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**Safety of machinery - Safety distances to prevent hazard zones
being reached by upper and lower limbs**

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Foreword

This Document was drafted as per the rules specified in GB/T 1.1-2020 Directives for Standardization - Part 1. Rules for the Structure and Drafting of Standardizing Documents.

This Document replaced GB/T 23821-2009 Safety of Machinery - Safety Distances to Prevent

Hazard Zones being Reached by Upper and Lower Limbs. Compared with GB/T 23821-2009,

the major technical changes of this Document are as follows besides the structural adjustments

and editorial modifications.

- a) Add the term and definition of "reference plane" (see 3.2 of this Edition);
- b) Change the requirements for the risk assessment (4.1.2 of this Edition; 4.1.2 of 2009 Edition);
- c) Change the requirements for preventing hazard zones being reached over protective structures (see 4.2.2 of this Edition; 4.2.2 of 2009 Edition);
- d) Add the requirements for whole body access to (hazard zones) (see 4.4 of this Edition).

This Document equivalently adopts ISO 13857.2019 Safety of Machinery - Safety Distances to

Prevent Hazard Zones being Reached by Upper and Lower Limbs. Compared with ISO 13857.2019, this Document made the following editorial modifications.

--- Modify the editorial errors in ISO 13857.2019; change the "height of hazard zone alpha", "height of protective structure b" and "horizontal safety distance to hazard zone c" in Figures A.1, A.2 and A.3 into "height of the point of the hazard zone which is nearest to the area of upper limb reach hh", "height of protective structure hps" and "horizontal safety distance of the point of the hazard zone which is nearest to the area of upper limb reach sh", respectively.

Please note some contents of this Document may involve patents. The issuing agency of this

Document shall not assume the responsibility to identify these patents.

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on Machinery Safety of Standardization Administration of China (SAC/TC 208).

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The historical editions replaced by this Document are as follows.

--- GB 12265.1-1997 was first-time published in 1997;

--- GB 12265.2-2000 was first-time published in 2000;

--- GB 23821-2009 was first-time published in 2009, which was transferred into GB/T 23821-2009 in 2017;

--- It is first-time revised hereby.

1 Scope

This document establishes values for safety distances in both industrial and non-industrial environments to prevent machinery hazard zones being reached. The safety distances are appropriate for protective structures. It also gives information about distances to impede free

access by the lower limbs (see Annex B).

2 Normative References

The provisions in following documents become the essential provisions of this Document through reference in this Document. For the dated documents, only the versions with the dates

indicated are applicable to this Document; for the undated documents, only the latest version

(including all the amendments) is applicable to this Document.

GB/T 15706-2012 Safety of Machinery - General Principles for Design - Risk

Assessment and Risk Reduction (ISO 12100:2010, IDT)

3 Terms and Definitions

For the purposes of this document, the terms and definitions given in GB/T 15706-2012 and

the following apply.

Level at which persons would normally stand during the use of the machine or access to the

hazard zone.

4 Safety Distances to Prevent Reach or Access by Upper and Lower Limbs

Safety distances are determined if the hazard to be considered has been identified as significant

(see GB/T 15706-2012, 3.8). All reasonably foreseeable access means shall be taken into account.