

# AlcoBoy

The ideal breathalyzer for personal use



- Electro-chemical fuel cell sensor for improved result accuracy
- Button-less operation, auto start-up & shutdown
- Packed with disposable one-way mouthpieces
- Rechargeable lithium-ion battery accommodates up to 200 tests
- LCD displays specific readings and alcohol warning
- Smallest fuel cell breathalyzer in the market
- Supports bluetooth data transfer, mobile equipment connection (tentative)



**ENVISEN**

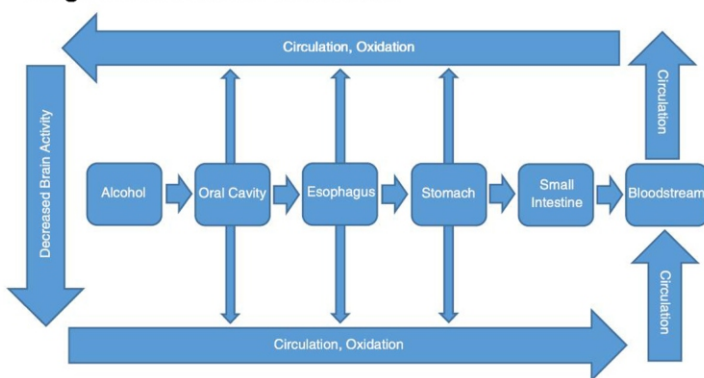
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## Difference between Electrochemical fuel cell sensor & Semiconductor sensor

| Characteristics                                  | Type | Electrochemical Fuel Cell Sensor   | Semiconductor Sensor  |
|--|------|--|---|
| Accuracy   |      | High   | Low   |
| Sensitivity to alcohol                           |      | High   | Low   |
| Response time                                    |      | Fast   | Slow  |
| Drive circuit                                    |      | Advanced   | Basic   |
| Field of application                             |      | Personal – evidential  | Personal  |
| Sensor cost                                      |      | Expensive  | Cheap (1/100 of fuel cell sensor)   |
| Reaction of other substances accompanying breath |      | No   | Yes   |
| Operating principle                              |      | Chemical Reaction: An electric current is produced due to the electric charges formed by mixing alcohol and the fuel cell. Alcohol concentration is derived by measuring the current output. | Physical reaction: The resistance of the sensor is altered when alcohol is absorbed. Changes in the conductivity rate converts the output signal corresponding to the alcohol gas concentration |



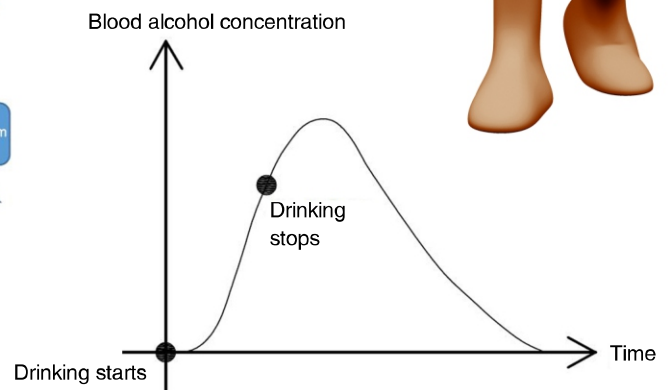
## Diagram of alcohol circulation



Things to note during test:

1. Use the breathalyzer 30 minutes after drinking for more accurate reading.
2. Blow at a steady pressure.
3. Device displays real-time alcohol concentration, so discrepancies are present when testing at different time intervals.
4. Re-calibration of device is needed after 1-year usage.

## Curve trend chart



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|                                | Specifications  |
|--------------------------------|---|
| Measuring mode                 | Active  |
| Measuring range                | 0.00–0.50mg/L (BrAC) or 0–120 mg/100 ml (BAC)   |
| Measuring accuracy             | BrAC: 0.00–0.20mg/L,+0.03mg/L; > 0.20mg/L, +20%.<br>BAC: 0–44mg/100mg,+6mg/100mg; > 44mg/100mg,+20% |
| Recovery time                  | <5s if the preceding test result is below 0.10mg/L  |
| Sensor type                    | Envisen type series electrochemical fuel cell   |
| Cross sensitivities            | Negligible for other substances, e.g. propanol and carbon monoxide                                  |
| On/Off mode                    | Remove cap to power On, replace cap to power Off after 2s   |
| Keypads/Buttons                | None  |
| Display                        | LCD display screen with alcohol alert (red) indicating NO DRIVING                                   |
| Audio buzzer & beeper          | Conforms to standards, emitting beeps indicating beginning and completion of test                   |
| Battery capacity               | 3.7V/320mAH Lithium ion battery   |
| Interface                      | Micro USB/5V/1A   |
| Number of test per full charge | Approx. 200 times, depending on ambient factors   |
| (L x W x H) Dimension          | 119.5 x 26 x 14 mm  |
| Weight                         | Approx. 42g (Device)  |
| Operating temperature          | 10°C ~ 40°C   |
| Storage temperature            | -20°C ~ +70°C ( Preferred temperature: 25 Deg celsius )   |
| Operating pressure             | 600 ~ 1400 hPa  |
| Operating humidity             | 5% ~ 98%  |