



Australian Government
**Department of Industry, Science,
Energy and Resources**

National Measurement Institute

36 Bradfield Road, West Lindfield NSW 2070

Certificate of Approval NMI 16/1/1

Issued by the Chief Metrologist under Regulation 60
of the
National Measurement Regulations 1999

This is to certify that an approval for use legal measuring instrument has been granted in respect of the instruments herein described.

Lion Model lion intoxilyzer[®] 8000 Portable Evidential Breath Analyser

submitted by Pacific Data Marketing Pty Ltd
T/A Lion Breathalysers Australia
(formerly Pacific Data Systems Pty Ltd)
15 Dawes Avenue
Linden NSW 2778.

NOTE: This Certificate relates to the suitability of the pattern of the instrument for use as a legal measuring instrument only in respect of its metrological characteristics. This Certificate does not constitute or imply any guarantee of compliance by the manufacturer or any other person with any requirements regarding safety.

This approval has been granted with reference to document NMI R 126 *Pattern Approval Specifications for Evidential Breath Analysers*, dated June 2013.

This approval is subject to review at the decision of the Chief Metrologist in accordance with the conditions specified in the document NMI P 106.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern approved – interim certificate issued	20/09/05
1	Pattern approved – certificate issued	28/04/06
2	Pattern amended (interfaces) – notification of change issued	30/06/06
3	Pattern amended (software versions) – notification of change issued	10/05/07
4	Pattern amended (software versions) – notification of change issued	25/03/08
5	Pattern amended (software versions) – notification of change issued	31/05/10
6	Pattern amended (address), reviewed & updated – certificate issued	17/01/14

Document History (cont...)

Rev	Reason/Details	Date
7	Pattern amended (software versions, Table 1) – certificate issued	29/07/15
8	Pattern amended (software versions, Table 1) – certificate issued	11/04/16
9	Certificate amended (wording error), variant 1 approved – certificate issued	5/10/17
10	Pattern amended (submitter name & software versions, Table 1) & pattern and variant 1 reviewed – certificate issued	16/01/20
11	Pattern amended (software versions, Table 1) & review date removed – certificate issued	22/12/21
12	Pattern amended (software versions, Table 1) – certificate issued	09/06/22

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI 16/1/1' and only by persons authorised by the submittor.

It is the submittor's responsibility to ensure that all instruments marked with this approval number are constructed as described in the documentation lodged with the National Measurement Institute (NMI) and with the relevant Certificate of Approval and Technical Schedule. Failure to comply with this Condition may attract penalties under Section 19B of the National Measurement Act and may result in cancellation or withdrawal of the approval, in accordance with document NMI P 106.

Auxiliary devices used with this instrument shall comply with the requirements of General Supplementary Certificates No S1/0/A or No S1/0B.

Special

Instruments shall be calibrated at intervals not exceeding twelve (12) months.

Signed by a person authorised by the Chief Metrologist to exercise their powers under Regulation 60 of the *National Measurement Regulations 1999*.

Darryl Hines
Manager
Policy and Regulatory
Services

TECHNICAL SCHEDULE No 16/1/1

1. Description of Pattern

**approved on 20/09/05
amended on 16/01/20
amended on 22/12/21
amended on 09/06/22**

A Lion model lion intoxilyzer[®] 8000 portable evidential breath analyser (Figure 1) used to automatically determine the mass concentration of alcohol (#) in exhaled breath for evidential purposes. The instrument is portable and may be used in any location. It is approved for the measurement of the grams of alcohol in 210 litres of exhaled breath.

(#) For the purposes of this approval, all references to alcohol are taken to mean ethanol.

1.1 Field of Operation

The field of operation of the measuring system is determined by the following characteristics:

- Measurement range 0 – 0.500 g/210 L
- Unit of measurement 0.001 g/210 L
- Ambient temperature range 0 – 40 °C
- Power supply AC 90 – 264 V, 50 Hz
DC 12 V
- Storage temperature -10 – 70 °C

1.2 Power Supply

Power supply may be either:

- mains AC power (90 – 264 V AC, 50 Hz nominal); or
- a stable DC supply (12 V nominal), internal 12 V battery or remote 12 V battery, e.g. car battery.

1.3 Display Check

A display check is initiated whenever the device is powered-up.

1.4 Interfaces

The indicator may be fitted with interfaces as follows:

- One (1) RS232 and one (1) USB serial data interfaces for the connection of peripheral devices;
- A parallel port for the connection of a compatible Centronics printer; and
- An internal modem interface for the connection of a standard telephone line.

1.5 Software Versions

Instruments are fitted with Lion software 8000:xxx.yyy (#), in different versions as listed in Table 1 below, to meet state/territorial requirements.

The software version is displayed by pressing 'I' on the keyboard.

The firmware issue date is included in the Memory and Settings Report which may be accessed via the Supervisor or Laboratory menu.

TABLE 1 – Approved software versions

Series Number	xxx	yyy	Firmware Issue date	Region
8000	QLD	030	4/12/09	Queensland
8000	QLD	030	16/02/15	Queensland
8000	QLD	030	11/06/17	Queensland
8000	QLD	030	3/12/21	Queensland
8000	QLD	031	Any	Queensland
8000	SAPOL	01	Any	South Australia
8000	SAPOL	02	2/01/20	South Australia
8000	IND	030	8/12/10	Industrial
8000	NSW	030	19/07/13	New South Wales

(#) 'xxx' represents the region, while 'yyy' represents the software version.

Note: Version numbers must not vary from those listed above without prior approval of NMI.

1.6 Sealing Provision

- (a) Access to the setup parameters including calibration is protected by a password.

Evidence of unauthorised alteration of the calibration can be obtained from two non-resettable calibration event counters, one for the alcohol measurement (optical) system and the other for the flow system.

These counters increment each time the calibration parameters for the respective system are altered.

The values of these calibration event numbers may be accessed by pressing 'V' on the keyboard, which causes the following to be displayed:

Cal. Seal number:

Opt = 0001 Flow = 0001

where 'Opt' indicates alcohol measurement (optical) calibration; and 'Flow' indicates flow system calibration.

The values of the calibration event counters at the time of certification should be recorded on a certification mark label attached to the instrument.

Any subsequent alteration to the calibration will be evident as the recorded values and the current calibration counter values will differ.

- (b) Provision is made for sealing the calibration adjustment after each calibration, by setting the Calibration Lockout function to be not greater than 12 months from the date of calibration.

1.7 Certification Provision

Provision is made for the application of a certification mark.

1.8 Descriptive Markings and Notices

Instruments carry the following markings, on one or more nameplates:

Manufacturer's mark, or name written in full	Pacific Data Marketing Pty Ltd #1
Pattern approval number for the instrument	NMI 16/1/1
Serial number of the instrument
Measurement range	0 – 0.500 g/210 L
Unit of measurement	0.001 g/210 L
Ambient temperature range	0 – 40 °C
Power supply:	90 – 264 V AC, 50 Hz 12 V DC
Warm-up (< 30 minutes)
Calibration interval	1 year

#1 'Pacific Data Marketing Pty Ltd' may also be shown as 'Pacific Data Systems Pty Ltd' or 'Lion Breathalysers Australia'.

2. Description of of Variant 1

approved on 28/09/17

A Lion model lion intoxilyzer[®] 8000 portable evidential breath analyser which is similar to the pattern but has a different integral printer.

TEST PROCEDURE No 16/1/1

Instruments shall comply with the requirements of, and should be tested in accordance with any relevant tests specified in, document NMI R 126 *Pattern Approval Specifications for Evidential Breath Analysers*, dated June 2013.

In addition, check the software version number. The version number is displayed by pressing 'I' on the keyboard.

Maximum Permissible Errors at Certification

The maximum permissible errors for evidential breath analysers are:

(i) **at initial verification:**

±0.004 g/210 L for all mass concentrations of alcohol < 0.080 g/210 L;

±5% of the measured concentration of alcohol for all mass concentrations of alcohol ≥ 0.080 and ≤ 0.400 g/210 L; and

±20% of the measured concentration of alcohol for all mass concentrations of alcohol > 0.400 g/210 L.

(ii) **in service:**

±0.006 g/210 L for all mass concentrations of alcohol < 0.080 g/210 L;

±8% of the measured concentration of alcohol for all mass concentrations of alcohol ≥ 0.080 and ≤ 0.400 g/210 L; and

±30% of the measured concentration of alcohol for all mass concentrations of alcohol > 0.400 g/210 L.

FIGURE 16/1/1 – 1



Lion Model lion intoxilyzer® 8000 Portable Evidential Breath Analyser

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