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Gas meters - Turbine gas meters

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

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English Version

Gas meters - Turbine gas meters

Compteurs de gaz - Compteurs de gaz à turbine

Gaszähler - Turbinenradgaszähler

This European Standard was approved by CEN on 1 January 2024.

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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.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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EN 12261:2024 (E)**European foreword**

This document (EN 12261:2024) has been prepared by Technical Committee CEN/TC 237 “Gas meters”, the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by September 2024, and conflicting national standards shall be withdrawn at the latest by September 2024.

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

This document supersedes EN 12261:2018.

EN 12261:2024 includes the following significant technical changes with respect to EN 12261:2018:

- Harmonization with PED;
- Clause 6 reworked completely;
- Annex G added;
- Annex ZB added.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annex ZA and ZB, which is an integral part of this document.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom

Introduction

In the preparation of this document, the content of ISO 9951:1993, the content of OIML Publication, “International Recommendation 6” and “International Recommendation 32” and the content of member bodies' national standards on turbine meters have been taken into account.

The metrological aspects of this document might be subject to amendments to bring it into line with the Measuring Instruments Directive (MID).

Electronic Indexes are not specifically covered by this document, however, work to produce a standard covering these devices is in progress under CEN/TC 237.

EN 12261:2024 (E)**1 Scope**

This document specifies the measuring conditions, requirements and tests for the construction, performance and safety of class 1,0 axial and radial turbine gas meters with mechanical indicating devices, hereinafter referred to as a meter(s), having in-line pipe connections for gas flow measurement.

This document applies to turbine gas meters used to measure the volume of fuel gases of the 1st and 2nd gas families, the composition of which is specified in EN 437:2021, at maximum operating pressures up to 420 bar, actual flow rates up to 25 000 m³/h over a gas temperature of a minimum -40 °C up to 70 °C, with a range of at least 40 K and for a climatic environmental temperature range of at least 50 K.

This document applies to meters that are installed in locations with vibration and shocks of low significance and in:

- closed locations (indoor or outdoor with protection as specified by the manufacturer) with condensing or with non-condensing humidity;

or, if specified by the manufacturer,

- open locations (outdoor without any covering) with condensing humidity or with non-condensing humidity;

and in locations with electromagnetic disturbances.

Unless otherwise specified in this document:

- all pressures used are gauge;
- all influence quantities, except the one under test, are kept relatively constant at their reference value.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

EN 437:2021, *Test gases - Test pressures - Appliance categories*

EN 1092-1:2018, *Flanges and their joints - Circular flanges for pipes, valves, fittings and accessories, PN designated - Part 1: Steel flanges*

EN 1092-2:2023, *Flanges and their joints - Circular flanges for pipes, valves, fittings and accessories, PN designated - Part 2: Cast iron flanges*

EN 1092-3:2003,¹ *Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories, PN designated — Part 3: Copper alloy flanges*

EN 1092-4:2002, *Flanges and their joints - Circular flanges for pipes, valves, fittings and accessories, PN designated - Part 4: Aluminium alloy flanges*

EN 1759-1:2004, *Flanges and their joint - Circular flanges for pipes, valves, fittings and accessories, Class designated - Part 1: Steel flanges, NPS 1/2 to 24*

¹ As impacted by corrigendum EN 1092-3:2003/AC:2007.

EN 1759-3:2003,² *Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories, Class designated — Part 3: Copper alloy flanges*

EN 1759-4:2003, *Flanges and their joint - Circular flanges for pipes, valves, fittings and accessories, class designated - Part 4: Aluminium alloy flanges*

EN 10204:2004, *Metallic products - Types of inspection documents*

EN 15612:2020, *Railway applications - Braking - Brake pipe accelerator*

EN ISO 17663:2023, *Welding — Quality requirements for heat treatment in connection with welding and allied processes (ISO 17663:2023)*

EN 22768-1:1993, *General tolerances - Part 1: Tolerances for linear and angular dimensions without individual tolerance indications (ISO 2768-1:1989)*

EN IEC 60079-0:2018,³ *Explosive atmospheres — Part 0: Equipment — General requirements (IEC 60079-0:2018)*

EN 60079-11:2012, *Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"*

EN 60529:1991,⁴ *Degrees of protection provided by enclosures (IP Code) (IEC 60529:1989)*

EN 60947-5-6:2000, *Low-voltage switchgear and controlgear - Part 5-6: Control circuit devices and switching elements - DC interface for proximity sensors and switching amplifiers (NAMUR)*

EN 62246-1:2015, *Reed switches - Part 1: Generic specification*

EN ISO 5167-1:2022, *Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full - Part 1: General principles and requirements (ISO 5167-1:2022)*

EN ISO 9606-1:2017, *Qualification testing of welders - Fusion welding - Part 1: Steels (ISO 9606-1:2012 including Cor 1:2012 and Cor 2:2013)*

EN ISO 9606-2:2004, *Qualification test of welders - Fusion welding - Part 2: Aluminium and aluminium alloys (ISO 9606-2:2004)*

EN ISO 9606-3:1999, *Approval testing of welders - Fusion welding - Part 3: Copper and copper alloys (ISO 9606-3:1999)*

EN ISO 9606-4:1999, *Approval testing of welders - Fusion welding - Part 4: Nickel and nickel alloys (ISO 9606-4:1999)*

EN ISO 9606-5:2000, *Approval testing of welders - Fusion welding - Part 5: Titanium and titanium alloys, zirconium and zirconium alloys (ISO 9606-5:2000)*

EN ISO 9712:2022, *Non-destructive testing - Qualification and certification of NDT personnel (ISO 9712:2021)*

² As impacted by corrigendum EN 1759-3:2003/AC:2004.

³ As impacted by corrigendum EN 60079-0:2018/AC:2020-02.

⁴ As impacted by EN 60529:1991/corrigendum May 1993, EN 60529:1991/AC:2016-12, EN 60529:1991/A1:2000, EN 60529:1991/A2:2013 and EN 60529:1991/A2:2013/AC:2019-02.

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EN ISO 14732:2013, *Welding personnel - Qualification testing of welding operators and weld setters for mechanized and automatic welding of metallic materials (ISO 14732:2013)*

EN ISO 15611:2003, *Specification and qualification of welding procedures for metallic materials - Qualification based on previous welding experience (ISO 15611:2003)*

EN ISO 15613:2004, *Specification and qualification of welding procedures for metallic materials - Qualification based on pre-production welding test (ISO 15613:2004)*

EN ISO 15614-1:2017,⁵ *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 1: Arc and gas welding of steels and arc welding of nickel and nickel alloys (ISO 15614-1:2017, Corrected version 2017-10-01)*

EN ISO 15614-2:2005,⁶ *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 2: Arc welding of aluminium and its alloys (ISO 15614-2:2005)*

EN ISO 15614-4:2005,⁷ *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 4: Finishing welding of aluminium castings (ISO 15614-4:2005)*

EN ISO 15614-5:2004, *Specification and qualification of welding procedures for metallic materials - Welding procedure test - Part 5: Arc welding of titanium, zirconium and their alloys (ISO 15614-5:2004)*

EN ISO 15614-6:2006, *Specification and qualification of welding procedures for metallic materials - Welding procedure test - Part 6: Arc and gas welding of copper and its alloys (ISO 15614-6:2006)*

EN ISO 15614-7:2019, *Specification and qualification of welding procedures for metallic materials - Welding procedure test - Part 7: Overlay welding (ISO 15614-7:2016)*

EN ISO 15614-8:2016, *Specification and qualification of welding procedures for metallic materials - Welding procedure test - Part 8: Welding of tubes to tube-plate joints (ISO 15614-8:2016)*

EN ISO 15614-11:2002, *Specification and qualification of welding procedures for metallic materials - Welding procedure test - Part 11: Electron and laser beam welding (ISO 15614-11:2002)*

ISO 7005-1:2011, *Pipe flanges — Part 1: Steel flanges for industrial and general service piping systems*

ISO 7005-2:1988, *Metallic flanges — Part 2: Cast iron flanges*

ISO/IEC Guide 98-3:2008, *Uncertainty of measurement — Part 3: Guide to the expression of uncertainty in measurement (GUM:1995)*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN

⁵ As impacted by amendment EN ISO 15614-1:2017/A1:2019.

⁶ As impacted by corrigendum EN ISO 15614-2:2005/AC:2009.

⁷ As impacted by corrigendum EN ISO 15614-24:2005/AC:2007.