AS 4024.1802—2006

Australian Standard™

Safety of machinery

Part 1802: Safety distances and safety gaps—Safety distances to prevent danger zones being reached by the lower limbs

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Australian Chamber of Commerce and Industry
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Department for Administration and Information Services, SA
Department of Consumer and Employment Protection, WorkSafe Division, WA
Department of Primary Industries, Mine Safety, NSW
Engineers Australia
Federal Chamber of Automotive Industries
Human Factors and Ergonomics Society of Australia
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National Electrical and Communications Association
National Safety Council of Australia
Office of the Australian Safety and Compensation Council
Safety Institute of Australia
The University of Melbourne
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Victorian WorkCover Authority

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PREFACE

This Standard was prepared by the Standards Australia Committee SF-041, General Principles for the Guarding of Machinery, as a revision (in part) of AS 4024.1—1996, *Safeguarding of machinery*, Part 1: *General principles*.

During its work, the Committee considered a number of Standards originating within the European Community in the field of safety of machinery. Many of these European Standards are being adopted virtually unchanged as International Standards by the International Organization for Standardization (ISO) and the Committee has agreed to continue to use material emanating from both CEN and ISO in this new edition. This action will maintain consistency with previous editions of AS 4024.1 and other machine-specific Australian Standards.

This edition has been published as a series rather than the single Standard previously published as AS 4024.1. In doing this, the Committee has cleared the way for simple revisions in the future. When a new edition of a relevant Standard becomes available at the international level, it will be adopted and published within the framework of AS 4024 with a minimum delay, so ensuring continued international alignment

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FOREWORD

In accordance with AS 4024.1201, machinery is said to be safe if it is probable that the machinery can perform its function, to be transported, installed, adjusted, maintained, dismantled and disposed of under the conditions of its intended use without causing injury or damaging human health.

One method of eliminating or reducing risks caused by machinery is to make use of safety distances preventing danger zones from being reached. This Standard specifies safety distances only for the lower limbs. Safety distances for the upper limbs are covered by AS 4024.1801.

Sometimes reasonably foreseeable reach situations can occur, e.g. while persons—

(a) try to use a foot to clean out discharge or feed openings; or

(b) operate foot-controlled machinery.

In specifying safety distances to prevent lower-limb access and distances to impede free access, a number of aspects have to be taken into consideration, such as—

(i) reach situations of the lower limbs occurring when machinery is being used;

(ii) reliable surveys of anthropometric data, taking into account ethnic groups likely to be found in the countries concerned;

(iii) biomechanical facts, such as compression and stretching of parts of the human body and limits of joint rotation; and

(iv) technical and practical aspects.

If these aspects were further developed, the current state of the art reflected in this Standard could be improved.

STANDARDS AUSTRALIA

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1 SCOPE

This Standard establishes values for safety distances to prevent access and distances to impede free access to machinery danger zones to prevent their being reached by the lower limbs of persons of 14 years of age and above.

NOTE: The values given are based on practical experience which has been found to be adequate for this group of persons.

These distances apply when adequate safety can be achieved by distance alone, and when access by the upper limbs is not foreseeable according to the risk assessment.

NOTE: These safety distances will not provide sufficient protection against certain hazards, for example radiation and emission of substances. For such hazards, additional or other measures need to be taken.

The safety distances to prevent access relate to openings, and serve to protect those persons trying to reach danger zones under the conditions specified for different reaching situations.

The distances to impede free access relate to the height from ground level to the protective structure, and serve to reduce risk to persons by limiting the free movement of the lower limbs.

NOTE: If persons below 14 years of age are to be taken into account, it is not relevant to establish values other than those for upper limbs. In this case the safety distances to prevent danger zones being reached by the upper limbs, derived from AS 4024.1801 will apply.

For certain applications, there are justifiable reasons to deviate from these distances. Standards dealing with these applications should indicate how adequate safety can be achieved.

2 OBJECTIVE

The objective of this Standard is to enable designers, manufacturers, suppliers, employers and users of machinery to minimize risks to the health and safety of employees and others working with or otherwise near machinery by providing safety distances to prevent entry to the danger zone by the lower limbs.

3 REFERENCED DOCUMENTS

AS	
4024	Safety of machinery
4024.1201	Part 1201: General principles—Basic terminology and methodology
4024.1301	Part 1301: Risk assessment—Principles for risk assessment
4024.1801	Part 1801: Safety distances and safety gaps—Safety distances to prevent danger zones being reached by the upper limbs