INTERNATIONAL STANDARD

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Third edition
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Connections for hydraulic fluid power and general use — Hose fittings —

Part 3: Hose fittings with ISO 6162-1 or ISO 6162-2 flange ends

Raccordements pour transmissions hydrauliques et applications générales — Raccords de flexible —

Partie 3: Raccords de flexible avec brides conformes à l'ISO 6162-1 ou à l'ISO 6162-2

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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 131, *Fluid power systems*, Subcommittee SC 4, *Connectors and similar products and components*.

This third edition cancels and replaces the second edition (ISO 12151-3:2010), which has been technically revised.

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

— designation and pressure information have been updated to align with ISO 6162-1 and ISO 6162-2 (Clause 5);

— 90° elbow long has been added to Table 1;

— hose fittings sizes 64 × 64 and 76 × 76 have been added to Tables 2 – 8.

A list of all parts in the ISO 12151 series can be found on the ISO website.

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.

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Introduction

In hydraulic fluid power systems, power is transmitted and controlled through a liquid under pressure within an enclosed circuit. In general applications, the fluid can be conveyed under pressure.

Components are connected through their ports by stud ends on fluid conductor connectors to tubes/pipes or to hose fittings and hoses.

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Connections for hydraulic fluid power and general use — Hose fittings —

Part 3: Hose fittings with ISO 6162-1 or ISO 6162-2 flange ends

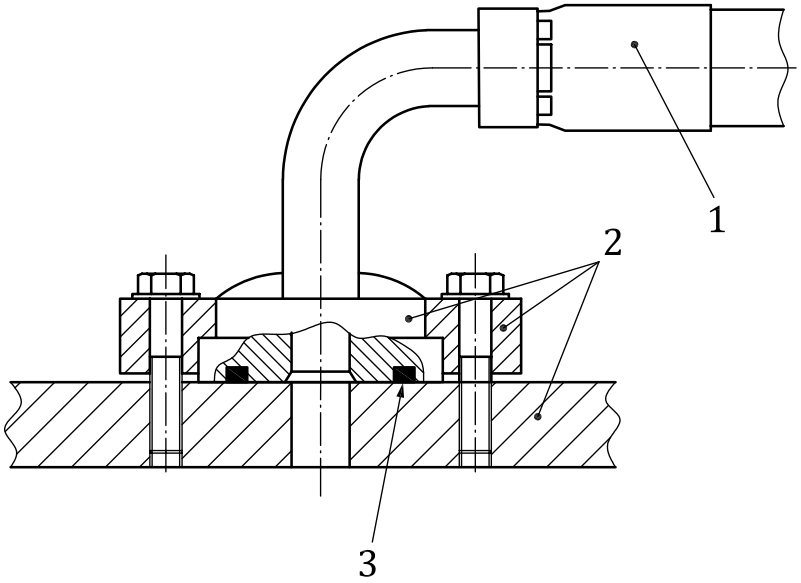
1 Scope

This document specifies the general and dimensional requirements for the design and performance of flange hose fittings, made of carbon steel, for nominal hose inside diameters of 12,5 mm to 76 mm inclusive, in accordance with ISO 4397, for use with ports and clamps in accordance with ISO 6162-1 and ISO 6162-2.

Note 1 Materials other than carbon steel can be supplied as agreed between the manufacturer and user.

Note 2 For hose fittings used in hydraulic and pneumatic braking systems on road vehicles (as defined in the scope of ISO/TC 22/SC 2, *Road vehicles*), see ISO 4038, ISO 4039-1 and ISO 4039-2.

These hose fittings (see Figure 1 for a typical example) are for use in hydraulic fluid power systems with a hose that meets the requirements of the respective hose standards and in general applications with suitable hoses.



Key

1 hose fitting
2 port, flanged head and clamps, as per ISO 6162-1 or ISO 6162-2
3 O-ring seal

Figure 1 — Typical example of hose fitting connection with ISO 6162-1 or ISO 6162-2 flange end

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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 1302, *Geometrical Product Specifications (GPS) — Indication of surface texture in technical product documentation*

ISO 4397, *Fluid power connectors and associated components — Nominal outside diameters of tubes and nominal hose sizes*

ISO 5598, *Fluid power systems and components — Vocabulary*

ISO 6162-1, *Hydraulic fluid power — Flange connections with split or one-piece flange clamps and metric or inch screws — Part 1: Flange connectors, ports and mounting surfaces for use at pressures of 3,5 MPa (35 bar) to 35 MPa (350 bar), DN 13 to DN 127*

ISO 6162-2, *Hydraulic fluid power — Flange connections with split or one-piece flange clamps and metric or inch screws — Part 2: Flange connectors, ports and mounting surfaces for use at a pressure of 42 MPa (420 bar), DN 13 to DN 76*

ISO 9227, *Corrosion tests in artificial atmospheres — Salt spray tests*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 5598 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 Performance requirements

4.1 Hose assemblies shall meet the performance requirements specified in the appropriate hose specification without leakage or failure.

4.2 The working pressure of the hose assembly shall be the lower of the pressures given for its flange style (pressure series) and size in ISO 6162-1 or ISO 6162-2, and in the relevant hose specification.

4.3 The hose-fitting connection end (flange) shall meet the performance requirements specified in ISO 6162-1 or ISO 6162-2.

5 Designation of hose fittings

5.1 Hose fittings shall be designated by an alphanumeric code to facilitate ordering. They shall be designated by the words “Hose fitting”, followed by a space, followed by “ISO 12151-3”, followed by a spaced hyphen, then the shape symbol (see 5.2), followed by another spaced hyphen, the style letter L for 3,5 MPa to 35 MPa (35 bar to 350 bar) flanges or the style letter S for 42 MPa (420 bar) flanges in accordance with ISO 6162-1 or ISO 6162-2, followed by the flange size from ISO 6162-1 or ISO 6162-2, a multiplication symbol (×) and the hose size (nominal hose inside diameter in accordance with ISO 4397).

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