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Agricultural equipment — Mechanical connections between towed and towing vehicles — Implement hitch rings and attachment to tractor drawbars

Matériel agricole — Liaisons mécaniques entre véhicules tracteurs et véhicules tractés — Attelages à anneau pour instruments et fixation à la barre d'attelage

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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 21244 was prepared by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and foresty*, Subcommittee SC 4, *Tractors*.

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Agricultural equipment — Mechanical connections between towed and towing vehicles — Implement hitch rings and attachment to tractor drawbars

1 Scope

This International Standard specifies dimensional requirements for the hitch rings of agricultural trailers and trailed implements designed to be attached to agricultural tractor drawbars of clevis type according to ISO 6489-3.

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.

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ISO 6489-3:2004, *Agricultural vehicles — Mechanical connections between towed and towing vehicles — Part 3: Tractor drawbar*

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3 Terms and definitions

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

3.1
angle of yaw
A
rotation around a vertical axis of the vehicle passing through the coupling point

3.2
angle of pitch
B
rotation around a horizontal axis passing through the coupling point and perpendicular to the longitudinal plane of symmetry of the vehicle

3.3
angle of roll
C
rotation around a horizontal axis passing through the coupling point and located in the plane of symmetry of the vehicle

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4 Specifications

4.1 The hitch dimensions shall be in accordance with Figure 1 and Table 1, and Figure 2 and Table 2, and shall allow rotation as shown in Figure 3 and as specified in Table 3.

4.2 The dimensions relative to the standard specifications are divided into the six categories based on tractor PTO power as defined in ISO 6489-3.

NOTE For information on hitch combinations, see Annex A.

4.3 Draft loads, PTO power according to ISO 6489-3:2004, Table 1, and the maximum static vertical load requirements of the towed agricultural implement shall dictate the hitch category, and whether a hitch ring (see Figure 1) or ball ring hitch (see Figure 2) is to be used.

A ball ring hitch may be used when a tighter connection between the tractor and implement is required.

4.4 The maximum static vertical load shall be determined in accordance with ISO 6489-3:2004, Table 5.

4.5 The hitch design shall be for connection to a clevis type drawbar only.

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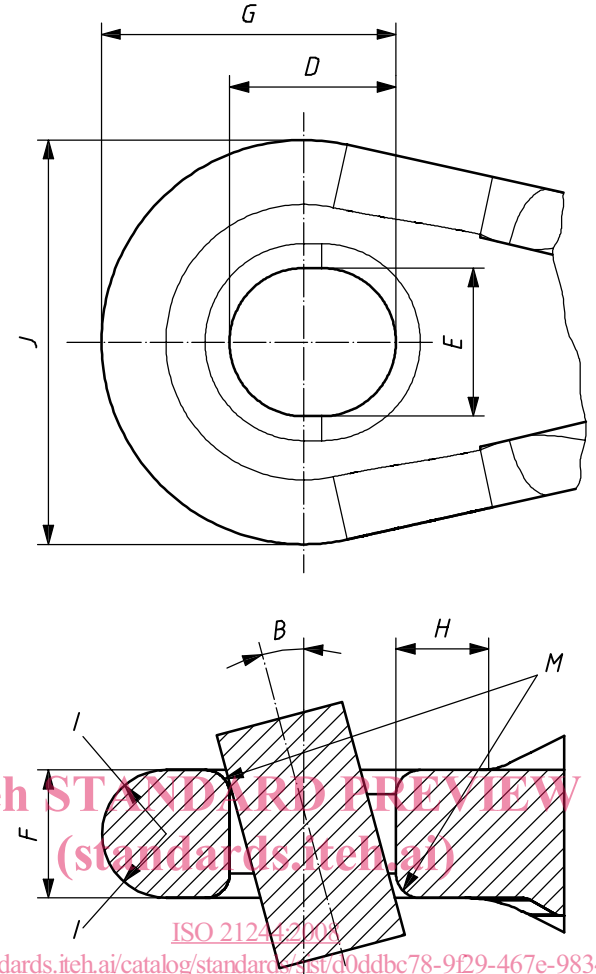

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For use only with a drawbar clevis.

NOTE For angle B, see Table 3.

Figure 1 — Hitch ring of implement (see Table 1)

Table 1 — Hitch ring specifications (see Figure 1)

Dimensions in millimetres

Parameter	Drawbar category					
	0	1	2	3	4	5
Slot length, D	21–40	33–48	33–60	41–66	55–70	73–85
Slot width (min.), E	21	33	33	41	55	73
Thickness (max.), F	30	36	38	48	50	60
Distance (max.), G	55	85	95	95	110	140
Distance (min.), H	35	40	50	50	65	80
Radius, I	0,5F	0,5F	0,5F	0,5F	0,5F	0,5F
Width (max.), J	95	107	115	140	160	190
Radius, M	As required to provide adequate articulation between the tractor and the implement.					
Pin diameter (min.)	In accordance with ISO 6489-3:2004, Table 4.					

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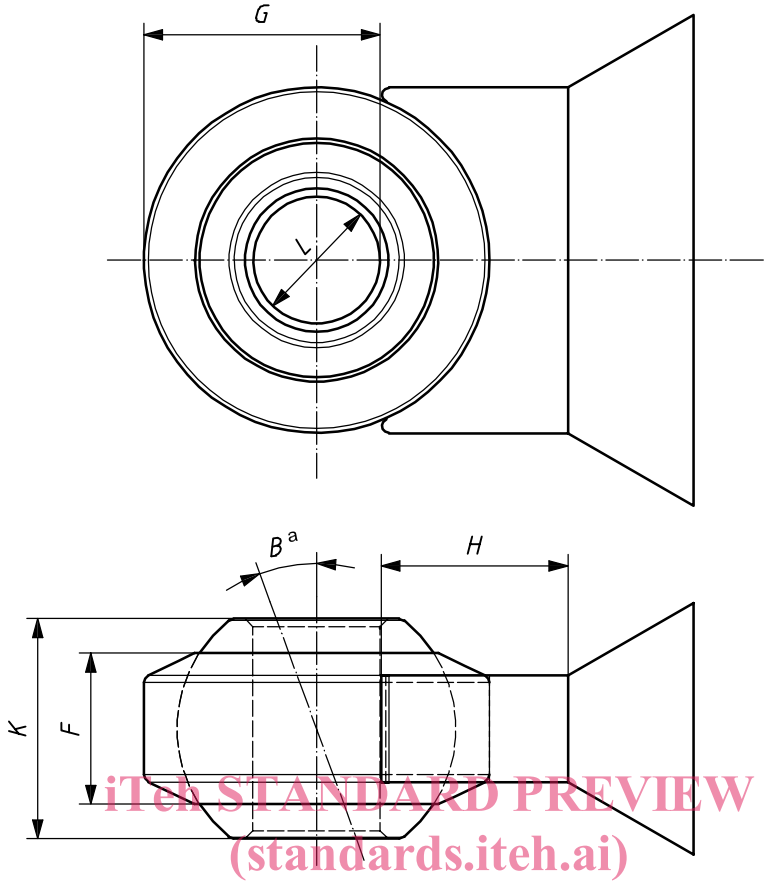

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NOTE For angle B, see Table 3. For dimensions F, G and H, see Table 1.

[a] In all directions.

Figure 2 — Ball hitch ring of implement (see Table 2)

Table 2 — Hitch ring specifications (see Figure 2)

Dimensions in millimetres

Parameter	Drawbar category					
	0	1	2	3	4	5
Ball thickness (max.), K	45	65	65	85	85	95
Drawpin hole diameter, L, $^{+0,8}_{-0,25}$	19	31	31	39	51	71
Pin diameter (min.)	In accordance with ISO 6489-3:2004, Table 4.					

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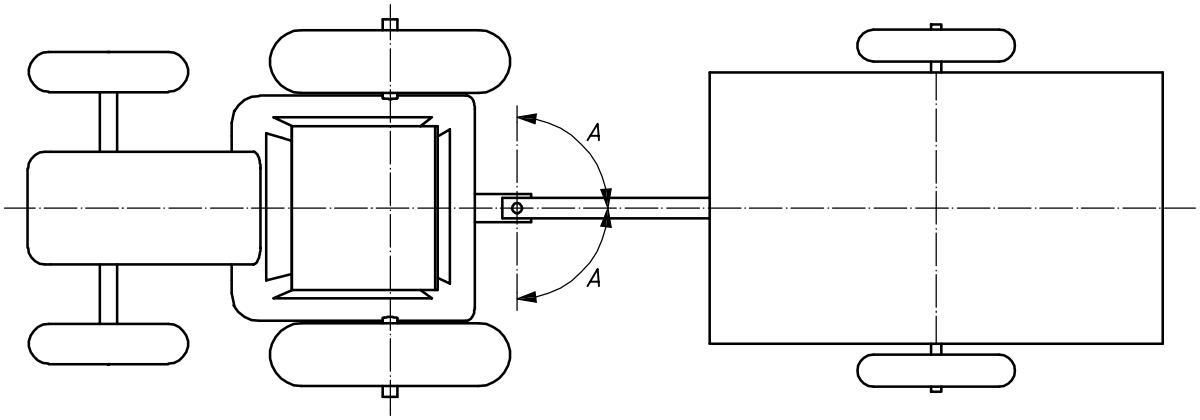
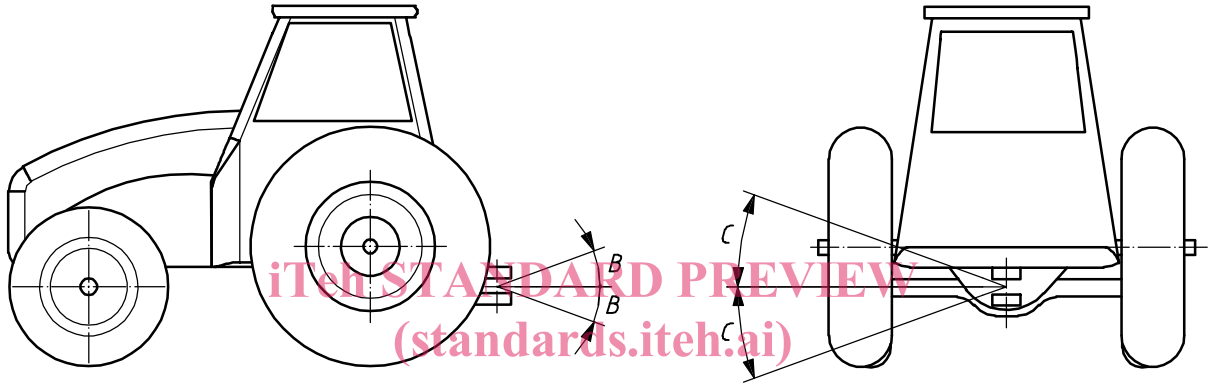


Angle of yaw



Angle of pitch Angle of roll

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Figure 3 — Minimum angles of articulation of drawbar (see Table 3)

Table 3 — Angles of articulation (see Figure 3)

Angles in degrees

Parameter	Drawbar category					
	0	1	2	3	4	5
Angle of yaw, *A* [a]	90	90	90	90	90	90
Angle of pitch, *B*	20	20	20	20	15	15
Angle of roll, *C*	20	20	20	20	15	15

[a] The intent is to provide more clearance in the connection than is allowed by the tractor rear tires and implement hitch.

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