
**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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Contents

Page

Foreword	iv
Introduction.....	v
1 Scope.....	1
2 Normative references	2
3 Terms and definitions	2
4 Performance requirements.....	2
5 Designation of hose fittings	2
6 Design.....	3
7 Manufacture	3
8 Procurement information	4
9 Marking.....	4
10 Identification statement (reference to this part of ISO 12151)	4
Bibliography.....	12

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 12151-3 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 12151-3:1999), which has been technically revised.

ISO 12151 consists of the following parts, under the general title *Connections for hydraulic fluid power and general use — Hose fittings*:

- *Part 1: Hose fittings with ISO 8434-3 O-ring face seal ends*
- *Part 2: Hose fittings with ISO 8434-1 and 8434-4 24 degree cone connector ends with O-rings*
- *Part 3: Hose fittings with ISO 6162-1 or ISO 6162-2 flange ends*
- *Part 4: Hose fittings with ISO 6149 metric stud ends*
- *Part 5: Hose fittings with ISO 8434-2 37 degree flared ends*
- *Part 6: Hose fittings with ISO 8434-6 60 degree cone ends*

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

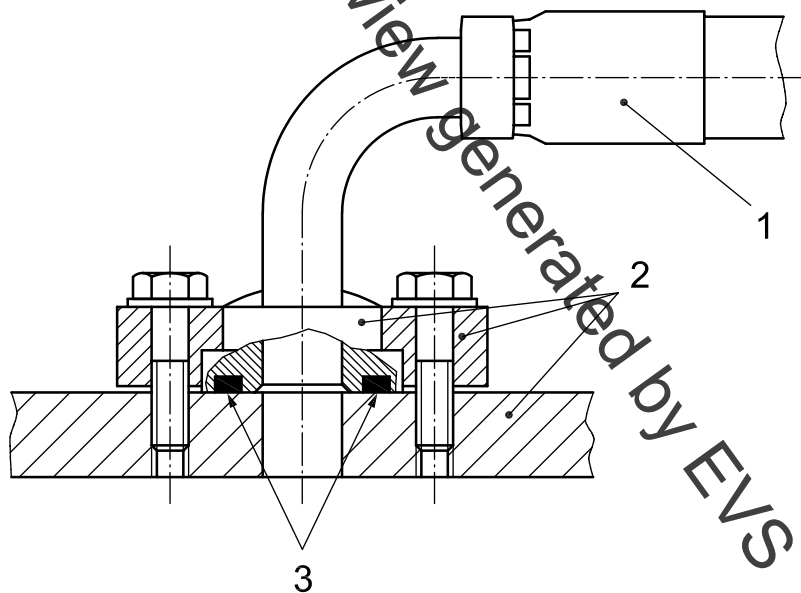
1 Scope

This part of ISO 12151 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 51 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 4036, 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 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 clamp 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

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 4397, *Fluid power systems and components — Connectors and associated components — Nominal outside diameters of tubes and nominal inside diameters of hoses*

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

ISO 6162-1, *Hydraulic fluid power — Flange connectors with split or one-piece flange clamps and metric or inch screws — Part 1: Flange connectors 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 connectors with split or one-piece flange clamps and metric or inch screws — Part 2: Flange connectors for use at pressures of 35 MPa (350 bar) to 40 MPa (400 bar), DN 13 to DN 51*

ISO 6605, *Hydraulic fluid power — Hoses and hose assemblies — Test methods*

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

ISO 19879, *Metallic tube connections for fluid power and general use — Test methods for hydraulic fluid power connections*

3 Terms and definitions

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

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 portion of a hose assembly shall be tested in accordance with ISO 19879, and the complete hose assembly shall be tested in accordance with ISO 6605.

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 2,5 MPa to 35 MPa (25 bar to 350 bar) flanges or the style letter S for 40 MPa (400 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).

EXAMPLE A 45° elbow hose fitting, with a medium drop length (E45M) with a 40 MPa (400 bar) flanged head (S) 32 mm nominal flange size and 31,5 nominal ID hose, is designated as follows:

Hose fitting ISO 12151-3 - E45M - S32 × 31,5

5.2 The letter symbols as given in Table 1 shall be used.