INTERNATIONAL STANDARD

ISO 10448

First edition
1994-08-01

Agricultural tractors — Hydraulic pressure for implements

Tracteurs agricoles — Pression hydraulique pour les instruments

Reference number
ISO 10448:1994(E)

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.

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.

International Standard ISO 10448 was prepared by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry*, Subcommittee SC 4, *Tractors*.

International Organization for Standardization
Case Postale 56 • CH-1211 Genève 20 • Switzerland
Printed in Switzerland

Agricultural tractors — Hydraulic pressure for implements

1 Scope

This International Standard specifies the characteristics of the hydraulic pressure from agricultural tractors to connect hydraulic devices on implements, to permit interchangeable use of various types of implements using remote cylinders and other hydraulic devices.

It applies to agricultural tractors intended for interchangeable implements.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 730-1:—[1], *Agricultural wheeled tractors — Rear-mounted three-point linkage — Part 1: Categories 1, 2, 3 and 4.*

ISO 789-10:—[2], *Agricultural tractors — Test procedures — Part 10: Hydraulic power at tractor/implement interface.*

ISO 5675:1992, *Agricultural tractors and machinery — General purpose quick-action hydraulic couplers.*

ISO 6149-1:1993, *Connections for fluid power and general use — Ports and stud ends with ISO 261 threads and O-ring sealing — Part 1: Ports with O-ring seal in truncated housing.*

ISO 6149-2:1993, *Connections for fluid power and general use — Ports and stud ends with ISO 261 threads and O-ring sealing — Part 2: Heavy-duty (S series) stud ends — Dimensions, design, test methods and requirements.*

ISO 6149-3:1993, *Connections for fluid power and general use — Ports and stud ends with ISO 261 threads and O-ring sealing — Part 3: Light-duty (L series) stud ends — Dimensions, design, test methods and requirements.*

3 Definitions

For the purposes of this International Standard, the following definitions apply.

3.1 external hydraulic service: Source of hydraulic power, derived from the hydraulic system of the agricultural tractor, available for use on an implement mounted on, coupled to or otherwise used in conjunction with it.

3.2 coupler pair: Pair of female hydraulic couplers compatible with male couplers specified in ISO 5675, mounted on agricultural tractors and connected to the hydraulic system to allow flow from one coupler to the other.

3.3 available differential pressure: Steady state difference in hydraulic pressure between two coupler parts on the implement side.

1) To be published. (Revision of ISO 730-1:1990)

2) To be published.

3.4 maximum pressure: Maximum steady state hydraulic pressure at either male coupler connected to a coupler pair.

3.5 maximum loop return pressure: Maximum steady hydraulic pressure at the male coupler returning flow to a hydraulic system that can reverse the flow through that coupler.

3.6 maximum sump return pressure

(1) With coupler: Maximum steady state hydraulic pressure at the male coupler returning flow directly to the reservoir.

(2) Without coupler: Maximum steady state hydraulic pressure at an M22 × 1,5 or M27 × 2 thread size port in accordance with ISO 6149-1, ISO 6149-2 or ISO 6149-3, returning flow directly to the reservoir.

3.7 peak pressure: Maximum instantaneous hydraulic pressure at either male coupler connected to a coupler pair.

4 Requirements

Pressures as listed in table 1 should be within their limits as the flow is varied between the specified flow range limits and the loop oil temperature remains within limits.

The pressures shall be measured on the implement side (male couplers) which conform to size 12,5 in ISO 5675. The test method shall be in accordance with ISO 789-10.

Table 1

Characteristic	Value
Maximum pressure	20,5 MPa (205 bar)
Minimum differential pressure	15 MPa (150 bar)
Maximum loop return pressure	1 MPa (10 bar)
Maximum sump return pressure, with coupler	0,5 MPa (5 bar)
Maximum sump return pressure, without coupler	0,2 MPa (2 bar)
Peak pressure	29 MPa (290 bar)
Specified flow range	0 to 30 l/min for category 1 tractors[1)] 0 to 50 l/min for categories 2 and 3 tractors[1)]
Oil temperature	65 °C ± 5 °C
NOTE — The specified flow range of 0 to 30 l/min is recommended for partial-consuming (e.g. 10 l/min to 30 l/min) devices and of 0 to 50 l/min for continuous-consuming (e.g. 35 l/min to 50 l/min) devices.	
1) Categories according to ISO 730-1.	

This page intentionally left blank

This page intentionally left blank

This page intentionally left blank

ICS 65.060.00

Descriptors: agricultural machinery, agricultural tractors, hydraulic fluid power, hydraulic transmission, hydraulic pressure.

Price based on 2 pages