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Metalske priključne naprave za tekočinsko in plinovsko moč in splošna uporaba - Del 4: 24° konični priključki s priključnimi priključki s O-prstom (ISO 8434-4:1995)

Metallic tube connections for fluid power and general use - Part 4: 24° cone connectors with O-ring weld-on nipples (ISO 8434-4:1995)

Metallische Rohrverschraubungen für Fluidtechnik und allgemeine Anwendung - Teil 4: Schweißnippel mit Dichtkegel und O-Ring für 24°-Konusanschluß (ISO 8434-4:1995)

Raccords de tubes métalliques pour transmissions hydrauliques et pneumatiques et applications générales - Partie 4: Raccords à cône à 24°, à embout à souder à joint torique (ISO 8434-4:1995)

**Ta slovenski standard je istoveten z: EN ISO 8434-4:2000**

**ICS:**

23.100.40 Cevna napeljava in sklopke Piping and couplings

**SIST EN ISO 8434-4:2001****en**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
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EN ISO 8434-4

May 2000

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English version

Metallic tube connections for fluid power and general use - Part  
4: 24° cone connectors with O-ring weld-on nipples (ISO 8434-  
4:1995)

Raccords de tubes métalliques pour transmissions  
hydrauliques et pneumatiques et applications générales -  
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Metallische Rohrverschraubungen für Fluidtechnik und  
allgemeine Anwendung - Teil 4: Schweißnippel mit  
Dichtkegel und O-Ring für 24°-Konusanschluß (ISO 8434-  
4:1995)

This European Standard was approved by CEN on 8 April 2000.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

## Foreword

The text of the International Standard from Technical Committee ISO/TC 5 "Ferrous metal pipes and metallic fittings" and ISO/TC 131 "Fluid power systems" of the International Organization for Standardization (ISO) has been taken over as an European Standard by Technical Committee ECISS/TC 29 "Steel tubes and fittings for steel tubes", 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 November 2000, and conflicting national standards shall be withdrawn at the latest by November 2000.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

### Endorsement notice

The text of the International Standard ISO 8434-4:1995 has been approved by CEN as a European Standard without any modification.

NOTE: Normative references to International Standards are listed in annex ZA (normative).

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**Annex ZA  
(normative)****Normative references to International publications with their relevant  
European publications**

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN</u>	<u>Year</u>
ISO 1127	1992	Stainless steel tubes – Dimensions, tolerances and conventional masses per unit length	EN ISO 1127	1996
ISO 8434-1	1994	Metallic tube connections for fluid power and general use - Part 1: 24° compression fittings	EN ISO 8434-1	1997

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STANDARD

**ISO**  
**8434-4**

First edition  
1995-04-01

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**Metallic tube connections for fluid power  
and general use —**

**Part 4:**

**24° cone connectors with O-ring weld-on  
nipples**

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*Raccords de tubes métalliques pour transmissions hydrauliques et  
pneumatiques et applications générales —*

*Partie 4: Raccords à cône à 24°, à embout à souder à joint torique*



Reference number  
ISO 8434-4:1995(E)

## ISO 8434-4:1995(E)

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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.

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 8434-4 was prepared by Technical Committee ISO/TC 131, *Fluid power systems*, Subcommittee SC 4, *Connectors and similar products and components*.

ISO 8434 consists of the following parts, under the general title *Metallic tube connections for fluid power and general use*:

- Part 1: 24 degree compression fittings
- Part 2: 37 degree flared fittings
- Part 3: O-ring face seal fittings
- Part 4: 24 degree cone connectors with O-ring weld-on nipples
- Part 5: Test methods for threaded hydraulic fluid power connections

Annex A forms an integral part of this part of ISO 8434.

## Introduction

In fluid power systems, power is transmitted and controlled through a fluid (liquid or gas) under pressure within an enclosed circuit. In general applications, a fluid may be conveyed under pressure. Components may be connected through their ports by connections (fittings) and conductors. Tubes are rigid conductors; hoses are flexible conductors.

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# Metallic tube connections for fluid power and general use —

## Part 4:

## 24° cone connectors with O-ring weld-on nipples

### 1 Scope

This part of ISO 8434 specifies general and dimensional requirements for the design and performance of 24° cone connectors with O-ring weld-on nipples that are suitable for use with steel and stainless steel tubes with outside diameters from 6 mm to 42 mm, inclusive. These fittings are for use in fluid power and general applications where elastomeric seals can be used, within the limits of pressure and temperature specified in this part of ISO 8434. S series fittings in accordance with this part of ISO 8434 may be used at working pressures up to 63 MPa (630 bar<sup>1)</sup>). L-series fittings in accordance with this part of ISO 8434 may be used at working pressures up to 25 MPa (250 bar) (see table 1).

They are intended for the connection of tubes and hose fittings to ports in accordance with ISO 6149-1, ISO 1179-1 and ISO 9974-1.

#### NOTES

1 For new designs in hydraulic fluid power applications, see the requirements given in 9.6.

2 For use under conditions outside the pressure and/or temperature limits specified, see 5.4.

1) 1 bar = 0,1 MPa = 10<sup>5</sup> Pa; 1 MPa = 1 N/mm<sup>2</sup>

2) To be published. (Revision of ISO 261:1973)

3) To be published.

### 2 Normative references

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The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 8434. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 8434 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 48:1994, *Rubber, vulcanized or thermoplastic — Determination of hardness (hardness between 10 IRHD and 100 IRHD)*.

ISO 228-1:1994, *Pipe threads where pressure-tight joints are not made on the threads — Part 1: Dimensions, tolerances and designation*.

ISO 261:—<sup>2)</sup>, *ISO general-purpose metric screw threads — General plan*.

ISO 1127:1992, *Stainless steel tubes — Dimensions, tolerances and conventional masses per unit length*.

ISO 1179-1:—<sup>3)</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 1: Threaded ports.

ISO 1179-2:—<sup>3)</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 3304:1985, *Plain end seamless precision steel tubes — Technical conditions for delivery.*

ISO 3305:1985, *Plain end welded precision steel tubes — Technical conditions for delivery.*

ISO 3601-3:1987, *Fluid systems — Sealing devices — O-rings — Part 3: Quality acceptance criteria.*

ISO 4397:1993, *Fluid power systems and components — Connectors and associated components — Nominal outside diameters of tubes and nominal inside diameters of hoses.*

ISO 4759-1:1978, *Tolerances for fasteners — Part 1: Bolts, screws and nuts with thread diameters between 1,6 (inclusive) and 150 mm (inclusive) and product grades A, B and C.*

ISO 5598:1985, *Fluid power systems and components — Vocabulary.*

ISO 6149-1:1993, *Connections for fluid power and general use — Ports and stud ends with ISO 261 threads and O-ring sealing — Part 1: Ports with O-ring seal in truncated housing.*

ISO 6149-2:1993, *Connections for fluid power and general use — Ports and stud ends with ISO 261 threads and O-ring sealing — Part 2: Heavy-duty (S series) stud ends — Dimensions, design, test methods and requirements.*

ISO 6149-3:1993, *Connections for fluid power and general use — Ports and stud ends with ISO 261 threads and O-ring sealing — Part 3: Light-duty (L series) stud ends — Dimensions, design, test methods and requirements.*

ISO 8434-1:1994, *Metallic tube connections for fluid power and general use — Part 1: 24 degree compression fittings.*

ISO 9227:1990, *Corrosion tests in artificial atmospheres — Salt spray tests.*

ISO 9974-1:—<sup>3)</sup>, *Connections for general use and fluid power — Ports and stud ends with ISO 261 threads with elastomeric or metal-to-metal sealing — Part 1: Threaded ports.*

ISO 9974-2:—<sup>3)</sup>, *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).*

### 3 Definitions

For the purposes of this part of ISO 8434, the definitions given in ISO 5598 and the following definitions apply.

**3.1 fluid power:** Means whereby energy is transmitted, controlled and distributed using a pressurized fluid as the medium.

[ISO 5598]

**3.2 connection; fitting:** Leakproof device to connect pipelines (conductors) to one another, or to equipment.

[ISO 5598]

**3.3 fastening thread:** Terminal thread of a complete fitting.

**3.4 run:** Two principal, axially aligned outlets of a tee or cross.

**3.5 branch:** Side outlet(s) of a tee or cross.

**3.6 chamfer:** Removal of a conical portion at the entrance of a thread to assist assembly and prevent damage to the start of the thread.

**3.7 assembly torque:** The torque to be applied in order to achieve a satisfactory final assembly.

**3.8 working pressure:** Pressure at which the apparatus is being operated in a given application.

[ISO 5598]

### 4 Requirements for materials

Figure 1 shows the cross-section and component parts of a typical 24° cone connector with O-ring weld-on nipple.