



# DRAFT INTERNATIONAL STANDARD ISO/DIS 1179-1

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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 1: Threaded ports

(Revision in parts of ISO 1179:1981)

*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 1: Orifices filetés*

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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 3.

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 1179 was prepared by a joint working group between Technical Committee ISO/TC 5, *Ferrous metal pipes and metallic fittings*, and Technical Committee ISO/TC 131, *Fluid power systems*.

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
- 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)

The four parts of ISO 1179 constitute a revision of and replace ISO 1179:1981. This revision defines performance requirements, dimensions and designs for port and stud end connections for heavy-duty (S series) in parts 2 and 4 and light-duty (L series) in parts 2 and 3. Significant testing through more than 30 years of use has confirmed the performance requirements of connection ends made from carbon steel. The stud end connections specified in ISO 1179 parts 2, 3 and 4 apply to fittings detailed in ISO 8434 parts 1, 2 and 4.

## Introduction

In fluid power systems, power is transmitted and controlled through a fluid (liquid or gas) under pressure within a circuit. In general applications, a fluid may be conveyed under pressure. Components are connected through their threaded ports by fluid conductor fittings to tubes and pipes or to hose fittings and hoses.

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

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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 1: Threaded ports

## 1 Scope

This part of ISO 1179 specifies dimensions for ports with ISO 228-1 threads for use with nonadjustable stud ends shown in ISO 1179-2, ISO 1179-3 and ISO 1179-4 and with adjustable stud ends shown in ISO 1179-3.

Ports in accordance with this part of ISO 1179 may be used:

- with ISO 1179-2 heavy-duty (S series) stud ends with type E sealing at working pressures up to 63 MPa (630 bar) and light-duty (L series) stud ends at working pressures up to 25 MPa (250 bar);
- with ISO 1179-3 light-duty (L series) stud ends with type G sealing at working pressures up to 31,5 MPa (315 bar), and with ISO 1179-3 light-duty (L series) adjustable stud ends with type H sealing at working pressures up to 20 MPa (200 bar);
- and with ISO 1179-4 stud ends with type B sealing at working pressures up to 40 MPa (400 bar) for the S series, up to 25 MPa (250 bar) for the L series, and up to 10 MPa (100 bar) for the LL series,

except for the G2 size port, which in hydraulic fluid power systems is used mainly with accumulators and for which ISO 1179-2, ISO 1179-3 and ISO 1179-4 do not specify stud ends.

The permissible working pressure depends upon size, materials, design, working conditions, application, etc.

**For threaded ports and stud ends for use in new designs in hydraulic fluid power applications, only ISO 6149 shall be used. Threaded ports and stud ends in accordance with ISO 1179, ISO 9974 and ISO 11926 shall not be used for new design in hydraulic fluid power applications.**

**For threaded ports and stud ends for use in new designs in pneumatic fluid power applications, only ISO 16030 shall be used. Threaded ports and stud ends in accordance with this edition of ISO 1179 may not be interchangeable with those in accordance with ISO 1179:1981 and shall not be interchanged with threaded ports and stud ends in accordance with ISO 16030.**

## 2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 1179. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 1179 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

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

ISO 228-2, *Pipe threads where pressure-tight joints are not made on the threads – Part 2: Verification by means of limit gauges*

ISO 1179-2<sup>1)</sup>, *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 1179-3<sup>1)</sup>, *Connections for general use and fluid power – Ports and stud ends with ISO 228-1 threads with elastomeric or metal-to-metal sealing – Part 3: Light-duty (L series) stud ends with sealing by O-ring with retaining ring (types G and H)*

ISO 1179-4<sup>1)</sup>, *Connections for general use and fluid power – Ports and stud ends with ISO 228-1 threads with elastomeric or metal-to-metal sealing – Part 4: Stud end for general use only with metal-to-metal sealing (type B)*

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

### 3 Terms and definitions

For the purposes of this part of ISO 1179, the terms and definitions given in ISO 5598 apply.

### 4 Port size specification

The ports shall be specified by ISO 1179-1 and thread size, separated by a colon, then a spaced hyphen followed by the sealing type, for example,

ISO 1179-1:G 1/8 - B/E,

which specifies an ISO 1179-1 port with a G 1/8 thread per ISO 228-1 and a spotface that can accommodate either type B or type E sealing.

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### 5 Dimensions

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Ports shall conform to the dimensions given in figure 1 and table 1.

### 6 Test methods

Ports shall be tested along with stud ends in accordance with the test methods and requirements in ISO 1179-2, ISO 1179-3 and ISO 1179-4.

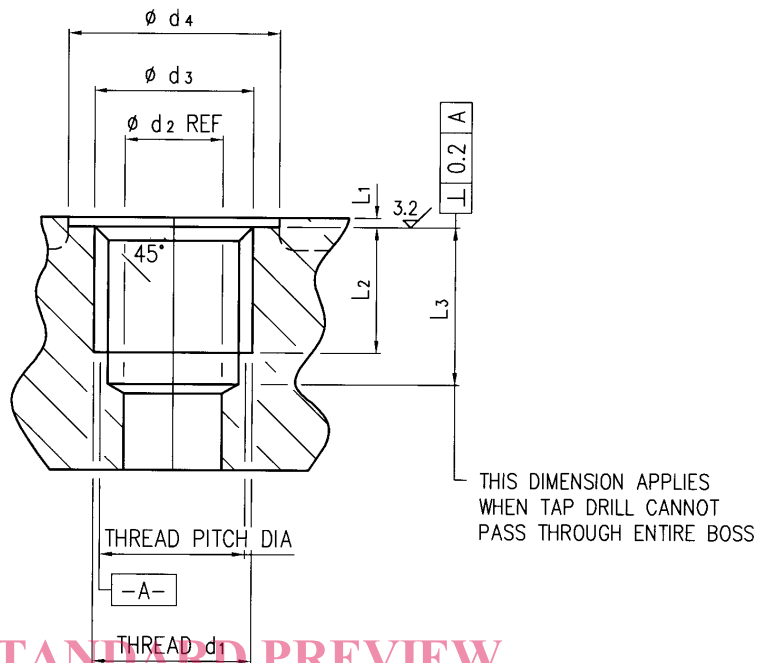
### 7 Identification statement (reference to this part of ISO 1179)

Use the following statement in test reports, catalogues and sales literature when electing to comply with this part of ISO 1179: "Threaded port conforms to ISO 1179-1, *Connections for general use and fluid power – Ports and stud ends with ISO 228-1 threads with elastomeric and metal-to metal sealing – Part 1: Threaded port.*"

1) To be published.



Dimensions in millimetres;  
surface roughness values in micrometres



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Figure 1 — ISO 1179-1 port

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Table 1 — Dimensions for ISO 1179-1 ports

Dimensions in millimetres

Thread size	d <sub>2</sub> ref.	d <sub>3</sub>		d <sub>4</sub> min.		L <sub>1</sub> max.	L <sub>2</sub>	L <sub>3</sub> <sup>a</sup> min.
		nom	tol.	Types B/E narrow	Types G/H wide			
G 1/8	4,5	9,8	+0,2 0	15	17,2	1	8,5	10,5
G 1/4	7,5	13,2		20	20,7	1,5	12,5	15,5
G 3/8	9	16,7		23	24,5	2	12,5	15,5
G 1/2	14	21		28	34	2,5	14,5	18,5
G 3/4	18	26,5		33	40	2,5	16,5	20,5
G 1	23	33,3	+0,3 0	41	46,1	2,5	18,5	23,5
G 1 1/4	30	42		51	54	2,5	20,5	25,5
G 1 1/2	36	47,9		56	60,5	2,5	22,5	27,5
G 2 <sup>b</sup>	47	59,7		69	73,28 to 73,53	3	26	31

<sup>a</sup> Tap drill depths given require use of a bottoming tap to produce the specified full thread lengths. Where standard taps are used, increase tap drill depths accordingly.

<sup>b</sup> The G2 size port is used in hydraulic fluid power systems mainly in accumulators. ISO 1179-2, ISO 1179-3 and ISO 1179-4 do not specify stud ends for the G2 size port.