



Breath alcohol testing devices



AS 3547:2019

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- Australian Industry Group
- Civil Aviation Safety Authority
- Consumers Federation of Australia
- National Association of Testing Authorities Australia
- National Measurement Institute
- NSW Police Force
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- Transport Certification Australia
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Preface

This Standard was prepared by Standards Australia Committee CS-077, to supersede AS 3547—1997, *Breath alcohol testing devices for personal use*.

AS 3547—1997 will also remain current for 18 months after the date of publication of this Standard and after this time it will be superseded by AS 3547:2019. Regulatory authorities that reference this Standard in regulation may apply these requirements at a different time. Users of this Standard should consult with these authorities to confirm their requirements.

The objective of this Standard is to specify requirements for the performance, testing and marking of breath alcohol testing devices for uses such as, but not limited to, personal, workplace and medical screening purposes.

The type classifications from the previous edition have remained, with the exception of Type 1 single-use devices which has been removed.

The requirements for a passive testing device are not covered by this Standard, as there are large variants on what may be considered the measured sample and its relation to the subject's breath alcohol concentration. Devices which conform with this Standard may also possess the function for passive testing.

Table A.1 of AS 3547—1997 was based on a blood to breath ratio of 2300:1. However, to be compliant with law enforcement of breath alcohol across Australia and legal units of measurement defined in the National Measurement Regulations, measurement units of grams of alcohol in 210 L of breath (g/210 L) have been used in this Standard.

The terms “normative” and “informative” are used in Standards to define the application of the appendices to which they apply. A “normative” appendix is an integral part of a Standard, whereas an “informative” appendix is only for information and guidance.

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Introduction

The committee was aware that recalibration of electronic breath testing devices at regular intervals is vital if accurate results are to be obtained. Provision of recalibration facilities to the general public at a reasonable price, should, in the opinion of the committee, be a prerequisite for the sale of electronic breath alcohol devices. Such a requirement could not be included in an Australian Standard product specification, and it is therefore only included as a recommendation for consideration by the appropriate regulatory authorities and by the suppliers of these devices. Informative sections on the periodic verification and calibration methods have been included as guidance.

While the committee acknowledges the use of passive testing, which is a qualitative, non-contact test, it is outside the scope of this Standard.

Requirements specified for Type 4 breath alcohol testing devices, such as those which are fitted to motor vehicles or machinery relate only to the performance and accuracy of these devices in measuring the alcohol content of expired air and in providing an appropriate output signal to the circuitry which interacts with the vehicle or machine.

Requirements are not included for systems which are designed to ensure that only the driver's or operator's breath is measured and no other source of air is introduced into the device. The means by which these devices interact with motor vehicles or machinery to inhibit their use are also not specified. In both instances these functions were considered to be beyond the scope of this Standard.

A Standard covering personal and single-use devices is anticipated at a future time.

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Breath alcohol testing devices

Section 1 Scope and general

1.1 Scope

This Standard specifies requirements for the performance, testing and marking of breath alcohol testing devices for uses such as, but not limited to, personal, workplace and medical screening purposes.

This Standard excludes those devices used by the police, or for, evidential or mandatory interlock purposes.

NOTE 1 [Section 4](#) and [Appendix A](#) and [Appendix B](#) cover recommended methods of calibration for these devices.

NOTE 2 NMI R 126 applies to evidential breath analysers (EBAs) devices used for the measurement of alcohol in the breath, usable for evidential purposes, see Bibliography.

1.2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. Nominally, the latest edition of the reference document (including any amendments) applies:

NOTE Documents for informative purposes are listed in the Bibliography.

AS 60068.2.1, *Environmental testing, Part 2.1: Tests — Tests A: Cold*

AS 60068.2.2, *Environmental testing, Part 2.2: Tests — Tests B: Dry heat*

AS 60068.2.6, *Environmental testing, Part 2.6: Tests — Test Fc: Vibration (sinusoidal)*

AS 60068.2.30, *Environmental testing, Part 2.30: Tests — Tests Db and guidance: Damp heat, cyclic (12 + 12-hour cycle)*

AS 60068.2.32, *Environmental testing, Part 2.32: Tests — Tests Ed: Free fall*

AS 60068.2.78, *Environmental testing, Part 2.78: Tests — Tests Cab: Damp heat, steady state*

AS/NZS IEC 61000.4.2, *Electromagnetic compatibility (EMC), Part 4.2: Testing and measurement techniques — Electrostatic discharge immunity test*

AS/NZS IEC 61000.4.3, *Electromagnetic compatibility (EMC), Part 4.3: Testing and measurement techniques — Radiated, radio-frequency, electromagnetic field immunity test*

AS ISO 17034, *General requirements for the competence of reference material producers*

AS ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories*

NZS 3100, *Approval and test specification — General requirements for electrical equipment*

ISO/IEC Guide 99, *International vocabulary of metrology — Basic and general concepts and associated terms (VIM)*

1.3 Terms and definitions

For the purpose of this Standard, the following terms and definitions apply.