

AS/NZS 4024.1703:2014
EN 547-2:1996+A1:2008

AS/NZS 4024.1703:2014

Australian/New Zealand Standard™

Safety of machinery

Part 1703: Human body measurements—Principles for determining the dimensions required for access openings

AS/NZS 4024.1703:2014, Safety of machinery – Part 1703: Human body measurements—Principles for determining the dimensions required for access openings, is an identical adoption of EN 547-2:1996+A1:2008, Safety of machinery—Human body measurements - Part 2: Principles for determining the dimensions required for access openings, and is reproduced with the permission of CEN, Avenue Marnix 17, B-1000 Brussels, Belgium. All exploitation rights of the European Standards in any form and by any means are reserved world-wide to CEN and its National Members, and no reproduction may be undertaken without express permission in writing by CEN through Standards Australia Limited and/or Standards New Zealand.



AS/NZS 4024.1703:2014

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee SF-041, General Principles for the Guarding of Machinery. It was approved on behalf of the Council of Standards Australia on 5 June 2014 and on behalf of the Council of Standards New Zealand on 24 April 2014. This Standard was published on 30 June 2014.

The following are represented on Committee SF-041:

Australian Chamber of Commerce and Industry
Australian Industry Group
Australian Manufacturing Workers Union
Department of Mines and Petroleum, WA
Department of the Premier and Cabinet, SA
Engineers Australia
Federal Chamber of Automotive Industries
Human Factors and Ergonomics Society of Australia
Institute of Instrumentation, Control and Automation
National Safety Council of Australia
New Zealand Electrical Institute
NSW Department of Trade and Investment, Regional Infrastructure and Services
Safety Institute of Australia
University of Melbourne
Winery Engineering Association
WorkCover New South Wales
WorkSafe NZ
WorkSafe Victoria

Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about joint Australian/New Zealand Standards can be found by visiting the Standards Australia Web Site at www.standards.org.au or Standards New Zealand web site at www.standards.co.nz and looking up the relevant Standard in the on-line catalogue.

For more frequent listings or notification of revisions, amendments and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national Standards organization.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover.

This Standard was issued in draft form for comment as DR AS/NZS 4024.1703.

AS/NZS 4024.1703:2014

Australian/New Zealand Standard™

Safety of machinery

Part 1703: Human body measurements—Principles for determining the dimensions required for access openings

Originated in Australia as part of AS 4024.1(Int)—1992.
Previous edition AS 4024.1703—2006.
Jointly revised and designated as AS/NZS 4024.1703:2014.

COPYRIGHT

© Standards Australia Limited/Standards New Zealand
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 (Australia) or the Copyright Act 1994 (New Zealand).

ISBN 978 1 74342 747 7

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee SF-041, General Principles for the Guarding of Machinery, to supersede AS 4024.1703—2006, *Safety of machinery*, Part 1703: *Principles for determining the dimensions required for access openings*.

It is emphasized that this Standard is part of the AS/(NZS) 4024.1 series and it is imperative that it is used in conjunction with other applicable parts of the series. A complete listing of all current parts of the AS/(NZS) 4024.1 series can be found at the Standards Australia website <www.standards.org.au> and in AS/NZS 4024.1100, *Safety of machinery*, Part 1100: *Application Guide*.

The objective of this Standard is to specify the dimensions of openings for access as applied to machinery as defined in AS/NZS 4024.1201. It provides the dimensions to which the values given in AS 4024.1704 are applicable. Values for additional space requirements are given in Annex A. This Standard applies primarily to non-mobile machinery; there may be additional specific requirements for mobile machinery. It shows how to combine anthropometric data with suitable allowances to take into account body movements, clothing, equipment, machinery operating conditions or environmental conditions.

This Standard is identical with, and has been reproduced from EN 547-2:1996, *Safety of machinery—Human body measurements*, Part 2: *Principles for determining the dimensions required for access openings*, and its Amendment 1 (2008). The start and finish of text introduced or altered by amendment is indicated in the text by the tags **A1** and **A1**.

As this Standard is reproduced from an International Standard, the following applies:





- (a) In the source text ‘this European Standard’ should read ‘this Australian/New Zealand Standard’.
- (b) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

| <i>Reference to International Standard</i> | | <i>Australian/New Zealand Standard</i> | |
|--|---|--|--|
| EN | | AS/NZS | |
| 292 | Safety of machinery—Basic concepts, general principles for design | 4024 | Safety of machinery |
| 292-1 | Part 1: Basic terminology, methodology | 4024.1201 | Part 1201: General principles for design—Risk assessment and risk reduction |
| 294 | Safety of machinery—Safety distances to prevent danger zones being reached by the upper limbs | 4024.1801 | Part 1801: Safety distances to prevent danger zones being reached by upper and lower limbs |
| 547 | Safety of machinery—Human body measurements | | |
| 547-3 | Part 3: Anthropometric data | 4024.1701 | Part 1701: Human body measurements—Basic human body measurements for technological design |
| 614 | Safety of machinery—Ergonomic design principles | | |
| 614-1 | Part 1: Terminology and general principles | 4024.1401 | Part 1401: Ergonomic principles—Design principles—Terminology and general principles |

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the annex to which they apply. A ‘normative’ annex is an integral part of a Standard, whereas an ‘informative’ annex is only for information and guidance.

CONTENTS

| | |
|--|-----------|
| Introduction | 4 |
| 1 Scope | 4 |
| 2 Normative references | 4 |
| 3 General requirements..... | 5 |
| 4 Access openings | 5 |
| Annex A (normative) Application of the measurements in practice..... | 11 |
| A.0 Introduction | 11 |
| A.1 Principles for determining additional space | 11 |
| A.2 Additional space requirements for access openings | 12 |
| A.2.1 Access opening for the upper body and arms (see 4.1)..... | 12 |
| A.2.2 Access opening for the head up to the shoulders for inspection tasks (see 4.2) | 12 |
| A.2.3 Access opening for both arms (see 4.3) | 12 |
| A.2.4 Access opening for both lower arms up to elbow (see 4.4)..... | 12 |
| A.2.5 Access opening to the side for one arm up to shoulder joint (see 4.5) | 13 |
| A.2.6 Access opening for a lower arm up to the elbow (see 4.6) | 13 |
| A.2.7 Access opening for fist (see 4.7)..... | 13 |
| A.2.8 Access opening for flat hand to wrist, including thumb (see 4.8)..... | 13 |
| A.2.9 Access opening for flat hand (four fingers) to base of thumb (see 4.9) | 13 |
| A.2.10 Access opening for index finger, restricted by the other fingers (see 4.10) | 14 |
| A.2.11 Access opening for one foot to ankle bone (see 4.11) | 14 |
| A.2.12 Access opening for forefoot operated controls (see 4.12)..... | 14 |
| Annex B (informative) Position of access openings | 15 |
| B.1 This Annex gives information on the position of access openings to facilitate access for the intended user population. | 15 |
| B.2 Provision for adjustability | 15 |
| B.3 Conditions to be met with in location of access openings | 15 |
| B.3.1 Access opening for the upper body and arms (see 4.1)..... | 16 |
| B.3.2 Access opening for the head as far as the shoulders for inspection tasks (see 4.2) | 17 |
| B.3.3 Access opening for both arms (either forward or downward) (see 4.3) | 18 |
| B.3.4 Access opening for both lower arms up to the elbow, either forward or downward (see 4.4)..... | 19 |
| B.3.5 Opening for access to the side for one arm up to the shoulder joint (see 4.5)..... | 20 |
| B.3.6 Access opening for one lower arm up to the elbow (see 4.6)..... | 21 |
| B.3.7 Access opening for fist (see 4.7)..... | 22 |
| B.3.8 Access opening for flat hand to wrist, including thumb (see 4.8)..... | 22 |
| B.3.9 Access opening for flat hand (four fingers) to base of thumb (see 4.9) | 22 |
| B.3.10 Access opening for index finger, restricted by the other fingers (see 4.10) | 22 |
| B.3.11 Access opening for one foot to ankle bone (see 4.11) | 22 |
| B.3.12 Access opening for forefoot operated controls (see 4.12)..... | 22 |
| Annex C (informative) Notations for dimensions and anthropometric body measurements | 23 |
| Annex ZA (informative)  Relationship between this European Standard and the Essential Requirements of EU Directive 98/37/EC, amended by 98/79/EC  | 25 |
| Annex ZB (informative)  Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC  | 26 |
| Bibliography | 27 |

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

[Product Page](#)

-
- Looking for additional Standards? Visit Intertek Inform Infostore
 - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-