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Agricultural tractors — Operator's workplace, access and exit — Dimensions

Tracteurs agricoles — Poste de travail de l'opérateur, accès et sortie — Dimensions

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 4252 was prepared by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry*, Subcommittee SC 4, *Tractors*.

This third edition cancels and replaces the second edition (ISO 4252:1992), which has been technically revised.

Agricultural tractors — Operator's workplace, access and exit — Dimensions

1 Scope

This International Standard specifies the design dimensions of agricultural tractors having a minimum track width exceeding 1 150 mm in respect of

a) the minimum dimensions of their access doorways,

b) the number, location and minimum dimensions of their emergency exits, and

c) their minimum internal clearance dimensions.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 789-6, *Agricultural tractors — Test procedures — Part 6: Centre of gravity*

ISO 5353, *Earth-moving machinery, and tractors and machinery for agriculture and forestry — Seat index point*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

emergency exit

means of exit that can be opened from the inside of the cabin

NOTE It can be a normal access door.

3.2

access door

doorway

means of entry to, and exit from, the workplace or cabin

3.3

mountain tractor

four-wheel drive agricultural or forestry tractor whose interchangeable equipment is intended for agricultural or forestry use and which is characterized by a supporting frame, one or more power take-offs, a technically permissible mass not greater than 10 t at a ratio to the maximum unladen mass in running order of less than 2,5, and which has a centre of gravity less than 850 mm, determined in accordance with ISO 789-6 and measured in relation to the ground using the tyres that are normally fitted

4 Access doorway(s)

The minimum dimensions of the access doorway aperture, both for the frame and with the door open, shall be as shown in Figures 1 and 2. For tractors where the seat can be reached straight from the footstep, the heights at which the widths are measured may be decreased.

Dimensions in millimetres

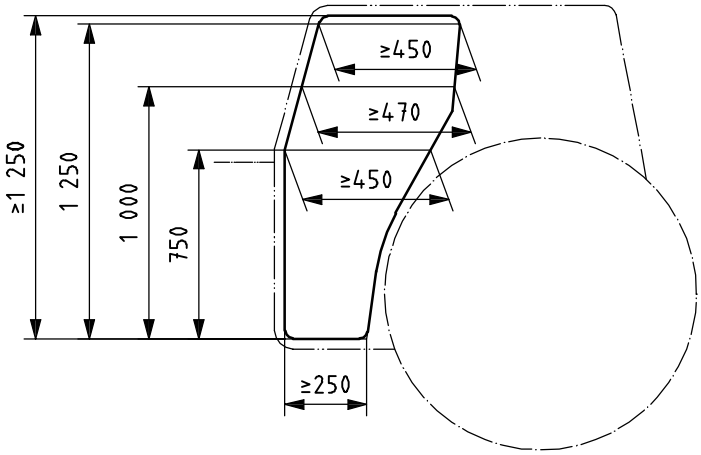
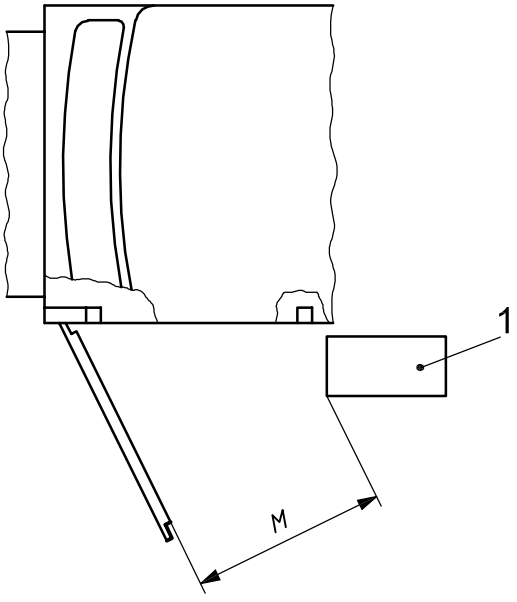


Figure 1 — Access doorway dimensions



Key

1 wheel or other tractor part

M Minimum dimension according to Figure 1.

Figure 2 — Example of limitation of dimensions with door open

5 Emergency exits

5.1 Number and location

There shall be a minimum of two emergency exits, each of which shall be on a different side of the cabin: the front, rear and roof of the cabin may be considered as sides for this purpose.

NOTE In order to meet market needs and/or national regulations, two emergency exits can be necessary in addition to an access door.

Any window of sufficient size may be designated as an emergency exit if it is made of breakable glass that can be broken with a tool provided in the cab for that purpose. Laminated glass, plastic or double glass are not considered breakable for the purposes of this International Standard.

5.2 Dimensions

The cross-sectional dimensions of each emergency exit shall be large enough to enclose an ellipse with principal axes of 640 mm and 440 mm.

6 Internal clearance dimensions

The minimum clearance dimensions inside the cab shall be as shown in Figure 3 and in accordance with Table 1. The clearance dimensions for the hand controls (see Figure 3) shall be in accordance with Table 2.

These dimensions are defined in relation to the vertical reference plane, which is generally longitudinal to the tractor and passes through the seat index point (SIP) and the steering-wheel centre. The SIP shall be determined in accordance with ISO 5353.

These dimensions are valid for tractors with only one operator position.

For verification purposes, the seat shall be set in the rearmost longitudinal position and at the mid-point of the height adjustment range. Seats having a suspension system — whether or not adjustable according to the driver's weight — shall be set to the mid-point of the suspension travel.

Dimensions in millimetres

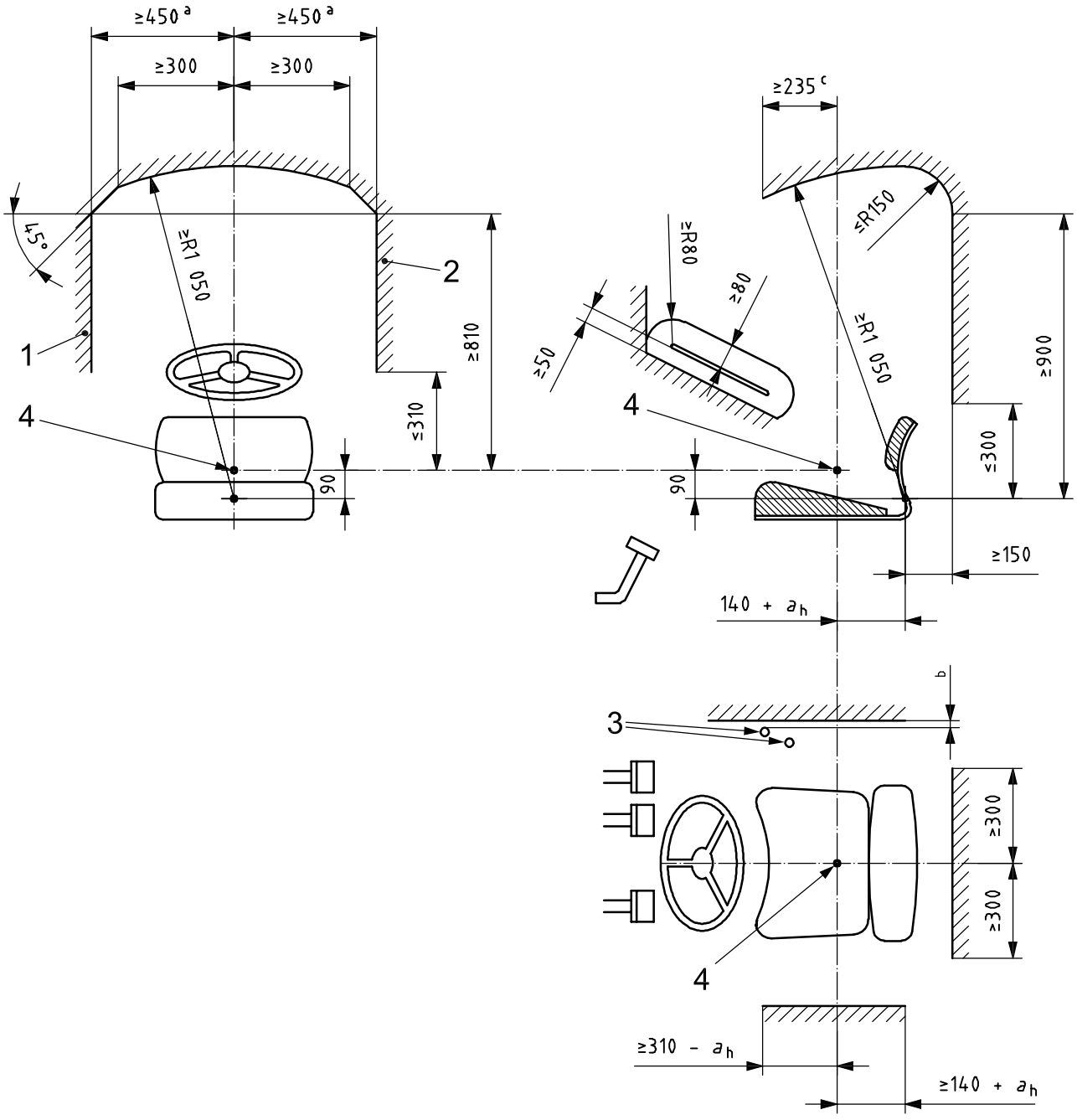


Figure 3 — Minimum internal clearance dimensions

Key

1 left cab wall

2 right cab wall

3 hand controls

4 SIP

a_h equal to half the horizontal seat adjustment

[a] Valid for tractors with only one operator position. Not applicable for mountain tractors when the driver's seat SIP is more than 100 mm from the median longitudinal plane of the tractor. For other mountain tractors, the 450 mm dimension may be reduced to 350 mm at a height of 310 mm above SIP and to 300 mm at a height of 810 mm above SIP.

[b] See Table 2.

[c] The clearance zone, as defined in this region by the 1 150 mm radius, may be reduced for cabins where the limiting overall tractor maximum dimensions are of prime importance and/or for the accommodation of specific roof-mounted equipment.

Figure 3 — Minimum internal clearance dimensions (*continued*)

Table 1 — Minimum internal clearance dimensions

Distance	Dimension min./mm
Distance from a point 90 mm below and $(140 + a_h)$ mm behind the SIP to any part of the cab ceiling surface, above, forward and to either side of the operator's head[a]	1 050
Distance from SIP to the cab back wall at a height between 210 mm above the SIP and the roof contour defined by the 1 050 mm radius and the 150 mm blend radius	$290 + a_h$
Lateral clearance at any distance between 310 mm above the SIP and the roof contour as defined by the 1 050 mm radius, perpendicular to the vertical reference plane for a distance of $(310 - a_h)$ mm forward and $(140 + a_h)$ mm rearward from the SIP	450
Distance from the outer side of the steering-wheel rim to the cab surface or other hand controls[b]	80
a_h is equal to half the horizontal seat adjustment.	
[a] Soft materials such as padding may penetrate into the free space up to a maximum of 50 mm. [b] Excluding hand controls mounted on the steering-column.	

Table 2 — Clearance dimensions for hand controls

Control/type of control	Dimension[a] min./mm
Controls that require an operating force of $>$ 150 N and engine controls	50
Controls that require an operating force of 80 N to 150 N (other than engine controls)	25
For controls that require an operating force of less than 80 N, maintain adequate clearance for operation.	
[a] These minimum distances shall be valid for all control positions.	

Bibliography

[1] ISO 4253, *Agricultural tractors — Operator's seating accommodation — Dimensions*

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