
**Agricultural vehicles — Mechanical
connections between towed and
towing vehicles — Dimensions of ball
coupling device (80 mm)**

*Véhicules agricoles — Liaisons mécaniques entre véhicules
remorqueurs et véhicules remorqués — Dimensions des dispositifs
d'attelage à boule (80 mm)*

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

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

This second edition cancels and replaces the first edition (ISO 24347:2005), which has been technically revised.

The main changes compared to the previous edition are as follows:

- [Clause 3](#) “Terms and definitions” has been added and subsequent clauses have been renumbered;
- the requirements for location of the ball coupling device have been modified;
- the specifications for maximum vertical downward loads depending on the horizontal position of the ball coupling device has been added.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The aim of this document is to ensure the interchangeability of the mechanical connections on agricultural towing vehicles.

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Agricultural vehicles — Mechanical connections between towed and towing vehicles — Dimensions of ball coupling device (80 mm)

1 Scope

This document specifies the dimensional requirements and location for a ball coupling device of 80 mm nominal diameter, whose male part is fitted to an agricultural towing vehicle and female part is fitted to a towed, non-balanced vehicle which provides mechanical connection between the two vehicles. It defines vertical loading for different positions.

This document specifies a ball coupling device with either a horizontal adjustable version, or a close position version.

2 Normative reference(s)

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 500-1, *Agricultural tractors — Rear-mounted power take-off types 1, 2, 3 and 4 — Part 1: General specifications, safety requirements, dimensions for master shield and clearance zone*

ISO 500-2, *Agricultural tractors — Rear-mounted power take-off types 1, 2 and 3 — Part 2: Narrow-track tractors, dimensions for master shield and clearance zone*

ISO 5673-2, *Agricultural tractors and machinery — Power take-off drive shafts and power input connection — Part 2: Specifications for use of PTO drive shafts, and position and clearance of PTO drive line and PIC for various attachments*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1

upper location

ball coupling device location above the tractor PTO

3.2

lower location

ball coupling device location below the tractor PTO

3.3

position

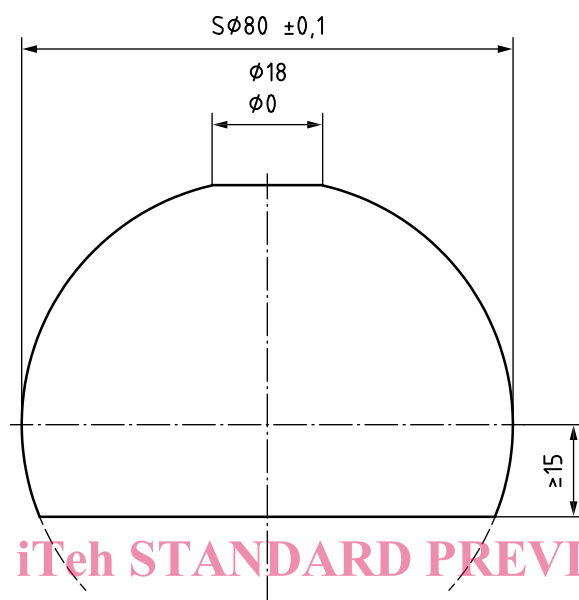
horizontal distance from the centre of the ball to the end of the tractor PTO

4 Dimensions and marking

4.1 Dimensions

4.1.1 The ball coupling device shall be in accordance with [Figures 1](#) and [2](#).

Dimensions in millimetres

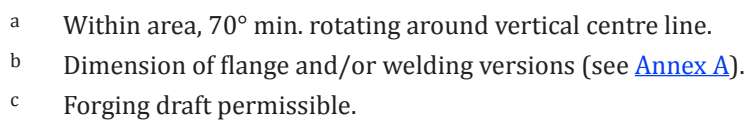


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Figure 1 — Ball dimensions

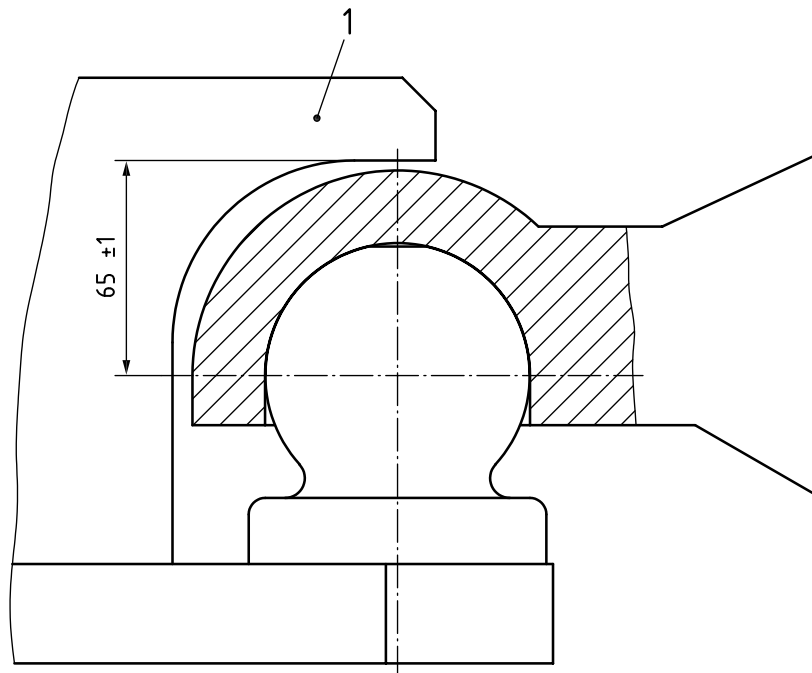
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Dimensions in millimetres

**Key**

- 1 keeper shape optional

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Figure 3 — Vertical location of keeper

4.1.2 The minimum clearance zone for the keeper is defined by the required movement of the ball coupling trailer shank according to 4.1.4 and the dimensioning of the ball coupling trailer shank as shown in Figure 2. It shall be considered in all rotational degrees of freedom. Figure 4 is only applicable for the close position version.

Dimensions in millimetres

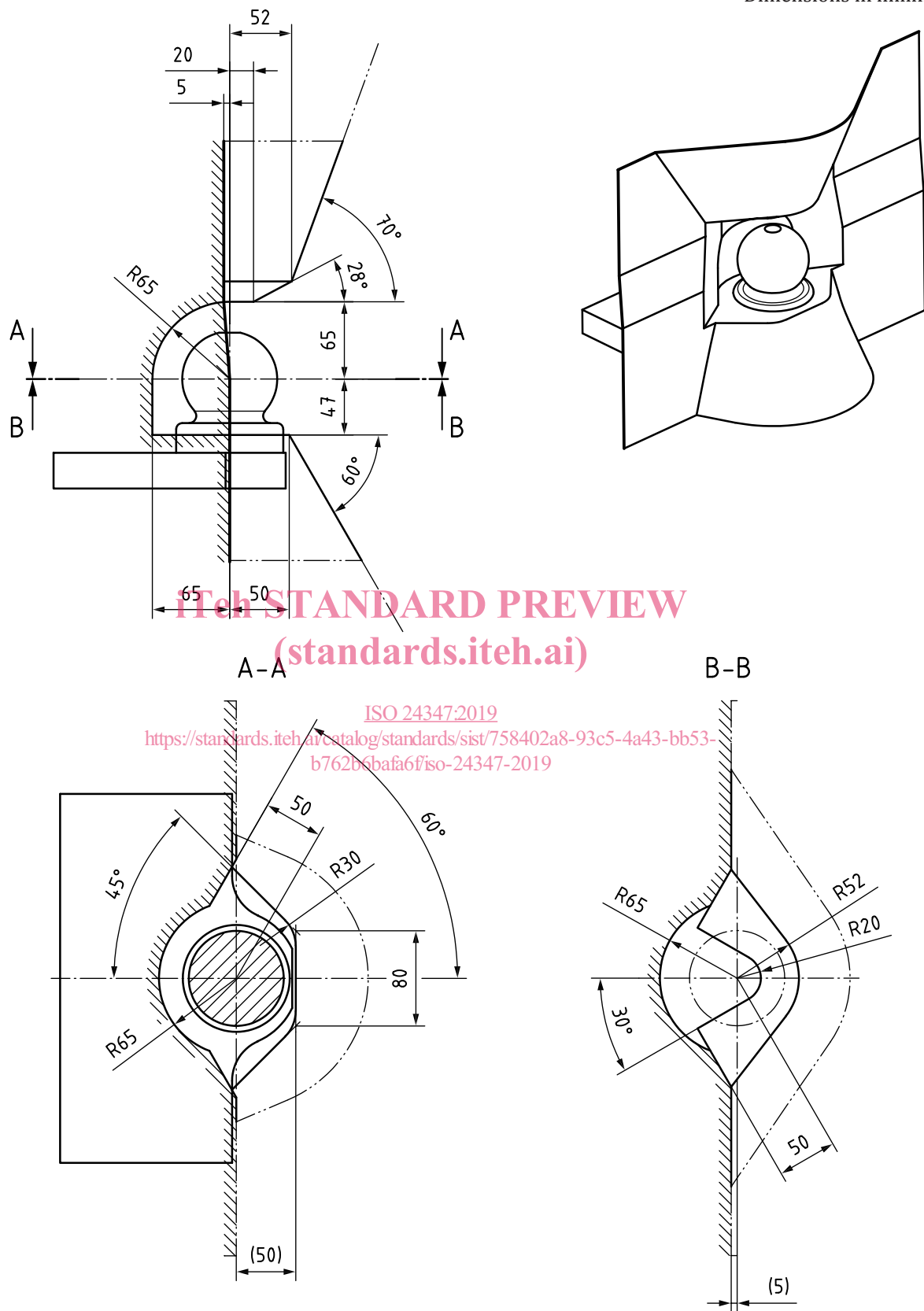


Figure 4 — Minimum clearance zone for ball coupling device (only applicable for close position version)