
**Connections for hydraulic fluid power
and general use — Ports and stud ends
with ISO 261 metric threads and O-ring
sealing —**

**Part 1:
Ports with truncated housing for O-ring
seal**

*Raccordements pour transmissions hydrauliques et applications
générales — Orifices et éléments mâles à filetage métrique ISO 261 et
joint torique —*

Partie 1: Orifices à joint torique dans un logement tronconique



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ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

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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.

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 6149-1 was prepared by Technical Committee ISO/TC 131, *Fluid power systems*, Subcommittee SC 4, *Connectors and similar products and components*.

This second edition cancels and replaces the first edition (ISO 6149-1:1993), which has been technically revised.

ISO 6149 consists of the following parts, under the general title *Connections for hydraulic fluid power and general use — Ports and stud ends with ISO 261 metric threads and O-ring sealing*:

- *Part 1: Ports with truncated housing for O-ring seal*
- *Part 2: Dimensions, design, test methods and requirements for heavy-duty (S series) stud ends*
- *Part 3: Dimensions, design, test methods and requirements for light-duty (L series) stud ends*
- *Part 4: Dimensions, design, test methods and requirements of external and internal hexport plugs*

Introduction

In hydraulic fluid power systems, power is transmitted and controlled through a liquid under pressure within an enclosed circuit. In general applications, a fluid (liquid or gas) may be conveyed under pressure.

Components are connected through their threaded ports by fluid conductor connectors to tubes and pipes or to hose connectors and hoses.

Ports are an integral part of fluid power components, such as pumps, motors, valves, cylinders, etc.

For threaded ports and stud ends specified in new designs in hydraulic fluid power applications, ISO/TC 131/SC 4 recommends that the ISO 6149 series be used because these International Standards specify ports and stud ends with metric threads and O-ring sealing and because the subcommittee would like to help users by recommending one preferred system. ISO/TC 131/SC 4 further recommends that threaded ports and stud ends in accordance with the ISO 1179 series, ISO 9974 series and ISO 11926 series not be used for new designs in hydraulic fluid power applications; these International Standards are maintained because they specify ports and stud ends that are currently used in hydraulic systems worldwide.

Connections for hydraulic fluid power and general use — Ports and stud ends with ISO 261 metric threads and O-ring sealing —

Part 1: Ports with truncated housing for O-ring seal

1 Scope

This part of ISO 6149 specifies dimensions for metric ports for use with the adjustable and non-adjustable stud ends detailed in ISO 6149-2 and ISO 6149-3.

Ports in accordance with this part of ISO 6149 may be used at working pressures up to 63 MPa [630 bar¹⁾] for non-adjustable stud ends and 40 MPa (400 bar) for adjustable stud ends. The permissible working pressure depends upon port size, materials, design, working conditions, application, etc. See ISO 6149-2 and ISO 6149-3 for pressure ratings.

Users of this part of ISO 6149 should ensure that there is sufficient material around the port to maintain the pressure.

NOTE The Introduction of this part of ISO 6149 gives recommendations for ports and stud ends to be used for new designs in hydraulic fluid power applications.

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 261, *ISO general purpose metric screw threads — General plan*

ISO 965-1, *ISO general purpose metric screw threads — Tolerances — Part 1: Principles and basic data*

ISO 2306, *Drills for use prior to tapping screw threads*

ISO 5598²⁾, *Fluid power systems and components — Vocabulary*

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

1) 1 bar = 0,1 MPa = 10⁵ Pa; 1 MPa = 1 N/mm².

2) To be published. (Revision of ISO 5598:1985).

For the purposes of this part of ISO 6149, the terms and definitions given in ISO 5598 apply.

Ports shall conform to the dimensions shown in Figure 1 and given in Table 1.

- ### Figure 1 — Port

3) To be published. (Revision of ISO 6149-3:1993).