New Zealand POLICE
Nga Pirihimana O Aotearoa

733 calibration laboratory

8 December 2014

Honourable Michael Woodhouse
Minister of Police

Technical testing of Dräger 7510NZ breath testing device

New Zealand Police has an International Standards Organisation (ISO) 17025 accredited laboratory operated by Police Calibration Services. Police employ experienced technical staff to run the laboratory and it has over 20 years experience in speed camera testing and calibration.

The New Zealand Police Calibration Service (PCS) conducted an extensive array of functional, environmental and accuracy tests on the Dräger 7510NZ as part of the tender process. The purpose of these tests was to determine if the device is suitable to be gazetted as approved breath testing equipment, pursuant to the Land Transport Act 1998. This testing ensures that Police and the Crown are not exposed to any risk associated with unreliable or inaccurate equipment.

A summary of the initial testing conducted and the results, are attached in Appendix I.

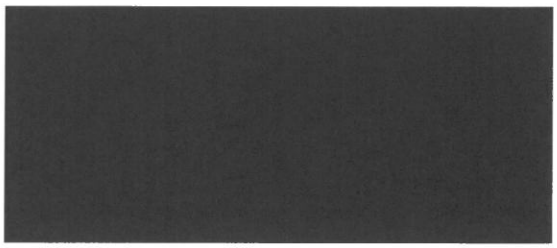
PCS technical staff devised extensive functional, environmental, and accuracy tests, to cover all likely situations the device may operate in. Hundreds of tests were conducted on this device. During these tests the device operated correctly and did not produce any erroneous readings.

The Dräger 7510NZ therefore does not expose the New Zealand Police, the Crown, or any Minister to the risk of approving equipment that was not accurate and reliable in its gathering of evidence, and as such is accurate for Court.

This device now complies with all the New Zealand Police requirements, and I can see no reason to prevent it being introduced for use by New Zealand Police.

Safer Communities Together
CALIBRATION SERVICES
32 Glover Street, Ngauranga Gorge, PO Box 3017, Wellington
Phone: 64-4-494 9043 Fax: 64-4-494 9042

I, [redacted] Manager, Police Calibration Services, believing that the breath testing equipment tested is accurate and reliable, therefore recommend to you, as Minister of Police that the Dräger 7510NZ be approved as a kind of evidential breath testing device for the purposes of evidential breath testing under the Land Transport Act 1998.



Manager: Crash Investigation and Calibration Services

Appendix I

Laboratory Testing Report on the Dräger 7510NZ

The majority of the NZ Police tender requirements for a replacement evidential breath alcohol device (relating to accuracy, metrological requirements and controls, technical requirements and test methods), were met by all devices tendered. A prerequisite contained in the tender was that each device tendered must meet either:

1. the Australian National Measurement Institute *NMI R 126 Pattern Approval Specifications for Evidential Breath Analysers;* or
2. the Organisation Internationale de Métrologie Légale (OIML) R126 standards.

OIML is a worldwide, intergovernmental organisation whose primary aim is to harmonise the regulations and metrological controls applied by the national metrological services, or related organisations of its Member States. New Zealand is a Member State.

The Dräger 7510 evidential breath alcohol device has been assessed by PTB (Physikalisch – Technische Bundesanstalt) Member State of OIML, Germany and meets all the OIML R126 requirements.

In addition, New Zealand Police Calibration Services conducted the following tests on the Dräger 7510NZ. The laboratory tests were conducted at the Police Calibration Services Laboratory at 32 Glover Street, Ngauranga, Wellington.

Summary of laboratory testing

The tests conducted in the Police Calibration Services Laboratory included:

Software testing

The software evaluation checks showed that:

a. the breath test result is printed in a text box;
b. every result shows either "Evidential Breath Test" or "Incomplete Test";
c. every numerical result is displayed in 4 figures;
d. every result is in micrograms per litre;
e. this device allows space for the operator's data, the location of the test, and the subject's details, to be entered;
f. the device does internal self checks before and after each testing sequence;
g. the testing sequence is in the form required for NZ Police;
h. The result printout of each breath test displays the time of *every* attempt to blow, not just the satisfactory breath samples. This is very useful in court when questions are raised over the length of time between the start and finish of the EBA process. The result

printout shows the time of all the breath sample attempts the subject has made.

Accuracy testing

Passive, screening and evidential testing was done at 5°, 22° and 40°C using tandem CU34 simulators and appropriate known reference standards at 15L/minute. The device performed accurately for all tests.

Radio interference

The device was subjected to high level electromagnetic energy radiated within 2 metres of the device between frequency ranges of 10 MHz and 1000 MHz. This was to ensure that a radiotelephone or cell phone operated near the device will not cause interruption of the breath analysis process.

The Dräger Alcotest 7510 tested acceptable (very low) RFI levels across all bands used by Police.

Time

Time was recognised and recorded by the breath testing device, and compared with Fluke 910R Rubidium atomic clock annually calibrated by the Measurement Standards Laboratory of New Zealand, over a period of 8 days.

The time difference between the unit and atomic clock from commencement to after 8 days, equalled ±5 seconds. The date and time are displayed on every screen of the breath testing process on this device, and on the result printout. This is an acceptable result.

Power testing

The device continued to operate and function in the normal manner as specified by the manufacturer until the battery was virtually flat. A low battery symbol started flashing on the start-up screen to warn the operator when battery power was getting low.

Vibration testing

The device was subjected to vibration testing for 24 hours at a rate of 10Hz horizontal shift, simulating road vibration from motor vehicles.

The device continued to operate and function in the normal manner as specified by the manufacturer during all tests after the conclusion of the vibration testing.

Impact testing

The device was dropped from the roof height of a police patrol vehicle (approximately shoulder height) onto the roadway, to simulate a common occurrence in operational settings. The device was switched on after the test, and continued to function correctly.

Training

This device was also tested by 4 operational police officers to determine how easy it would be to train officers to use the device. Each operator was given

minimal instructions on how to operate each device. Overall they commented that it was easy to operate.

The Dräger 7510NZ did not have any erroneous results and operated correctly during the real life simulation.

General and traceability

The name, model and serial number were clearly and correctly represented on all screen displays of the device, on all printouts generated by tests taken using the device, and on the label affixed to the device.

Members conducting laboratory tests

[redacted]

Police Calibration Services

Conducted laboratory tests in the presence of Ross Gainsford

Signed: [redacted]

Date: 8 December 2014

[redacted]

Technical Breath Alcohol Consultant

Conducted laboratory tests in the presence of [redacted]

Signed: [redacted]

Date: 8 December 2014

[redacted]

Manager: Crash Investigation and Calibration Services

Overviewed all laboratory testing and reviewed all tests and results

Signed:

Date: 8 December 2014