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 (ISO 1179-1:2013)

EESTI STANDARDIKESKUS
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NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 1179-1:2013 sisaldab Euroopa standardi EN ISO 1179-1:2013 inglisekeelset teksti.	This Estonian standard EVS-EN ISO 1179-1:2013 consists of the English text of the European standard EN ISO 1179-1:2013.
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.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 06.11.2013.	Date of Availability of the European standard is 06.11.2013.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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EUROPEAN STANDARD

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English Version

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 (ISO 1179-1:2013)

Raccordements pour applications générales et transmissions hydrauliques et pneumatiques - Orifices et éléments mâles à filetage ISO 228-1 à joint en élastomère ou étanchéité métal sur métal - Partie 1: Orifices filetés (ISO 1179-1:2013)

Leitungsanschlüsse für allgemeine Anwendung und Fluidtechnik - Einschraublöcher und Einschraubzapfen mit Gewinde nach ISO 228-1 und Elastomerdichtung oder metallener Dichtkante - Teil 1: Einschraublöcher (ISO 1179-1:2013)

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

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Foreword

This document (EN ISO 1179-1:2013) 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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 1179-1:2008.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 1179-1:2013 has been approved by CEN as EN ISO 1179-1:2013 without any modification.

Contents

Page

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.

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

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 will be 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 will be 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[1)].

1) Withdrawn.

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

CAUTION — The use of ports conforming to this part of ISO 1179 with stud ends 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 for ports with ISO 228-1 threads for use with non-adjustable stud ends described in ISO 1179-2, ISO 1179-3 and ISO 1179-4 and with adjustable stud ends described in ISO 1179-3.

Ports in accordance with this part of ISO 1179 are applicable for use 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),

— ISO 1179-3 light-duty (L series) stud ends with type G sealing at working pressures up to 31,5 MPa (315 bar) and ISO 1179-3 light-duty (L series) adjustable stud ends with type H sealing at working pressures up to 20 MPa (200 bar), and

— 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 1179-3 and ISO 1179-4 do not specify stud ends. The permissible working pressure depends upon size, materials, design, working conditions, application, etc.

Users of this part of ISO 1179 should ensure that there is sufficient material around the port to maintain the pressure.

NOTE 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 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)*

ISO 1179-3, *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, *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 ends for general use only with metal-to-metal sealing (type B)*

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

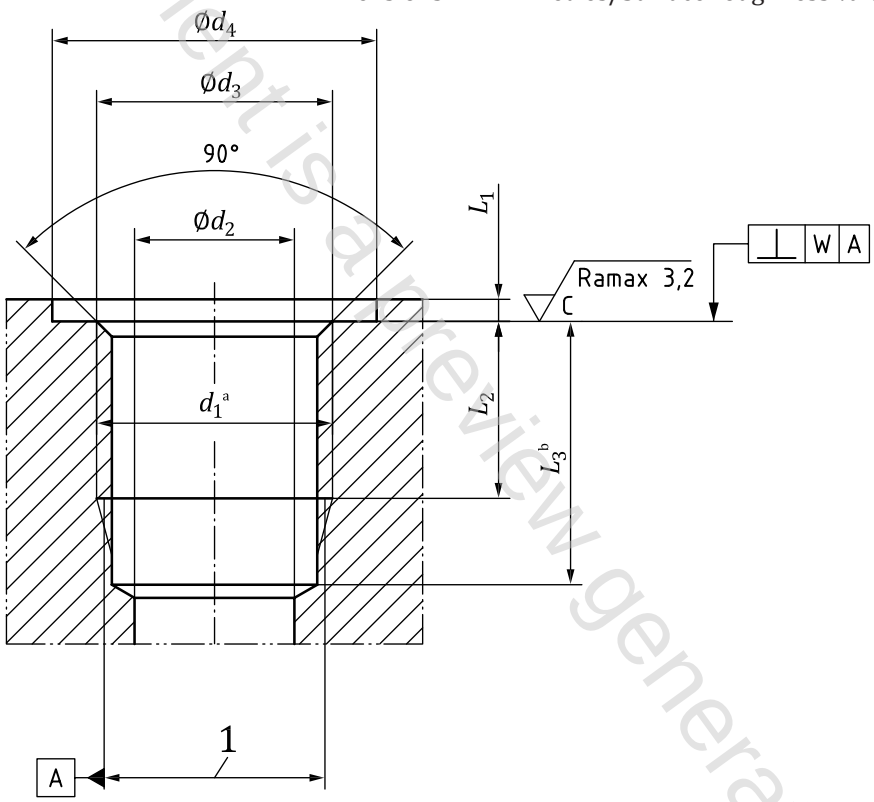
3 Terms and definitions

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

4 Dimensions

Ports shall conform to the dimensions shown in Figure 1 and given in Table 1.

Dimensions in millimetres/Surface roughness values in micrometres



Key

1 thread pitch diameter

a Thread.

b Dimension L_3 applies when the tap drill cannot pass through entire boss.

Figure 1 — ISO 1179-1 port