lion alcolmeter® 500

A breath-alcohol instrument for field use - anywhere!
...fast...simple...accurate!

Instrument Features

Simple to use: the lion alcolmeter® 500 is fully automatic. This means it’s very simple to use, so training requirements are minimal.

Fast, accurate analysis: using the lion fuel cell sensor. This ensures high specificity to alcohol, and a long stable working life.

Easy to read display: alcohol readings are shown on a large, illuminated graphics display.

Last test recall: the result of the last breath test can be recalled at any time.

True evidential capability: the lion alcolmeter® 500 may be used for fast subject screening. However depending on the user’s criteria, it may also be suitable for evidential analysis.

Calibration: simple, software controlled procedure, by means of a hidden push-button sequence, with optional pin-code protection.

Ergonomic design: the 500 is comfortable to hold, and is genuinely pocket size.

Low power consumption: the 500 is energy efficient: just two AA cells give around 1000 breath tests.

Simple, low cost mouthpiece: so low cost per test! In fact, the 500 uses the same pressure mouthpieces as the S-D2: these are supplied individually and hygienically wrapped.
Simple Operating Procedure

1. **Switch On:** Automatic Self Check
2. **Attach mouthpiece:** Instruct the subject
3. **The subject blows**
4. **Note alcohol reading**

Advanced Specifications

**Accuracy:** ± .005%BAC below 0.100%BAC, ±5% of reading above 0.100%BAC

**Analytical principle:** Electrochemical Fuel Cell (Micro). Alcohol specific - unaffected by acetone, hydrocarbons, non-alcoholic food and drug vapours, and all other likely breath contaminants.

**Measuring Range:** 0.02 to 2.00mg/litre; 0.000 to 0.400%BAC [g/210 litres]. An over-range indication is given at higher levels.

**Breath Sampling:** the 500 automatically samples deep lung air. An optional Manual override feature may also be used, if required.

**Analytical response time:** normally within 30 seconds, but within 5 seconds at the ‘zero’ alcohol level.

**Ready Time:** Less than 10 seconds

**Response Time:** Less than 4 seconds for 0.000%BAC and less than 15 seconds on positive readings

**Recovery time:** approximately 100 seconds at 0.50mg/l.

**Operating Temperature [Optimum]:** -5 to +50°C.

**Storage temperature:** -20 to +65°C.

**Power supply:** two AA cells provide sufficient power for around 1000 breath tests. Two stage low power warning system.

**Humidity:** 10 to 95%, non-condensing.

**Barometric pressure:** 600 to 1,300hPa.

**Calibration:** recommended every 6 months, using a wet-bath simulator. Automatic, security-protected procedure.

**Display:** LCD graphics, dimensions 45mm x 21mm, 128 x 64 pixels, with backlighting.

**Audible Beeper:** gives auxiliary warning messages.

**Microcontroller:** H8/3687.

**Memory:** the last test is stored in memory, for later recall if required.

**Warm-up time:** the instrument is not heated, so there is no warm-up time - at any ambient temperature.

**Disposable mouthpiece:** simple disposable ‘pressure’ tube, the same as used with the S-D2.

**RFI Certification:** exceeds requirements of EN 50081-1 : 1992 (emission) and EN 50082-1 : 1997 (immunity)

**Vibration and shock:** meets IEC 68-2-27 Part 2.1 Test EA: and IEC 68-2-6 Part 2.1 Test FC.

**Case construction:** impact resistant ABS.

**Software configuration:** various software settings may be configured by Lion or the local Distributor using an external PC and Config-500, such as:
- alcohol units
- blood:breath ratio
- auto-off time
- breath discard volume

**Dimensions:** 125mm x 65mm x 30mm.

**Weight:** approximately 160g, including batteries.

Disposable and Accessory Items

**Disposable mouthpieces:** individually wrapped.

**User handbook:** covers all aspects of operation.

**Service manual:** for authorised personnel only.

**Protective pouch:** in either grey or yellow leather.

**Wet-bath simulator:** for calibration procedures.

Ordering Information

The lion alcolmeter® 500 is supplied as a complete delivery unit, each unit consisting of the following items:

- instrument
- wrist-strap
- user handbook
- 4 mouthpieces

- ‘Alcohol in the Human Body’ book

The lion alcolmeter® 500 is certified to Australian Standard AS3547 by Benchmark Product Certification Services.