



SLOVENSKI STANDARD

SIST EN ISO 4414:2011

01-januar-2011

Nadomešča:

SIST EN 983:1998+A1:2008

Fluidna tehnika - Pnevmatika - Splošna pravila in varnostne zahteve za fluidne sisteme in njihove komponente (ISO 4414:2010)

Pneumatic fluid power - General rules and safety requirements for systems and their components (ISO 4414:2010)

Fluidtechnik - Allgemeine Regeln und sicherheitstechnische Anforderungen an Pneumatikanlagen und deren Bauteile (ISO 4414:2010)

Transmissions pneumatiques - Règles générales et exigences de sécurité pour les systèmes et leurs composants (ISO 4414:2010)

Ta slovenski standard je istoveten z: **EN ISO 4414:2010**

ICS:

23.100.01	Hidravlični sistemi na splošno	Fluid power systems in general
23.140	Kompresorji in pnevmatični stroji	Compressors and pneumatic machines

SIST EN ISO 4414:2011

en,fr,de

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 4414:2011](#)

<https://standards.iteh.ai/catalog/standards/sist/20d433e5-7a7e-493d-a8bb-a69e78d3c772/sist-en-iso-4414-2011>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 4414

November 2010

ICS 23.100.01

Supersedes EN 983:1996+A1:2008

English Version

Pneumatic fluid power - General rules and safety requirements for systems and their components (ISO 4414:2010)

Transmissions pneumatiques - Règles générales et
exigences de sécurité pour les systèmes et leurs
composants (ISO 4414:2010)

Fluidtechnik - Allgemeine Regeln und sicherheitstechnische
Anforderungen an Pneumatikanlagen und deren Bauteile
(ISO 4414:2010)

This European Standard was approved by CEN on 6 November 2010.

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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

[SIST EN ISO 4414:2011](https://standards.iteh.ai/catalog/standards/sist/20d433e5-7a7e-493d-a8bb-a69e78d3c772/sist-en-iso-4414-2011)

<https://standards.iteh.ai/catalog/standards/sist/20d433e5-7a7e-493d-a8bb-a69e78d3c772/sist-en-iso-4414-2011>



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents	Page
Foreword.....	3
Annex ZA	4

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 4414:2011](https://standards.iteh.ai/catalog/standards/sist/20d433e5-7a7e-493d-a8bb-a69e78d3c772/sist-en-iso-4414-2011)
<https://standards.iteh.ai/catalog/standards/sist/20d433e5-7a7e-493d-a8bb-a69e78d3c772/sist-en-iso-4414-2011>

Foreword

This document (EN ISO 4414:2010) has been prepared by Technical Committee ISO/TC 131 “Fluid power systems” in collaboration with Technical Committee CEN/TC 114 “Safety of machinery” the secretariat of which is held by DIN.

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 2011, and conflicting national standards shall be withdrawn at the latest by November 2011.

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 983:1996+A1:2008.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive.

For relationship with EU Directive, see informative Annex ZA, which is an integral part of this document.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

[SIST EN ISO 4414:2011](https://standards.iteh.ai/catalog/standards/sist/20d433e5-7a7e-493d-a8bb-a69e78d3c572/sist-en-iso-4414-2011)

<https://standards.iteh.ai/catalog/standards/sist/20d433e5-7a7e-493d-a8bb-a69e78d3c572/sist-en-iso-4414-2011>

Endorsement notice

The text of ISO 4414:2010 has been approved by CEN as a EN ISO 4414:2010 without any modification.

Annex ZA (informative)

Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide a means of conforming to Essential Requirements of the New Approach Directive 2006/42/EC on machinery.

Once this standard is cited in the Official Journal of the European Union under that Directive and has been implemented as a national standard in at least one Member State, compliance with the normative clauses of this standard confers, within the limits of the scope of this standard, a presumption of conformity with the relevant Essential Requirements, except Essential Requirements 1.5.8 and 1.7.4.2 u), of that Directive and associated EFTA regulations.

WARNING — Other requirements and other EU Directives may be applicable to the product(s) falling within the scope of this standard.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN ISO 4414:2011](https://standards.iteh.ai/catalog/standards/sist/20d433e5-7a7e-493d-a8bb-a69e78d3c772/sist-en-iso-4414-2011)

<https://standards.iteh.ai/catalog/standards/sist/20d433e5-7a7e-493d-a8bb-a69e78d3c772/sist-en-iso-4414-2011>

INTERNATIONAL STANDARD

**ISO
4414**

Third edition
2010-11-15

Pneumatic fluid power — General rules and safety requirements for systems and their components

*Transmissions pneumatiques — Règles générales et exigences de
sécurité pour les systèmes et leurs composants*

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 4414:2011](https://standards.iteh.ai/catalog/standards/sist/20d433e5-7a7e-493d-a8bb-a69e78d3c772/sist-en-iso-4414-2011)

[https://standards.iteh.ai/catalog/standards/sist/20d433e5-7a7e-493d-a8bb-
a69e78d3c772/sist-en-iso-4414-2011](https://standards.iteh.ai/catalog/standards/sist/20d433e5-7a7e-493d-a8bb-a69e78d3c772/sist-en-iso-4414-2011)



Reference number
ISO 4414:2010(E)

© ISO 2010

ISO 4414:2010(E)

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN ISO 4414:2011](https://standards.iteh.ai/catalog/standards/sist/20d433e5-7a7e-493d-a8bb-a69e78d3c772/sist-en-iso-4414-2011)

<https://standards.iteh.ai/catalog/standards/sist/20d433e5-7a7e-493d-a8bb-a69e78d3c772/sist-en-iso-4414-2011>

**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2010

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
Introduction.....	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 List of significant hazards	2
5 General rules and safety requirements.....	3
5.1 General	3
5.2 Basic requirements for the design and specification of pneumatic systems.....	3
5.3 Additional requirements	6
5.4 Specific requirements for components and controls.....	7
6 Verification of safety requirements and acceptance testing	17
7 Information for use	17
7.1 General requirements	17
7.2 Final information	18
7.3 Maintenance and operating data	18
7.4 Marking and identification	19
8 Identification statement (reference to this International Standard).....	23
Annex A (informative) List of significant hazards	24
Annex B (informative) Form for collecting pneumatic system and component data to ensure conformance with ISO 4414	26
Bibliography.....	37

ISO 4414:2010(E)**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 2.

The main task of technical committees is to prepare International Standards. 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.

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

ISO 4414 was prepared by Technical Committee ISO/TC 131, *Fluid power systems*, Subcommittee SC 9, *Installations and systems*.

This third edition cancels and replaces the second edition (ISO 4414:1998), which has been technically revised, specifically with regards to the following:

- a) integration of ISO 4414:1998 and EN 983:1996;
- b) integration of safety requirements to comply with the European Machinery Directive 2006/42/EC;
- c) updating of safety requirements, taking into account International Standards on machine safety.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN ISO 4414:2011

<https://standards.iteh.ai/catalog/standards/sist/20d433e5-7a7e-493d-a8bb-a69e78d3c772/sist-en-iso-4414-2011>

Introduction

This International Standard is a type B standard as defined in ISO 12100. The stipulations of this International Standard can be supplemented or modified by a type C standard. For machines that are covered by the scope of a type C standard and that have been designed and built in accordance with the provisions of that standard, the provisions of that type C standard take precedence over the provisions of this type B standard.

In pneumatic fluid power systems, power is transmitted and controlled through air or a neutral gas under pressure within a circuit.

The application of pneumatic fluid power systems requires a thorough understanding and precise communication between the supplier and purchaser. This International Standard was prepared to assist that understanding and communication and to document many of the good practices learned from experience with pneumatic systems.

Use of this International Standard assists in

- a) identifying and specifying the requirements for pneumatic systems and components;
- b) identifying respective areas of responsibility;
- c) designing systems and their components to comply with specific requirements;
- d) understanding the safety requirements of a pneumatic system.

Equivalent requirements for hydraulic systems are defined in ISO 4413.

SIST EN ISO 4414:2011
<https://standards.iteh.ai/catalog/standards/sist/20d433e5-7a7e-493d-a8bb-a69e78d3c772/sist-en-iso-4414-2011>

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 4414:2011](https://standards.iteh.ai/catalog/standards/sist/20d433e5-7a7e-493d-a8bb-a69e78d3c772/sist-en-iso-4414-2011)

<https://standards.iteh.ai/catalog/standards/sist/20d433e5-7a7e-493d-a8bb-a69e78d3c772/sist-en-iso-4414-2011>

Pneumatic fluid power — General rules and safety requirements for systems and their components

1 Scope

This International Standard specifies general rules and safety requirements for pneumatic fluid power systems and components used on machinery as defined by ISO 12100:2010, 3.1. It deals with all significant hazards associated with pneumatic fluid power systems and specifies principles to apply in order to avoid those hazards when the systems are put to their intended use.

NOTE 1 See Clause 4 and Annex A.

The significant hazard noise is incompletely dealt with in this International Standard.

NOTE 2 Noise emission depends especially on the installation of pneumatic components or systems into machinery.

This International Standard applies to the design, construction and modification of systems and their components, also taking into account the following aspects:

- (standards.iteh.ai)
- [SIST EN ISO 4414:2011
https://standards.iteh.ai/catalog/standards/sist/20d433e5-7a7e-493d-a8bb-a69e78d3c772/sist-en-iso-4414-2011](https://standards.iteh.ai/catalog/standards/sist/20d433e5-7a7e-493d-a8bb-a69e78d3c772/sist-en-iso-4414-2011)
- a) assembly;
 - b) installation;
 - c) adjustment;
 - d) uninterrupted system operation;
 - e) ease and economy of maintenance and cleaning;
 - f) reliable operation in all intended uses;
 - g) energy efficiency; and
 - h) environment.

This International Standard does not apply to air compressors and the systems associated with air distribution as typically installed in a factory, including gas bottles and receivers.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 1219-1, *Fluid power systems and components — Graphic symbols and circuit diagrams — Part 1: Graphic symbols for conventional use and data-processing applications*

ISO 1219-2, *Fluid power systems and components — Graphic symbols and circuit diagrams — Part 2: Circuit diagrams*