INTERNATIONAL STANDARD

ISO 5676

Second edition
2023-06

Tractors and machinery for agriculture and forestry — Hydraulic coupling — Braking circuit

Tracteurs et matériels agricoles et forestiers — Coupleurs hydrauliques — Circuit de freinage

Reference number
ISO 5676:2023(E)

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

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 document 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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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 5676:1983), which has been technically revised.

The main changes are as follows:

— cadmium plating references have been removed;

— reference to ISO 18869 to corrosion test methods 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.

Tractors and machinery for agriculture and forestry — Hydraulic coupling — Braking circuit

1 Scope

This document specifies the conditions for interchangeability, and the operating characteristics and lays down the technical specifications for tests, for the hydraulic couplings on braking systems for towed agriculture and forestry machinery.

This document applies solely to hydraulic brake couplings.

2 Normative references

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 3448, *Industrial liquid lubricants — ISO viscosity classification— Determination of kinematic viscosity and calculation of dynamic viscosity*

ISO 5675, *Agricultural tractors and machinery — General purpose quick-action hydraulic couplers*

ISO 18869:2017, *Hydraulic fluid power — Test methods for couplings*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 5675 apply.

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

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

4 Characteristics and specifications

4.1 General

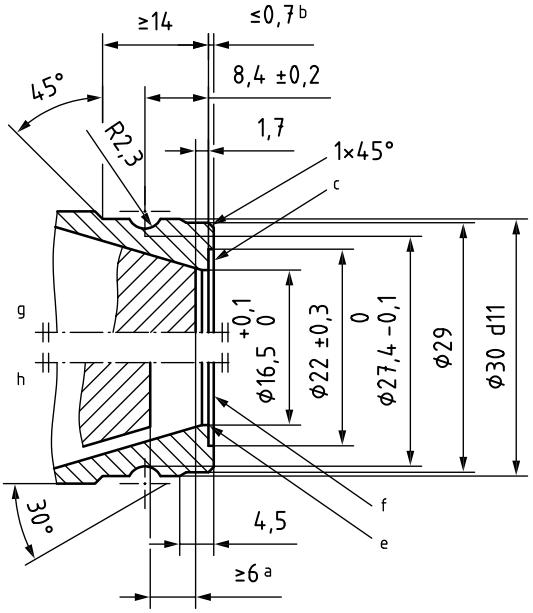
The braking system is of a regulatable type, operated by an increase in pressure within a service pressure range of between 10 MPa and 15 MPa (100 and 150 bar).

The devices are used to connect or disconnect the braking circuit each time trailed agricultural or forestry machinery is hitched or unhitched.

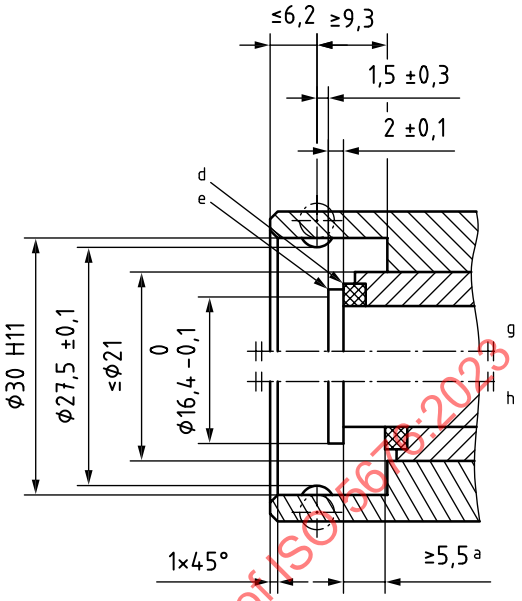
4.2 Dimensional characteristics

The coupling shall conform with Figure 1.

Dimensions in millimetres



a) Fixed part: Male part fixed on tractor



b) Moveable part: Female part fixed to the trailed vehicle

a Travel.
b Optional groove.
c Sealing face.
d End face X.
e Rounded angle.
f Service lock.
g Closed.
h Open.

NOTE The sole aim of the configuration of the coupling is to illustrate and give the reference dimensions. It is not intended to convey design requirements.

Figure 1 — Dimensions of the hydraulic coupling

4.3 Operating characteristics and technical specifications

4.3.1 Operating characteristics

4.3.1.1 Pressures

The normal service pressure shall be 15 MPa (150 bar) maximum.

When the tractor is operated without a trailer, the unconnected male part shall be able to withstand the maximum permissible service pressure of 15 MPa (150 bar).

Connection and disconnection of the coupling device should normally only be carried out without pressure in the circuit.

Under these conditions, the disconnecting force applied to the locking ring shall be less than 45 N. For connection, a force of less than 150 N shall be applied to the body of the female part.

4.3.1.2 Temperature

The operating temperature shall be between -30 °C and 100 °C with possible peaks at 140 °C and shall last not more than 1 h.