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

## **Part 3: Integrally geared centrifugal compressors**

*Industries du pétrole, de la pétrochimie et du gaz naturel —  
Compresseurs axiaux et centrifuges et compresseurs-détenteurs —  
Partie 3: Compresseurs centrifuges et axiaux à multiplicateur intégré*



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## Contents

	Page
<b>Foreword</b> .....	<b>v</b>
<b>Introduction</b> .....	<b>vi</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms, abbreviated terms, and definitions</b> .....	<b>1</b>
<b>4 General</b> .....	<b>2</b>
4.1 Dimensions and units.....	2
4.2 Statutory requirements.....	2
4.3 Unit responsibility.....	2
4.4 Basic design.....	2
4.4.1 Performance.....	2
4.5 Materials.....	2
4.6 Casings.....	2
4.6.1 Pressure-containing casings.....	2
4.6.2 Casing repair.....	3
4.6.3 Material inspection of pressure-containing parts.....	3
4.6.4 Pressure casing connections.....	3
4.6.5 Casing support structure.....	3
4.6.6 External forces and moments.....	3
4.6.7 Variable inlet and/or diffuser guide vanes.....	4
4.7 Rotating elements.....	4
4.8 Dynamics.....	4
4.9 Bearings and bearing housings.....	5
4.9.1 General.....	5
4.9.2 Hydrodynamic radial bearings.....	5
4.9.3 Hydrodynamic thrust bearings.....	5
4.9.4 Bearing housings.....	6
4.10 Shaft end seals.....	6
4.11 Integral gearing.....	6
4.12 Nameplates and rotation arrows.....	10
<b>5 Accessories</b> .....	<b>10</b>
5.1 Drivers.....	10
5.2 Couplings and guards.....	10
5.3 Lubrication and sealing systems.....	10
5.4 Mounting plates.....	10
5.5 Controls and instrumentation.....	11
5.6 Piping and appurtenances.....	12
5.6.1 General.....	12
5.6.2 Process piping and accessories.....	12
5.7 Special tools.....	12
<b>6 Inspection, testing, and preparation for shipment</b> .....	<b>12</b>
6.1 General.....	12
6.2 Inspection.....	12
6.2.1 Gear contact checks.....	13
6.3 Testing.....	13
6.3.1 Mechanical running test.....	13
6.3.2 Assembled compressor gas leakage test.....	15
6.3.3 * Optional tests.....	15
6.4 Preparation for shipment.....	16
<b>7 Supplier's data</b> .....	<b>16</b>
7.1 General.....	16
7.2 Proposals.....	16

This is a preview of "ISO 10439-3:2015". [Click here to purchase the full version from the ANSI store.](#)

7.3 Contract data .....	16
<b>Annex A (normative) Datasheets .....</b>	<b>17</b>
<b>Annex B (informative) Vendor (Supplier) data and drawing requirements (VDDR).....</b>	<b>30</b>
<b>Annex C (informative) Nomenclature.....</b>	<b>40</b>
<b>Annex D (informative) Typical materials for integrally geared compressors.....</b>	<b>43</b>
<b>Annex E (informative) Inspector's checklist.....</b>	<b>59</b>
<b>Annex F (informative) External forces and moments .....</b>	<b>64</b>
<b>Annex G (normative) Rating formulae for integral gearing.....</b>	<b>65</b>
<b>Bibliography .....</b>	<b>68</b>

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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.

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](http://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](http://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 10439-1, ISO 10439-2, and ISO 10439-4, 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 might 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 can 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.

A 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 [Annex A](#), ISO 10439-2:2015, Annex A, and ISO 10439-4:2015, Annex A).

This International Standard includes the following annexes:

- [Annex A](#): Datasheets
- [Annex B](#): Vendor (Supplier) data and drawing requirements (VDDR)
- [Annex C](#): Nomenclature
- [Annex D](#): Typical materials for integrally geared compressors
- [Annex E](#): Inspector's checklist
- [Annex F](#): External forces and moments
- [Annex G](#): Rating formulae for integral gearing

[Annex A](#) and [Annex G](#) form a normative part of this part of ISO 10439. [Annexes B](#) to [F](#) are for information only.

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