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**Priključki za splošno uporabo in za fluidno tehniko - Odprtine in priključki z navoji po ISO 228-1 z elastomernim ali kovinskim tesnjenjem - 2. del: Zelo obremenjeni ravni priključki (vrsta S) in malo obremenjeni ravni priključki (vrsta L) z elastomernim tesnjenjem (tip E) (ISO/DIS 1179-2:2022)**

Connections for general use and fluid power - Ports and stud ends with ISO 228-1 threads with elastomeric or metal-to-metal sealing - Part 2: Heavy-duty (S series) and light-duty (L series) stud ends with elastomeric sealing (type E) (ISO/DIS 1179-2:2022)

Leitungsanschlüsse für allgemeine Anwendung und Fluidtechnik – Einschraublöcher und Einschraubzapfen mit Gewinde nach ISO 228-1 und Elastomerdichtung oder metallener Dichtkante – Teil 2: Einschraubzapfen mit Elastomerdichtung (Form E), schwere (S) und leichte Reihe (L) (ISO/DIS 1179-2:2022)

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Raccordements pour applications générales et transmissions hydrauliques et pneumatiques - Orifices et éléments mâles à filetage ISO 228-1 et joint en élastomère ou étanchéité métal sur métal - Partie 2: Éléments mâles de séries légère (série L) et lourde (série S) avec joint en élastomère (type E) (ISO/DIS 1179-2:2022)

**Ta slovenski standard je istoveten z: prEN ISO 1179-2**

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**ICS:**

23.100.40 Cevna napeljava in sklopke Piping and couplings

**oSIST prEN ISO 1179-2:2022**

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# DRAFT INTERNATIONAL STANDARD

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ISO/TC 131/SC 4

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### Connections for general use and fluid power — Ports and stud ends with ISO 228-1 threads with elastomeric or metal-to-metal sealing —

Part 2:

### Heavy-duty (S series) and light-duty (L series) stud ends with elastomeric sealing (type E)

*Raccordements pour applications générales et transmissions hydrauliques et pneumatiques — Orifices et éléments mâles à filetage ISO 228-1 et joint en élastomère ou étanchéité métal sur métal —*

*Partie 2: Éléments mâles de séries légère (série L) et lourde (série S) avec joint en élastomère (type E)*

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## ISO/DIS 1179-2:2022(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.

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. [www.iso.org/directives](http://www.iso.org/directives)

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

The committee responsible for this document is 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 1179-2:2013), which has been technically revised.

ISO 1179 consists of the following parts, under the general title *Connections for general use and fluid power — Ports and stud ends with ISO 228-1 threads with elastomeric or metal-to-metal sealing*:

- Part 1: Threaded ports <https://standards.iteh.ai/catalog/standards/sist/1f35521f-6730-43e3-a108-ef7deadc0b5d/osist-pren-iso-1179-2-2022>
- Part 2: Heavy-duty (S series) and light-duty (L series) stud ends with elastomeric sealing (type E)
- Part 3: Light-duty (L series) stud ends with sealing by O-ring with retaining ring (types G and H)
- Part 4: Stud ends for general use only with metal-to-metal sealing (type B)

Changes from previous edition:

- Deleted Annex A and removed references to the Annex.
- Deleted Introduction and incorporated relevant content into Note 2 of Scope
- Added Interchangeability Warning concerning the hazards of intermixing of stud ends with various port types
- Added material requirements for elastomeric seal
- Replaced Test Methods, Test Report, and Re-Use of Components with the equivalent requirements of ISO 19879.
- [Figures 1](#) and [2](#) were redrawn.

# Connections for general use and fluid power — Ports and stud ends with ISO 228-1 threads with elastomeric or metal-to-metal sealing —

## Part 2:

## Heavy-duty (S series) and light-duty (L series) stud ends with elastomeric sealing (type E)

### 1 Scope

This part of ISO 1179 specifies dimensions, performance requirements and test procedures for heavy-duty (S series) and light-duty (L series) stud ends with ISO 228-1 threads and the elastomeric sealing (type E) that is used with them.

Heavy-duty (S series) stud ends with type E sealing in accordance with this part of ISO 1179 can be used at working pressures up to 63 MPa (630 bar). Light-duty (L series) stud ends with type E sealing in accordance with this part of ISO 1179 can be used at working pressures up to 25 MPa (250 bar). The permissible working pressure depends upon size, materials, design, working conditions, application, etc.

Conformance to the dimensional information in this part of ISO 1179 does not guarantee rated performance. It is the responsibility of each manufacturer to perform testing according to the specification contained in this part of ISO 1179 in order to ensure that components made to this part of ISO 1179 comply with the performance ratings.

NOTE 1 This part of ISO 1179 applies to connectors detailed in ISO 8434-1, ISO 8434-2, and ISO 8434-6.

NOTE 2 This part of ISO 1179 is not recommended in new designs. For threaded ports and stud ends specified in new designs in hydraulic fluid power applications the ISO 6149 series should be used. For threaded ports and stud ends specified in new designs in pneumatic fluid power applications the ISO 16030 should be used, except where products are to interface with ISO 7-1 threads.

### 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 48-2, *Rubber, vulcanized or thermoplastic — Determination of hardness — Part 2: Hardness between 10 IRHD and 100 IRHD*

ISO 228-1, *Pipe threads where pressure-tight joints are not made on the threads — Part 1: Dimensions, tolerances and designation*

ISO 286-1, *Geometrical product specifications (GPS) — ISO code system for tolerances on linear sizes — Part 1: Basis of tolerances, deviations and fits*

ISO 286-2, *Geometrical product specifications (GPS) — ISO code system for tolerances on linear sizes — Part 2: Tables of standard tolerance classes and limit deviations for holes and shafts*

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

## ISO/DIS 1179-2:2022(E)

ISO 9974-2, *Connections for general use and fluid power — Ports and stud ends with ISO 261 threads with elastomeric or metal-to-metal sealing — Part 2: Stud ends with elastomeric sealing (type E)*

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 and the following apply.

ISO and IEC maintain terminological 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 Interchangeability warning

**WARNING — The use of stud ends conforming to this document with ports conforming to the relevant parts of ISO 6149, ISO 9974 and ISO 11926 could lead to a hazardous situation.**

### 5 Dimensions

Heavy-duty (S series) and light-duty (L series) stud ends shall conform to the dimensions given in [Figure 1](#) and [Table 2](#). Hexagonal tolerances across flats shall be a maximum of h12 in accordance with ISO 286-1 and ISO 286-2.

### 6 Elastomeric seals

Elastomeric seals for use with both heavy-duty (S series) and light-duty (L series) stud ends shall conform to the dimensions given in [Figure 2](#) and [Table 4](#). The seals shall be made of NBR (nitrile) with a hardness of  $(90 \pm 5)$  IRHD measured per ISO 48-2, when used with petroleum base hydraulic fluids at the pressure in [Table 3](#). In those cases where the pressure and temperature and/or the hydraulic fluid used in the system differ from those specified in this part of ISO 1179, the connector manufacturer shall be consulted to ensure that an appropriate seal material is selected.

[Figure 3](#) shows the correct assembly of the stud end and elastomeric seal.

### 7 Requirements

#### 7.1 Working pressure

Heavy-duty (S series) and light-duty (L series) stud ends made of carbon steel shall be designed for use at the working pressures given in [Table 3](#).

#### 7.2 Performance

Heavy-duty (S series) and light-duty (L series) stud ends made of carbon steel shall meet or exceed the relevant burst and impulse pressures given in [Table 3](#), when tested in accordance with the General Requirements, Burst Test, and Cyclic Endurance Test of ISO 19879.

Three samples of each heavy-duty (S series) and light-duty (L series) stud end shall be burst tested. Six samples of each heavy-duty (S series) and light-duty (L series) stud end shall be cyclic endurance tested.

Stud qualification test torques are listed in [Table 5](#).



## 8 Designation of stud ends and elastomeric seals

### 8.1 Stud ends

Stud ends shall be designated by:

- “Stud end”;
- reference to this part of ISO 1179, i.e. ISO 1179-2;
- thread size, followed;
- the letter symbol for the relevant series.

EXAMPLE A heavy-duty (S series) stud end with a G 3/8 A thread in accordance with ISO 228-1 is designated as follows:

**Stud end ISO 1179-2 - G 3/8 A-S**

### 8.2 Elastomeric seals

The elastomeric seal shall be designated in accordance with [Table 1](#).

**Table 1 — Designation of elastomeric seals for ISO 1179-2 stud ends**

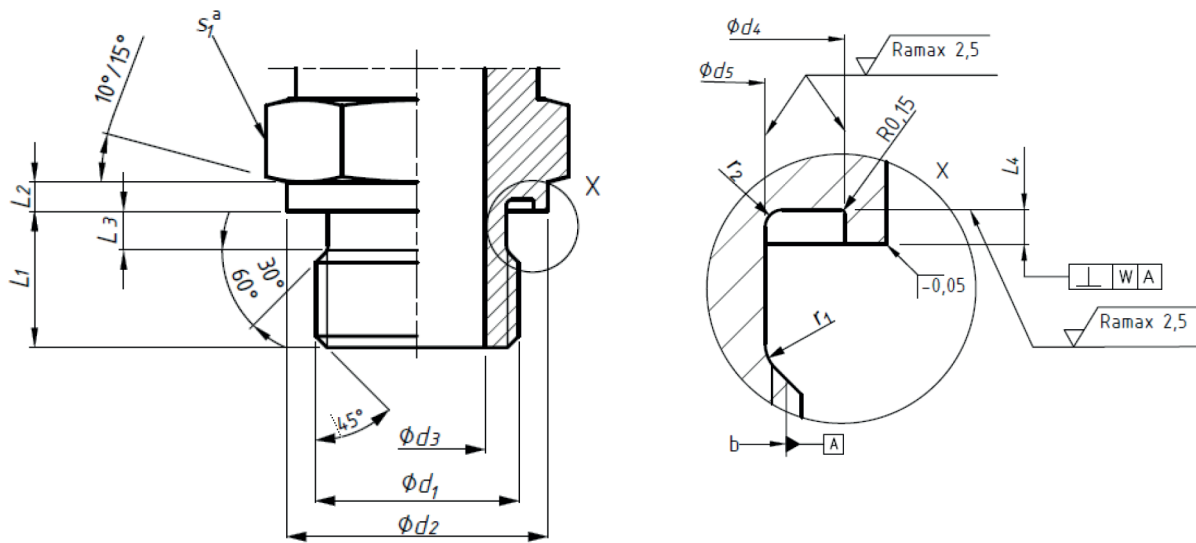
Thread	Designation
G 1/8 A	Elastomeric seal ISO 9974-2 – M10 × 1
G 1/4 A	Elastomeric seal ISO 9974-2 – M14 × 1,5
G 3/8 A	Elastomeric seal ISO 1179-2 – G 3/8 A
G 1/2 A	Elastomeric seal ISO 1179-2 – G 1/2 A
G 3/4 A	Elastomeric seal ISO 9974-2 – M26 × 1,5
G 1 A	Elastomeric seal ISO 9974-2 – M33 × 2
G 1 1/4 A	Elastomeric seal ISO 9974-2 – M42 × 2
G 1 1/2 A	Elastomeric seal ISO 9974-2 – M48 × 2
G 2 A	Elastomeric seal ISO 1179-2 - G 2 A

## 9 Identification statement (reference to this part of ISO 1179)

It is strongly recommended to manufacturers who have chosen to conform to this part of ISO 1179 that the following statement be used in test reports, catalogues and sales literature.

“Heavy-duty (S series) or light-duty (L series) stud ends conform to ISO 1179-2, *Connections for general use and fluid power — Ports and stud ends with ISO 228-1 threads with elastomeric or metal-to-metal sealing — Part 2: Heavy-duty (S series) and light-duty (L series) stud ends with elastomeric sealing (type E).*”

Dimensions in millimetres/Surface roughness values in micrometres

**Key**

- a Dimension across the flats.  
b Thread pitch diameter.

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**Figure 1 — Heavy-duty (S series) and light-duty (L series) stud end with elastomeric sealing (type E)**

**Table 2 — Dimensions for heavy-duty (S series) and light-duty (L series) stud end with elastomeric sealing (type E)**

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Dimensions in millimetres

Thread $d_1^a$	$d_2$ 0 -0,2	Inside diameter <sup>b</sup> $d_3$				$d_4$ +0,1 0	$d_5$ 0 -0,2	$L_1$ ±0,2	$L_2$ min.	$L_3$ +0,3 0	$L_4$ +0,1 0	$r_1$ ±0,2	$r_2$ ±0,1	$s_1$ hex	$W$
		L se- ries	tol.	S se- ries	tol.										
G 1/8 A	13,9	4	±0,1	—	—	12	8,3	8	1,5	2	0,7	1	0,5	14	0,1
G 1/4 A	18,9	6	±0,1	5	±0,1	16,6	11,2	12	2	3	1,2	1,2	0,5	19	0,1
G 3/8 A	21,9	9	±0,2	8	±0,2	19	14,7	12	2,5	3	1,2	1,2	0,6	22	0,1
G 1/2 A	26,9	14	±0,2	12	±0,2	24	18,4	14	3	4	1,2	1,2	0,6	27	0,1
G 3/4 A	31,9	18	±0,2	16	±0,2	29,3	23,8	16	3	4	1,2	1,2	0,6	32	0,2
G 1 A	39,9	23	±0,2	20	±0,2	36	29,6	18	3	5	1,6	1,6	0,8	41	0,2
G 1 1/4 A	49,9	30	±0,2	25	±0,2	46	38,6	20	3	5	1,6	1,6	0,8	50	0,2
G 1 1/2 A	54,9	36	±0,3	32	±0,3	51	44,5	22	3	5	1,6	1,6	0,8	55	0,2
G 2 A	74,9	—	±0,3	40	±0,3	66,9	56,4	24	3,5	5	3,4	1,6	0,8	75	0,2

<sup>a</sup> Size and dimensions in accordance with ISO 228-1.  
<sup>b</sup> Inside diameters smaller than those given in this table can be applied in accordance with other specifications.