



Breath alcohol testing devices



AS 3547:2019

This Australian Standard® was prepared by CS-077, Breath Alcohol Testing Devices. It was approved on behalf of the Council of Standards Australia on 14 June 2019.

This Standard was published on 28 June 2019.

The following are represented on Committee CS-077:

- Association of Accredited Certification Bodies
- Australian Chamber of Commerce and Industry
- Australian Council of Trade Unions
- Australian Industry Group
- Civil Aviation Safety Authority
- Consumers Federation of Australia
- National Association of Testing Authorities Australia
- National Measurement Institute
- NSW Police Force
- Royal College of Pathologists of Australasia
- Transport Certification Australia
- Victoria Police
- WA Police
- Workplace Drug Testing Association

This Standard was issued in draft form for comment as DR AS 3547:2019.

Keeping Standards up-to-date

Ensure you have the latest versions of our publications and keep up-to-date about Amendments, Rulings, Withdrawals, and new projects by visiting:

www.standards.org.au

ISBN 978 1 76072 523 5



Breath alcohol testing devices

Originated as AS 3547—1988.
Previous edition 1997.
Fourth edition 2019.

COPYRIGHT

© Standards Australia Limited 2019

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968 (Cth).

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will also remain current for 18 months after the date of publication of this Standard and after this time it will be superseded by AS 3547:2019.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.

Contents

Preface	ii
Introduction	v
Section 1 Scope and general	1
1.1 Scope	1
1.2 Normative references	1
1.3 Terms and definitions	1
Section 2 Product specifications	4
2.1 Units of measurement	4
2.2 Sample requirements	4
2.2.1 Minimum volume	4
2.2.2 Continuity of sample	4
2.2.3 Flow rate	4
2.2.4 Maximum pressure required	4
2.3 Presentation of results	4
2.3.1 Number of digits	4
2.3.2 Units	4
2.3.3 Display time	4
2.4 Metrological requirements	5
2.4.1 Traceability	5
2.4.2 Range	5
2.4.3 Maximum permissible errors (MPEs)	5
2.4.4 Presentation of results	5
2.4.5 Frequency and recovery times	5
2.4.6 Memory affect	5
2.5 Physical requirements	5
2.5.1 Power source	5
2.5.2 Electrical safety for Type 3 devices	6
2.5.3 Environmental conditions	6
2.5.4 Interlocking function for Type 4 devices	6
2.5.5 Hygiene functions	6
2.5.6 Electrical disturbances	6
2.5.7 Shock and vibration	6
2.5.8 Data storage	7
2.5.9 Interfering substances	7
2.6 Information and markings	7
2.6.1 Information	7
2.6.2 Marking	7
2.7 Calibration requirements	8
Section 3 Product testing	9
3.1 General	9
3.2 Sample requirements	9
3.2.1 Minimum volume	9
3.2.2 Continuity of flow	9
3.2.3 Flow rate	9
3.2.4 Maximum pressure required	9
3.3 Metrological requirements	9
3.3.1 Traceability	9
3.3.2 Range	10
3.3.3 Accuracy	10
3.3.4 Presentation of results	10
3.3.5 Recovery times	10
3.3.6 Memory effect	11
3.4 Physical requirements	11

3.4.1	Power source.....	11
3.4.2	Electrical safety of Type 3 devices.....	11
3.4.3	Environmental conditions.....	11
3.4.4	Interlock functions.....	12
3.4.5	Hygiene functions.....	12
3.4.6	Electrical disturbances.....	12
3.4.7	Shock and vibration.....	13
3.4.8	Data storage.....	13
3.4.9	Interfering substances.....	13
Section 4	Periodic calibration.....	15
4.1	Calibration during use.....	15
4.2	Calibration method.....	15
4.2.1	General.....	15
4.2.2	Test records.....	16
4.2.3	Test certificate.....	16
4.2.4	Label.....	17
4.3	Calibration system.....	17
Appendix A	(informative) Test method for breath alcohol testing devices using simulated expired air (wet bath).....	18
Appendix B	(informative) Test method for breath alcohol testing devices using dry gas.....	21
Bibliography	24

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.

NOTES

This is a free 8 page sample. Access the full version online.

This is a free preview. Purchase the entire publication at the link below:

AS 3547 : 2019 : EN : COMBINED PDF

-
- ⊙ Looking for additional Standards? Visit SAI Global Infostore
 - ⊙ Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-

Need to speak with a Customer Service Representative - Contact Us