AS/NZS 4024.1704:2014

Australian/New Zealand Standard™

Safety of machinery

Part 1704: Human body measurements—Anthropometric data

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Australian Manufacturing Workers Union
Department of Mines and Petroleum, WA
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Engineers Australia
Federal Chamber of Automotive Industries
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Part 1704: Human body measurements—Anthropometric data

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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 4024.1704—2006.

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 current requirements for human body measurements (anthropometric data) that are required by AS/NZS 4024.1702 and AS/NZS 4024.1703 for the calculation of access opening dimensions as applied to machinery.

This Standard is identical with, and has been reproduced from EN 547-3:1996, *Safety of machinery—Human body measurements*, Part 3: *Anthropometric data*, and its Amendment 1 (2008). The start and finish of text introduced or altered by amendment is indicated in the text by tags ▌A1⟩ ⟨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:

Reference to International Standard		*Australian/New Zealand Standard*	
EN		AS/NZS	
547	Safety of machinery—Human body measurements	4024	Safety of machinery
547-1	Part 1: Principles for determining the dimensions required for openings for whole body access into machinery	4024.1702	Part 1702: Human body measurements—Principles for determining the dimensions required for openings for whole body access into machinery
547-2	Part 2: Principles for determining the dimensions required for access openings	4024.1703	Part 1703: Human body measurements—Principles for determining the dimensions required for access openings
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 term 'informative' has been used in this Standard to define the application of the annex to which it applies. An 'informative' annex is only for information and guidance.

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AUSTRALIAN/NEW ZEALAND STANDARD

Safety of machinery

Part 1704:
Human body measurements—Anthropometric data

Introduction

This European Standard is one of several ergonomics standards for the safety of machinery. EN 614-1 describes the principles designers should adopt in order to take account of ergonomic factors.

This standard has been prepared to be a harmonized standard in the sense of the Machinery Directive and associated EFTA regulations.

1 Scope

This European Standard specifies current requirements for human body measurements (anthropometric data) that are required by EN 547-1 and EN 547-2 for the calculation of access opening dimensions as applied to machinery.

The anthropometric data originate from static measurements of nude persons and do not take into account body movements, clothing, equipment, machinery operating conditions or environmental conditions.

The data are based on information from anthropometric surveys representative of population groups within Europe comprising at least three million people. Both men and women are taken into account.

Measurements are given, as required by EN 547-1 and EN 547-2, for the 5th, 95th and 99th percentiles of the relevant population group within Europe.

2 Normative references

This European standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 547-1, *Safety of Machinery – Human body measurements – Part 1: Principles for determining the dimensions required for openings for whole body access into machinery.*

EN 547-2, *Safety of Machinery - Human body measurements – Part 2: Principles for determining the dimensions required for access openings.*

prEN 979, *Basic list of definitions of human body measurements for technical design.*

EN 614-1, *Safety of Machinery - Ergonomic design principles – Part 1: Terminology and general principles.*

3 General requirements

Anthropometric measurements form the basis upon which minimum dimensions of access openings can be calculated. Where machinery requires access openings, then the provisions of EN 547-1 (for whole body access) and EN 547-2 (for access of parts of the body) shall be complied with.

Table 1 gives the human body measurements necessary to calculate the size of access openings taking account of the known range of body sizes within Europe.

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