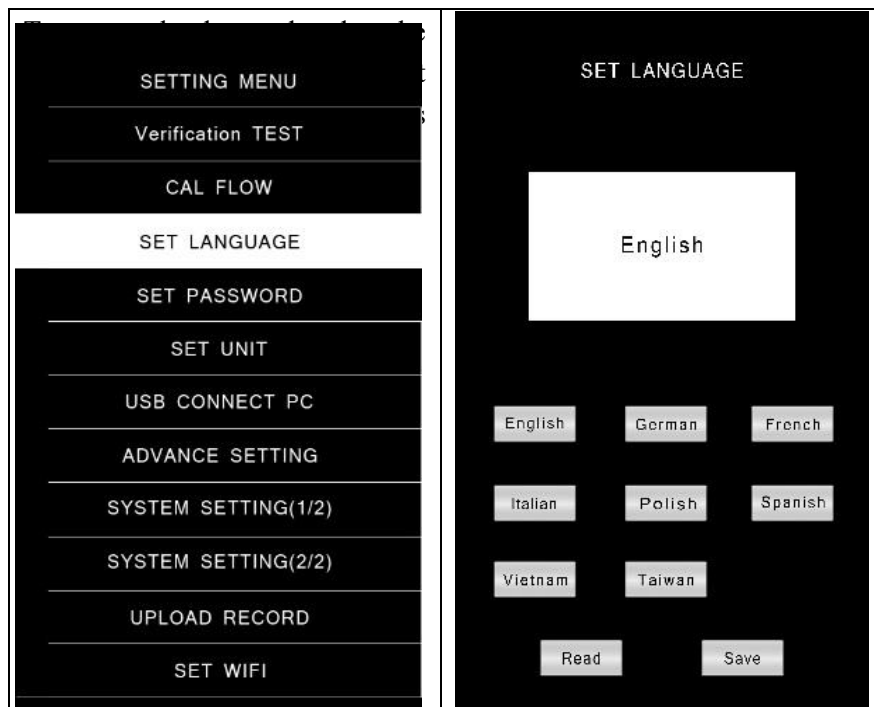
AP338 User's Manual

Press “Save” to save the date, or press “Restart” to try again. Or press “Return” icon to exit the flow calibration menu.



③ “SET LANGUAGE”

In this menu the users may select the language they want.

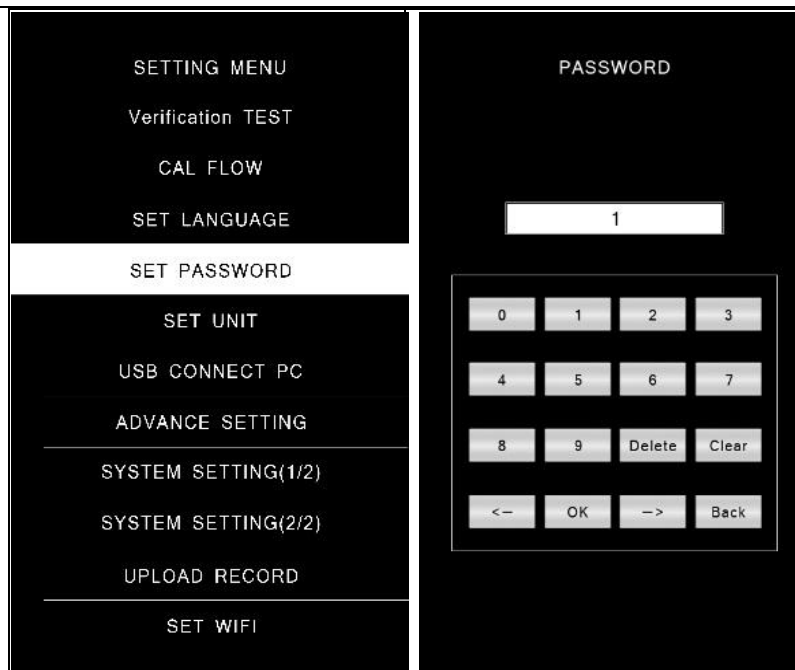


④ “SET PASSWORD”

No default user password is defined. Users can set their own passwords

If the password is forgotten, User may need to send the Device to the Service Center to re-set it.

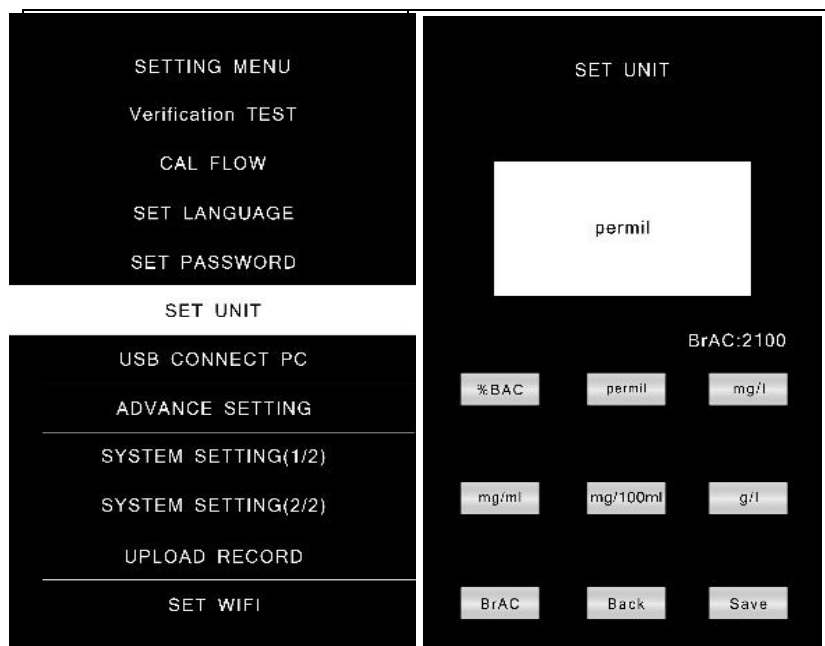
AP338 User's Manual



⑤ “Set Unit”

User can set the Device to Permillage (%BAC), Percentage (%BAC), mg/L, mg/ml, mg/100ml or g/l..

Note 1: To convert BAC to BrAC multiply it to 2100. Multipliers such as 2000, 2200 or 2300 are also accepted.

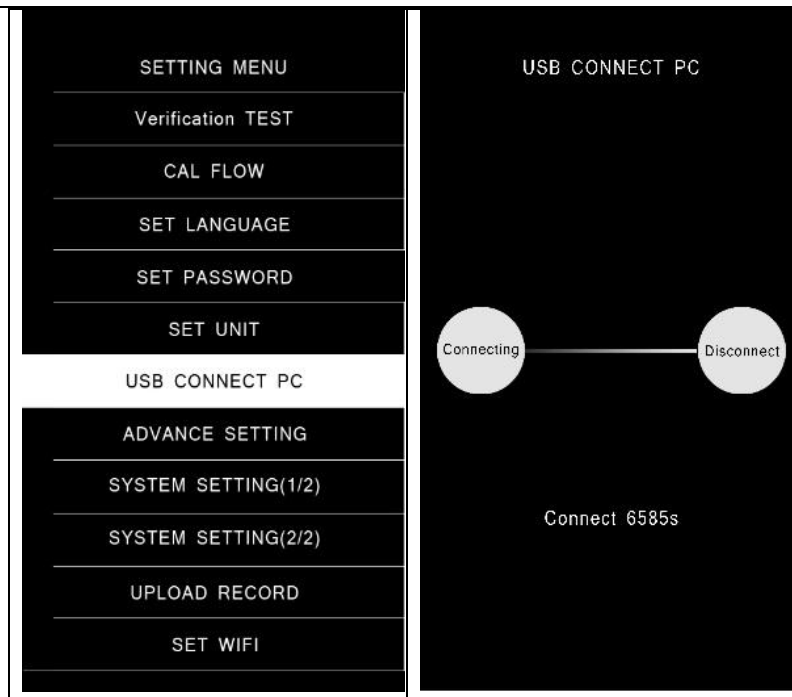


⑥ “USB CONNECT PC”

Users can download records and photos to the PC with PC software and USB cable. Read the PC manual for more details of downloading.

To protect the data, the device will reboot automatically when exiting this menu.

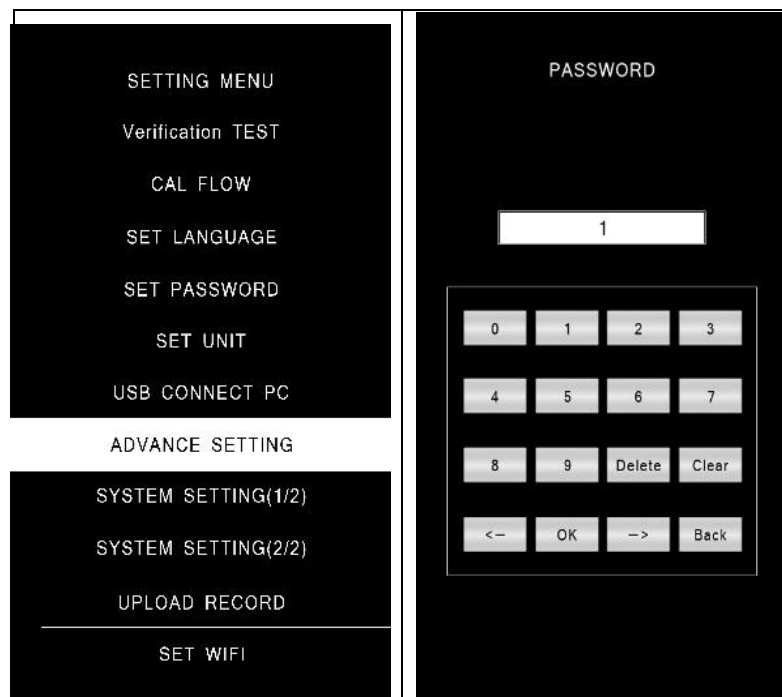
AP338 User's Manual



⑦ “Advance Setting”

For Authorized service center only (Super-user password is required)

Only allowed to perform this function by authorized service center



⑧ “UPLOAD RECORD”

Setting for connecting your Wi-Fi network, the record can automatically upload to the server. Users also can upload the selected records to the server manually.

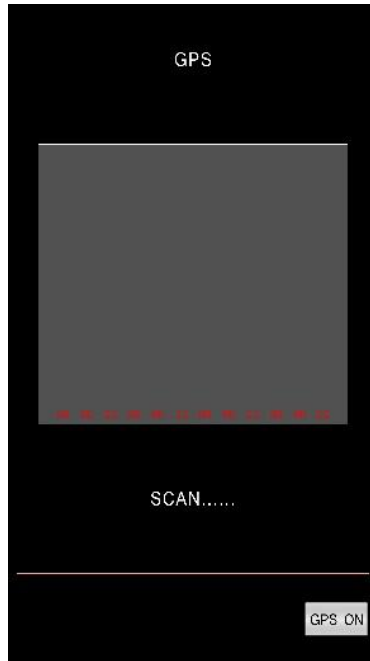
⑨ “SET WIFI”

Scan and connect to your Wi-Fi network.

12. GPS:



If user want the test result record with GPS coordinate position, please enter into the “ ”menu, to  the GPS position detection. After successful locating, then make the alcohol test with GPS record. See picture below for your reference.



Remarks:

1. The GPS Module will take about 5~20 minutes while the first time to use this function.
2. In the spacious places GPS position will take less time than in the places with dense buildings.

13. Time and Date:



Users can set the device date and time as described below.

1. Click the upper left corner setting icon to enter date and time setting interface.
2. Set new date and time
3. Press “OK” to save the setting. You may press “back” to exit without saving the new date and time setting.
4. Return to main menu by clicking the return icon at the upper right corner

14. System information:



15. Torch Light



Users may need flashlights in the darkness of the roads. Turn on the built in LED torch by pushing the ON/OFF button in front of the device.

16. Cleaning

To maintain the hygiene, functional safety, and measurement accuracy of your **AlcoPatrol**, follow these standardized procedures.

1. Cleaning the Device

- **Housing:** Use a soft, clean, lint-free cloth. You may lightly dampen the cloth with water or a mild, non-abrasive soap solution.
- **Avoid Submerging:** Never submerge the device in liquid. Ensure no moisture enters the breath air inlet, charging ports, or button crevices.
- **Disinfection:** If clinical disinfection is required, use a non-alcoholic disinfectant wipe. **Caution:** Ensure the device is completely dry and free of disinfectant vapors before performing any tests.

2. Hygiene Precautions

- **Mouthpieces:** For hygiene and technical reasons, always use a new, original AlcoPatrol mouthpiece for each test subject.
- **Safe Removal:** When removing the mouthpiece, avoid touching the side that has been in contact with the subject's mouth.

AP338 User's Manual

- **No Reuse:** Used mouthpieces must be disposed of immediately as sanitary waste.

3. Safety Instructions & Sensor Protection

ATTENTION: SENSOR SAFETY

- **NO Alcohol-Based Cleaners:** Do not use cleaning agents containing alcohol (ethanol), solvents, or surface sprays near the breath inlet. These substances can "poison" or damage the electrochemical sensor.
- **Subject Preparation:** The test subject must not have consumed alcohol, food, or dairy, or have smoked for at least **20 minutes** prior to the test. This prevents residual mouth alcohol from damaging the sensor or skewing results.
- **Hand Sanitizer Warning:** Do not use the device if your hands are wet with alcohol-based hand sanitizer, as the vapors can trigger a false positive or interfere with the sensor.

17. Maintenance

Repair/maintenance of the AP338 should only be carried out by trained technicians of authorized Device Service Centers.

Only genuine spare parts can be used for maintenance.

18. Calibration and Service:

Professional alcohol testers such as AP338 need to be recalibrated to ensure their consistent accuracy.

The Device remains accurate for 1 year of use after calibration. According to DIN 31051, Device needs to be calibrated once every 12 months to ensure its maximum accuracy. Calibration services of the Device are available through suppliers or by referring to the authorized Service Centers or just contacting with sales@aap.com.hk

Note: Some 'novelty' alcohol testers cannot be recalibrated, Users should be wary of the units that cannot be calibrated as their accuracy will be eventually compromised.

AP338 User's Manual

19. Technical Specifications

1. product description:	Law Enforcement Alcohol Tester with Electrochemical / Fuel Cell Sensor															
2. Built in thermal printer:	Heat transfer printer															
3. Display:	4.5 Inch iPS LCD display															
4. Input:	Touch Panel															
5. Quick and precise analysis:	Ensure a high sensitivity to alcohol and stable & reliable working life.															
6. Data download:	PC download via USB port.															
7. Mouthpiece:	Easy to replace a new mouthpiece by pressing a key, very convenient and hygiene.															
8. Power Supply:	Rechargeable 3.7 V Li-ion battery															
9. Pouwer Input:	USB type C, 5VDC, 1.0 A															
9. Heat warm up:	Chamber & Sensor warm up automatically															
10. Auto flow monitoring:	Flow detection automatically															
11. Unit setting:	mg/L, mg/100mL, %BAC, ‰BAC, mg/ml, g/l															
12. Display range:	0~0.9% BAC or 0~9.0‰BAC or 0~4.5mg/L or 0.0-900 mg/100ml (Note 1)															
13. Storage condition:	Temperature: -20 Degree C to +55 Degree C. Humidity: 30to 90% RH															
14. Operating Temperature:	From -20℃ to +45 ℃, (5℃ to +40 ℃ for optimum operation conditions)															
15. Memories:	Min. 150,000 tests with full information including Drive name, vehicle No., inspector name, test result with time stamp, date and time, location, instrument No., Calibration date, test No. etc....															
16. Measurement Accuracy: (Note2)	<table><tr><th>Concentration Range</th><th>Initial Accuracy Verification</th><th>Operation Accuracy</th></tr><tr><td>< 0,400 mg/L or 0,080 ‰BAC</td><td>0,020 mg/L or 0,004 ‰BAC</td><td>0,032 mg/L or 0,006 ‰BAC</td></tr><tr><td>(0,400 ~ 1,000) mg/L or (0,080 ~ 0,200) ‰BAC</td><td>5 % of the result</td><td>8 % of the result</td></tr><tr><td>(1,000 ~ 2,000) mg/L or (0,200 ~ 0,400) ‰BAC</td><td>10 % of the result</td><td>15% of the result</td></tr><tr><td>> 2,000 mg/L or 0,400 ‰BAC</td><td>20% of the result</td><td>30 % of the result</td></tr></table>	Concentration Range	Initial Accuracy Verification	Operation Accuracy	< 0,400 mg/L or 0,080 ‰BAC	0,020 mg/L or 0,004 ‰BAC	0,032 mg/L or 0,006 ‰BAC	(0,400 ~ 1,000) mg/L or (0,080 ~ 0,200) ‰BAC	5 % of the result	8 % of the result	(1,000 ~ 2,000) mg/L or (0,200 ~ 0,400) ‰BAC	10 % of the result	15% of the result	> 2,000 mg/L or 0,400 ‰BAC	20% of the result	30 % of the result
Concentration Range	Initial Accuracy Verification	Operation Accuracy														
< 0,400 mg/L or 0,080 ‰BAC	0,020 mg/L or 0,004 ‰BAC	0,032 mg/L or 0,006 ‰BAC														
(0,400 ~ 1,000) mg/L or (0,080 ~ 0,200) ‰BAC	5 % of the result	8 % of the result														
(1,000 ~ 2,000) mg/L or (0,200 ~ 0,400) ‰BAC	10 % of the result	15% of the result														
> 2,000 mg/L or 0,400 ‰BAC	20% of the result	30 % of the result														
17. Alert level setting:	Set “drunk driving” and “driving while intoxicated” by a supervisor password.															
18. CE marking:	Electromagnetic compatibility															
18. Standards	EN 15964, NHTSA, FDA regulations, depending on configuration The device meets the requirements of EN 15964. It can be configured in accordance with the requirements of the said standard.															
18. Size and weight:	Approx. 208*78*37mm/360g															
19. Calibration period:	12 months															

AP338 User's Manual

Note 1: Display value for the concentrations of 0.0 mg/L to 0.03 mg/L is 0.0 mg/L

Display value for the concentrations > 0.03 mg/L is the measured value

Note 2: Sensitivity drift is typically 0.5% of the measured value per month

Note 3: Technical specifications are subject to change.

Radio Equipment Compliance

Hereby, we declare that the radio equipment type AP338 is in compliance with Directive 2014/53/EU.

The full text of the EU Declaration of Conformity is available at the following internet address:

www.aap.com.hk/doc/AP338/

Frequency Bands and Maximum RF Power

Wi-Fi

- 2.4 GHz: 2412–2472 MHz, Max. output power: 17.86 dBm

Bluetooth

- 2402–2480 MHz, Max. output power: 9.31 dBm

GPS (Receive Only)

- 1575.42 MHz (GNSS)

RF Exposure Information

This equipment complies with EU radiation exposure limits for general public use.

The device is designed and manufactured to ensure safe use in close proximity to the human body.

Electromagnetic Compatibility

This equipment has been tested and complies with applicable EMC standards, including the EN 61000 series.

It is designed to operate without causing harmful interference to other devices.

20. Warranty

AP338 has a limited warranty as described below.

Limited Product Warranty

1. Warranty Period

- **Main Device:** AlcoPatrol warrants the hardware device against defects in materials and workmanship for a period of **twelve (12) months** from the date of original purchase.
- **Sensors:** Due to the high-precision nature of electrochemical sensors, the sensor is warranted for **six (6) months** from the date of purchase, provided the device is used according to the guidelines.
- **Repaired Components:** Any parts replaced or repaired under this warranty are covered for the remaining original warranty period or **ninety (90) days**, whichever is longer.

2. Scope of Coverage

This warranty covers:

- Mechanical or electronic failure resulting from manufacturing defects.
- Firmware malfunctions that prevent the device from operating as intended.
- Defective materials used in the construction of the device.

3. Exclusions (What is Not Covered)

This warranty does **not** apply to:

- **Consumables:** Mouthpieces, batteries, carry cases, or protective pouches.
- **Misuse & Abuse:** Damage caused by drops, liquid immersion, or exposure to fire/extreme heat.

AP338 User's Manual

- **Unauthorized Service:** Any device that has been opened, tampered with, or repaired by a non-authorized service center.
- **Lack of Maintenance:** Failure to calibrate the device at the recommended intervals (e.g., every 6 or 12 months) which results in sensor degradation or inaccurate readings.
- **Contamination:** Damage to the sensor caused by blowing prohibited substances (e.g., smoke, liquid, or pure alcohol) directly into the intake.

4. Warranty Claim Process

To obtain warranty service:

1. **Contact Support:** Provide your original proof of purchase and the device serial number.
2. **RMA Number:** Obtain a Return Material Authorization (RMA) number before shipping the unit.
3. **Shipping:** The customer is responsible for shipping costs to the service center.

5. Limitation of Liability

The remedies described above are your sole and exclusive remedies. AlcoPatrol shall not be liable for any incidental, indirect, or consequential damages, including but not limited to loss of use, loss of profit, or any legal liabilities arising from the use of the device.

Note 1: The Warranty shall be void if any of the following happens.

- AP338 screws are unscrewed or loosened
- Warranty label is damaged
- AP338 is serviced or repaired by unauthorized people.
- AP338 is serviced or repaired in service centers other than authorized ones
- A338 is used in a manner not conforming to its intended use or as described in the User's Manual.

Note 2: As many factors such as environmental gases residues present in the air, cigarette smoke and various residues in the human mouth, etc.... may affect the BAC level, the readings by the Device are for reference Only. Hence, neither the supplier nor manufacturer accept any liability arising from the use of the unit.

Note 3: As mentioned in section 6 of this manual, it is important to observe the recommended 15 minutes pause without consuming any alcohol, cigarettes or anything else before testing. Failure to do so may shorten the life of the sensor. In such cases, the sensor can be permanently damaged or may need more frequent calibration.

21. Disposal:



According to the Directive 2012/19/EU, AP338 must not be disposed of along with other domestic waste. The users must dispose of this equipment by bringing

AP338 User's Manual

it to a specific recycling point for electric and electronic equipment. For more information, please contact the national sales organizations GIMA and AlcoPatrol.



GIMA WARRANTY TERMS

The Gima 12-month standard B2B warranty applies.

P/N: 338-01029 Version EN 1.8