

STN	Ropný, petrochemický a plynárenský priemysel. Axiálne a odstredivé kompresory, expandéry-kompresory. Časť 1: Všeobecné požiadavky (ISO 10439-1: 2015).	STN EN ISO 10439-1 45 1621
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Petroleum, petrochemical and natural gas industries - Axial and centrifugal compressors and expander-compressors - Part 1: General requirements (ISO 10439-1:2015)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 07/15

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Podľa zákona č. 264/1999 Z. z. v znení neskorších predpisov sa môžu slovenské technické normy
rozmnžovať a rozširovať iba so súhlasom Úradu pre normalizáciu, metrológiu a skúšobníctvo SR.

English Version

Petroleum, petrochemical and natural gas industries - Axial and centrifugal compressors and expander-compressors - Part 1: General requirements (ISO 10439-1:2015)

Industries du pétrole, de la pétrochimie et du gaz naturel - Compresseurs axiaux et centrifuges et compresseurs-détenteurs - Partie 1: Exigences générales (ISO 10439-1:2015)

Erdöl-, petrochemische und Erdgasindustrie - Axial- und Radialkompressoren und Expanderkompressoren für Sonderanwendungen zur Handhabung von Gas oder Prozessluft - Teil 1: Allgemeine Anforderungen (ISO 10439-1:2015)

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword.....**3**

Foreword

This document (EN ISO 10439-1:2015) has been prepared by Technical Committee ISO/TC 118 "Compressors and pneumatic tools, machines and equipment" in collaboration with Technical Committee CEN/TC 12 "Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries" the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by August 2015, and conflicting national standards shall be withdrawn at the latest by August 2015.

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 10439:2002.

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Endorsement notice

The text of ISO 10439-1:2015 has been approved by CEN as EN ISO 10439-1:2015 without any modification.

**Petroleum, petrochemical and natural
gas industries — Axial and centrifugal
compressors and expander-
compressors —**

**Part 1:
General requirements**

*Industries du pétrole, de la pétrochimie et du gaz naturel —
Compresseurs axiaux et centrifuges et compresseurs-détenteurs —
Partie 1: Exigences générales*





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Contents

Page

Foreword	vi
Introduction	vii
1 Scope	1
2 Normative references	1
3 Terms, abbreviated terms and definitions	2
3.1 Terms and definitions.....	2
3.2 Abbreviated terms.....	9
4 General	11
4.1 Dimensions and units.....	11
4.2 Statutory requirements.....	11
4.3 Unit responsibility.....	11
4.4 Basic design.....	11
4.4.1 General.....	11
4.4.2 Speed requirements.....	13
4.5 Materials.....	14
4.5.1 General.....	14
4.5.2 Castings.....	17
4.5.3 Forgings.....	18
4.5.4 Welding.....	19
4.6 Casings.....	19
4.6.1 Pressure-containing casings.....	19
4.6.2 Casing repairs and inspections.....	21
4.6.3 Material inspection of pressure-containing parts.....	22
4.6.4 Pressure casing connections.....	24
4.6.5 Casing support structures.....	26
4.6.6 External forces and moments.....	27
4.6.7 Guide vanes, stators, and stationary internals.....	27
4.7 Rotating elements.....	27
4.8 Dynamics.....	29
4.8.1 General.....	29
4.8.2 Lateral analysis.....	30
4.8.3 Unbalanced rotor response verification test.....	37
4.8.4 Additional testing.....	38
4.8.5 Level 1 stability analysis.....	39
4.8.6 Level II stability analysis.....	41
4.8.7 Torsional analysis.....	42
4.8.8 Vibration and balancing.....	44
4.9 Bearings and bearing housings.....	48
4.9.1 General.....	48
4.9.2 Hydrodynamic radial bearings.....	48
4.9.3 Hydrodynamic thrust bearings.....	48
4.9.4 Bearing housings.....	49
4.10 Shaft and seals.....	49
4.10.1 General.....	49
4.10.2 Clearance seals.....	50
4.10.3 Oil seals.....	51
4.10.4 Self-acting dry gas seal.....	51
4.11 Integral gearing.....	53
4.12 Nameplates and rotation arrows.....	53
5 Accessories	53
5.1 Drivers and gearing.....	53
5.2 Couplings and guards.....	54

ISO 10439-1:2015(E)

5.3	Lubrication and sealing systems	54
5.4	Mounting plates	55
5.4.1	General	55
5.4.2	Baseplates	58
5.4.3	Soleplates and sub-soleplates	60
5.5	Controls and instrumentation	61
5.5.1	General	61
5.5.2	Control systems	61
5.5.3	Instrument and control panels	62
5.5.4	Instrumentation	62
5.5.5	Alarms, shutdowns, and control systems	62
5.5.6	Electrical systems	62
5.5.7	Vibration, position, and bearing temperature detectors	62
5.6	Piping and appurtenances	62
5.6.1	General	62
5.6.2	Instrument piping	63
5.6.3	Process piping	63
5.7	Special tools	63
6	Inspection, testing, and preparation for shipment	63
6.1	General	63
6.2	Inspection	64
6.2.1	General	64
6.2.2	Material inspection	65
6.3	Testing	66
6.3.1	General	66
6.3.2	Hydrostatic test	66
6.3.3	Overspeed test	66
6.3.4	Dry gas seals	66
6.3.5	Mechanical running test	66
6.3.6	Assembled machine gas leakage test	68
6.3.7	Optional tests	68
6.4	Preparation for shipment	69
7	Supplier's data	71
7.1	General	71
7.2	Proposals	72
7.2.1	General	72
7.2.2	Drawings	73
7.2.3	Technical data	73
7.2.4	Curves	74
7.2.5	Optional tests	75
7.3	Contract data	75
7.3.1	General	75
7.3.2	Curves and datasheets	75
7.3.3	Progress reports	76
7.3.4	Parts lists and recommended spares	76
7.3.5	Installation, operation, maintenance, and technical data manuals	76
	Annex A (normative) Procedure for the determination of residual unbalance	78
	Annex B (informative) Typical shaft end seals	88
	Annex C (normative) Requirements for lateral analysis reports	97
	Annex D (normative) Requirements for torsional analysis reports	105
	Annex E (normative) Magnetic bearings	109
	Annex F (normative) Dry gas seal testing at manufacturer's shop	124
	Annex G (informative) Guidelines for anti-surge systems	126

Annex H (informative) Typical bid tab template	127
Bibliography	128

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 118, *Compressors and pneumatic tools, machines and equipment*, Subcommittee SC 1, *Process compressors*.

This first edition, together with ISO 10439-2, ISO 10439-3, and ISO 10439-4, cancels and replaces ISO 10439:2002.

ISO 10439 consists of the following parts, under the general title *Petroleum, petrochemical and natural gas industries — Axial and centrifugal compressors and expander-compressors*:

- *Part 1: General requirements*
- *Part 2: Non-integrally geared centrifugal and axial compressors*
- *Part 3: Integrally geared centrifugal compressors*
- *Part 4: Expander-compressors*

Introduction

This International Standard is based on the 7th edition of the American Petroleum Institute standard API 617.

Users of this International Standard should be aware that further or differing requirements may be needed for individual applications. This International Standard is not intended to inhibit a supplier from offering, or the purchaser from accepting alternative equipment or engineering solutions for the individual application. This may be particularly appropriate where there is innovative or developing technology. Where an alternative is offered, the supplier should identify any variations from this International Standard and provide details.

An asterisk (*) at the beginning of the paragraph of a clause or subclause indicates that either a decision is required or further information is to be provided by the purchaser. This information should be indicated on data sheets or stated in the enquiry or purchase order (see examples in ISO 10439-2:2015, Annex A, ISO 10439-3:2015, Annex A, and ISO 10439-4:2015, Annex A).

This International Standard includes the following annexes:

- [Annex A](#): Procedure for the determination of residual unbalance;
- [Annex B](#): Typical shaft end seals;
- [Annex C](#): Requirements for lateral analysis reports;
- [Annex D](#): Requirements for torsional analysis reports;
- [Annex E](#): Magnetic bearings;
- [Annex F](#): Dry gas seal testing at manufacturer's shop;
- [Annex G](#): Guidelines for anti-surge systems;
- [Annex H](#): Typical bid tab template.

[Annex A](#), [Annex C](#), [Annex D](#), [Annex E](#), and [Annex F](#) form a normative part of this part of ISO 10439. [Annex B](#), [Annex G](#), and [Annex H](#) are for information only.

In this International Standard, where practical, US customary units are included in parentheses for information.

Petroleum, petrochemical and natural gas industries — Axial and centrifugal compressors and expander- compressors —

Part 1: General requirements

1 Scope

This International Standard specifies minimum requirements and gives recommendations for axial compressors, single-shaft, and integrally geared process centrifugal compressors, and expander-compressors for special purpose applications that handle gas or process air in the petroleum, petrochemical, and natural gas industries. This part of ISO 10439 specifies general requirements applicable to all such machines.

This International Standard does not apply to fans (these are covered by API 673) or blowers that develop less than 34 kPa (5 psi) pressure rise above atmospheric pressure. This International Standard also does not apply to packaged, integrally geared centrifugal plant, and instrument air compressors, which are covered by API 672. Hot gas expanders over 300 °C (570 °F) are not covered by this International Standard.

This part of ISO 10439 contains information pertinent to all equipment covered by the other parts of ISO 10439. It shall be used in conjunction with the following parts of ISO 10439, as applicable to the specific equipment covered:

- ISO 10439-2;
- ISO 10439-3;
- ISO 10439-4.

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.

NOTE Typical documents submitted as a user inquiry or order are user specifications, industry specifications, (such as ISO and API specifications), data sheets, meeting notes, and supplemental agreements.

ISO 261, *ISO general purpose metric screw threads — General plan*

ISO 6708, *Pipework components — Definition and selection of DN (nominal size)*

ISO 7005-1, *Pipe flanges — Part 1: Steel flanges for industrial and general service piping systems*

ISO 7005-2, *Metallic flanges — Part 2: Cast iron flanges*

ISO 8068, *Lubricants, industrial oils and related products (class L) — Family T (Turbines) — Specification for lubricating oils for turbines*

ISO 21940-32, *Mechanical vibration — Rotor balancing — Part 32: Shaft and fitment key convention*

ISO 10438 (all parts), *Petroleum, petrochemical and natural gas industries — Lubrication, shaft-sealing and control-oil systems and auxiliaries*

ISO 10439-1:2015(E)

ISO 10441, *Petroleum, petrochemical and natural gas industries — Flexible couplings for mechanical power transmission — Special-purpose applications*

ISO 14839-3, *Mechanical vibration — Vibration of rotating machinery equipped with active magnetic bearings — Part 3: Evaluation of stability margin*

ISO 15156-3, *Petroleum and natural gas industries — Materials for use in H₂S-containing environments in oil and gas production — Part 3: Cracking-resistant CRAs (corrosion-resistant alloys) and other alloys*

IEC 60079-10-1, *Explosive atmospheres — Part 10-1: Classification of areas — Explosive gas atmospheres*

EN 55011, *Industrial scientific and medical (ISM) radio-frequency equipment — Electromagnetic disturbance characteristics — Limits and methods of measurement*

EN 61000-6-2, *Electromagnetic compatibility (EMC) — Part 6-2: Generic standards — Immunity for industrial environments*

API 613, *Special purpose gear units for petroleum, chemical, and gas industry services*

ASME B1.1, *Unified inch screw threads (UN and UNR thread form)*

ASME B16.1, *Grey iron pipe flanges and flanged fittings (Classes 25, 125, and 250)*

ASME B16.11, *Forged fittings, socket-welding and threaded*

ASME B16.42, *Ductile iron pipe flanges and flanged fittings (Classes 150 and 300)*

ASME B16.47, *Large diameter steel flanges NPS 26 through NPS 60 metric/inch standard*

ASME B16.5, *Pipe flanges and flanged fittings NPS ½ through NPS 24 metric/inch standard*

ASME B1.20.1, *Pipe threads, General purpose (Inch)*

ASTM A247, *Standard test method for evaluating the microstructure of graphite in iron castings*

ASTM A395, *Standard specification for ferritic ductile iron pressure-retaining castings for use at elevated temperatures*

ASTM E125, *Standard reference photographs for magnetic particle indications on ferrous castings*

ASTM E165, *Standard practice for liquid penetrant examination for general industry*

ASTM E709, *Standard guide for magnetic particle testing*

AWS D1.1, *Structural welding code*

NACE MR0103, *Standard material requirements — Material resistant to sulfide stress cracking in corrosive petroleum refining environments*

NACE SP0472, *Methods and controls to prevent in-service environmental cracking of carbon steel weldments in corrosive petroleum refining environments*

NFPA 70, *National electrical code*

SAE J518, *Hydraulic flanged tube, pipe, and hose connections, four-bolt split flange type*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN