

Metallic tube connections for fluid power and general use —

Part 1: 24° compression fittings

The European Standard EN ISO 8434-1:1996 has the status of a British Standard

ICS 23.100.30

Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee MCE/18, Fluid power systems and components, upon which the following bodies were represented:

- Association of British Mining Equipment Companies
- British Compressed Air Society
- British Fluid Power Association
- British Hydromechanics Research Association
- British Steel Industry
- Department of Trade and Industry (National Engineering Laboratory)
- Ministry of Defence
- University of Bath

The following bodies were also represented in the drafting of the standard through subcommittees and panels.

- British Iron and Steel Producers' Association
- Engineering Equipment and Materials Users' Association

This British Standard, having been prepared under the direction of the Engineering Sector Board, was published under the authority of the Standards Board and comes into effect on 15 September 1995

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The following BSI references relate to the work on this standard:
Committee reference MCE/18
Draft for comment 89/76134 DC

ISBN 0 580 24571 3

Amendments issued since publication

Amd. No.	Date	Comments
9583	February 1998	Indicated by a sideline in the margin

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National foreword

This British Standard has been prepared by Technical Committee MCE/18 and is the English language version of EN ISO 8434-1:1997 *Metallic tube connections for fluid power and general use — Part 1: 24° compression fittings* published by the European Committee for Standardization (CEN). It is identical with ISO 8434-1:1994 published by the International Organization for Standardization (ISO).

The UK participation in its preparation was entrusted to Technical Committee MCE/18 which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international committee any enquiries on interpretation, or proposals for change, and keep UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

In 1997 the European Committee for Standardization (CEN) accepted ISO 8434-1:1994 as European Standard EN ISO 8434-1:1997. As a consequence of implementing the European Standard this British Standard is renumbered as BS EN ISO 8434-1:1998 and any reference to BS ISO 8434-1:1994 should be read as a reference to BS EN ISO 8434-1:1998.

NOTE International and European Standards, as well as overseas standards, are available from Customer Services, BSI, 389 Chiswick High Road, London W4 4AL.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN ISO title page, page 2, the ISO title page, pages ii to iv, pages 1 to 24, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

English version

Metallic tube connections for fluid power and general use — Part 1: 24° compression fittings

(ISO 8434-1:1994)

Raccords de tubes métalliques pour
transmissions hydrauliques et pneumatiques et
applications générales —
Partie 1: Raccords à compression à 24°
(ISO 8434-1:1994)

Metallische Rohrverschraubungen für
Fluidtechnik und allgemeine Anwendung —
Teil 1: 24° Schneidringverschraubung
(ISO 8434-1:1994)

This European Standard was approved by CEN on 16 February 1996.

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.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

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 131, Fluid power systems, of the International Organization for Standardization (ISO) has been taken over as a 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 April 1998, and conflicting national standards shall be withdrawn at the latest by April 1998.

According to CEN/CENELEC Internal Regulations, 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 8434-1:1994 has been approved by CEN as a European Standard without any modification.

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

INTERNATIONAL STANDARD

ISO
8434-1

First edition
1994-05-15

Metallic tube connections for fluid power and general use —

Part 1: **24° compression fittings**

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

Partie 1: Raccords à compression à 24°



Reference number
ISO 8434-1:1994(E)
Documents



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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 8434-1 was prepared jointly by Technical Committees ISO/TC 5, *Ferrous metal pipes and metallic fittings* and ISO/TC 131, *Fluid power systems*, Subcommittee SC 4, *Connectors and similar products and components*.

This first edition, together with ISO 8432-2, cancels and replaces ISO 8434:1986, which has been technically revised.

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 connectors.

Annex A forms an integral part of this part of ISO 8434. Annex A is for information only.

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), tubes and hoses. Tubes are rigid conductors; hoses are flexible conductors.

1 Scope

This part of ISO 8434 specifies general and dimensional requirements for the design and performance of 24° compression fittings which are suitable for use with ferrous and non-ferrous tubes with outside diameters from 4 mm to 42 mm, inclusive. These fittings are for use in fluid power and general applications within the limits of pressure and temperature specified in this part of ISO 8434.

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

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

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

2 Normative references

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

ISO 261:—, *ISO general-purpose metric screw threads — General plan*¹⁾.

ISO 274:1975, *Copper tubes of circular section — Dimensions.*

ISO 286-2:1988, *ISO system of limits and fits — Part 2: Tables of standard tolerance grades and limit deviations for holes and shafts.*

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

ISO 1179-1:—, *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*²⁾.

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)*²⁾.

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 seating by O-ring with retaining ring (types G and H)*²⁾.

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)*²⁾.

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

ISO 9974-1:—, *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*²⁾.

¹⁾ To be published. (Revision of ISO 261:1973)

²⁾ To be published.