

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 1179-2:2013)

EESTI STANDARDI EESSÕNA

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See Eesti standard EVS-EN ISO 1179-2:2013 sisaldab Euroopa standardi EN ISO 1179-2:2013 inglisekeelset teksti.	This Estonian standard EVS-EN ISO 1179-2:2013 consists of the English text of the European standard EN ISO 1179-2:2013.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
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English Version

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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 1179-2:2013)

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 1179-2:2013)

This European Standard was approved by CEN on 12 October 2013.

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Foreword

This document (EN ISO 1179-2:2013) has been prepared by Technical Committee ISO/TC 131 "Fluid power systems" in collaboration with Technical Committee ECISS/TC 110 "Steel tubes, and iron and steel fittings" the secretariat of which is held by UNI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2014, and conflicting national standards shall be withdrawn at the latest by May 2014.

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Endorsement notice

The text of ISO 1179-2:2013 has been approved by CEN as EN ISO 1179-2:2013 without any modification.

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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 can be conveyed under pressure. Components are connected through their threaded ports by fluid conductor connectors to tubes and pipes or to hose fittings and hoses.

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.

For threaded ports and stud ends specified in new designs in pneumatic fluid power applications, ISO/TC 131/SC 4 recommends that ISO 16030 be used, except where products are to interface with ISO 7-1 threads, 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 not be used for new designs in pneumatic fluid power applications; these International Standards are maintained because they specify ports and stud ends that are currently used in pneumatic systems worldwide.

Significant testing over more than 35 years of use has confirmed the performance requirements of connection ends made from carbon steel. The stud end connections specified in ISO 1179-2, ISO 1179-3 and ISO 1179-4 apply to connectors detailed in ISO 8434-1, ISO 8434-2 and ISO 8434-4.

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)

CAUTION — The use of stud ends conforming to this part of ISO 1179 with ports conforming to the relevant parts of ISO 6149, ISO 9974 and ISO 11926 could lead to a hazardous situation.

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 and ISO 8434-2.

NOTE 2 The introduction of this part of ISO 1179 gives recommendations for ports and stud ends to be used for new designs in hydraulic and pneumatic fluid power applications.

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 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 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 apply.

4 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.

5 Requirements

5.1 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](#).

5.2 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 [Clause 7](#) and assembled using the torques listed in [Table 5](#).

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

7 Test methods

7.1 Burst pressure test (failure pressure test)

7.1.1 Principle

Three samples shall be tested to confirm that heavy-duty (S series) and light-duty (L series) stud ends meet or exceed a ratio of 4:1 between the burst and working pressures without failure.

7.1.2 Materials

7.1.2.1 Test block and stud ends

Test blocks shall be in accordance with the requirements specified in ISO 19879. Stud ends shall be made from carbon steel and be plated.

7.1.2.2 Test seals

Unless otherwise specified, test seals shall meet the requirements specified in ISO 19879. Test seals shall conform to the dimensions given in [Table 4](#).