INTERNATIONAL STANDARD

ISO 2944

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Fluid power systems and components — Nominal pressures

Transmissions hydrauliques et pneumatiques — Pressions nominales

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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 International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 2944 was prepared by Technical Committee ISO/TC 131, *Fluid power systems*, Subcommittee SC 1, *Terminology, classification and symbols*.

This second edition cancels and replaces the first edition (ISO 2944:1974), which has been technically revised.

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Introduction

In fluid power systems, power is transmitted and controlled by a fluid (liquid or gas) under pressure within a circuit. Systems and components are generally designed and marketed for a specific fluid pressure range.

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Fluid power systems and components — Nominal pressures

1 Scope

This International Standard specifies a series of nominal pressures from which to choose values used in other International Standards related to fluid power.

It provides a standardized series from which to choose values applied to individual fluid power systems and/or components.

The nominal pressures in this International Standard are for positive gauge pressures used with fluid power systems and/or components.

NOTE See 3.1 and 4.3 for explanations of nominal pressure.

2 Normative references

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The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 1000, *SI units and recommendations for the use of their multiples and of certain other units.*

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

3 Terms and definitions

For the purposes of this International Standard, the terms and definitions given in ISO 5598 and the following apply:

3.1
nominal pressure
pressure value assigned to a component, piping or a system for the purpose of convenient designation and indicating its belonging to a series

4 Units

4.1 The pressure units used shall be kilopascal or megapascal in accordance with ISO 1000, depending on the magnitude of the nominal pressure, followed by the equivalent value in bar[1)] in parentheses.

1) 1 bar = 10^5 Pa = 100 kPa = 0,1 MPa; 1 Pa = 1 N/m^2

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4.2 Nominal pressure shall be expressed as “nominal pressure of … kPa (… bar)” or “nominal pressure of … MPa (… bar).”

4.3 It shall be assumed that the nominal pressure is gauge pressure, i.e. the pressure above atmospheric pressure, when no modifier is given.

5 Nominal pressures

Values should be selected from the values given in Table 1.

6 Identification statement (Reference to this International Standard)

Use the following statement in test reports, catalogues, and sales literature when electing to comply with this International Standard:

“Nominal pressures selected in accordance with ISO 2944:2000, *Fluid power systems and components — Nominal pressures*.”

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Table 1 — Nominal pressures

kPa	MPa	(Equivalent value in bar)
1	—	(0,01)
1,6	—	(0,016)
2,5	—	(0,025)
4	—	(0,04)
6,3	—	(0,063)
10	—	(0,1)
16	—	(0,16)
25	—	(0,25)
40	—	(0,4)
63	—	(0,63)
100	—	(1)
[125]	—	[(1,25)]
160	—	(1,6)
[200]	—	[(2)]
250	—	(2,5)
[315]	—	[(3,15)]
400	—	(4)
[500]	—	[(5)]
630	—	(6,3)
[800]	—	[(8)]
1 000	1	(10)
—	[1,25]	[(12,5)]
—	1,6	(16)
—	[2]	[(20)]
—	2,5	(25)
—	[3,15]	[(31,5)]
—	4	(40)
—	[5]	[(50)]
—	6,3	(63)
—	[8]	[(80)]
—	10	(100)
—	12,5	(125)
—	16	(160)
—	20	(200)
—	25	(250)
—	31,5	(315)
—	[35]	[(350)]
—	40	(400)
—	[45]	[(450)]
—	50	(500)
—	63	(630)
—	80	(800)
—	100	(1 000)
—	125	(1 250)
—	160	(1 600)
—	200	(2 000)
—	250	(2 500)

NOTE Values in brackets are non-preferred.

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Bibliography

[1] ISO 3322, *Fluid power systems and components — Cylinders — Nominal pressures.*

[2] ISO 4399, *Fluid power systems and components — Connectors and associated components — Nominal pressures.*

[3] ISO 5941, *Compressors, pneumatic tools and machines — Preferred pressures.*

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