



**SLOVENSKI STANDARD**  
**SIST EN 50725:2025**

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**Specifikacija za prenosne električne naprave za merjenje prepaha in tlaka plina v grelnih napravah in sistemih**

Specification for portable electrical apparatus designed to measure draught and gas pressure of heating appliances and systems

Anforderungen an tragbare elektrische Geräte zur Messung des Differenzdrucks und des Gasdruckes von Heizungsgeräten und -anlagen

Spécification pour les appareils électriques portatifs conçus pour mesurer la pression du tirage et des gaz dans les conduits d'évacuation des appareils et systèmes de chauffage

**Ta slovenski standard je istoveten z: EN 50725:2025**

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## Specification for portable electrical apparatus designed to measure draught and gas pressure of heating appliances and systems

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Europäisches Komitee für Elektrotechnische Normung

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## European foreword

This document (EN 50725:2025) has been prepared by CLC/TC/216 “Gas Detectors”.

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2026-02-28
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2028-02-29

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**EN 50725:2025 (E)****Introduction**

This document covers apparatus for measuring draught and gas pressure of heating appliances and systems. It forms a specification of portable electrical apparatus designed to measure draught and gas pressure of heating appliances and systems.

The measuring uncertainty should be justified by internationally accepted methods over the whole measuring range. The determination of measuring uncertainty is described in Annex C.

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## 1 Scope

This document specifies the requirements and test methods concerning, in particular the construction, safety, and fitness for purpose, as well as the capability and marking of a hand-held battery powered pressure and leakage measurement instrument, hereafter referred to as “pressure meters”, for gas pipework in buildings, gas pipes of appliances and draught in chimneys.

NOTE Areas of application can be supply pressure of gas appliances, nozzle pressure of gas appliances (see relevant instruction manuals of gas appliances) as well as strength test, tightness test and fitness test of gas pipework as defined in EN 1775 (see Annex A) and relevant national standards (see Annex B) for gas pipework in buildings, and draught measurement in chimneys of heating appliances.

This document covers pressure meters with the capability of

- use with air, natural gas, liquid petroleum gas (LPG), hydrogen and mixtures of natural gas and hydrogen,
- measuring pressure in units of bar, mbar, Pa, hPa, kPa, MPa, in H<sub>2</sub>O, mm H<sub>2</sub>O, or PSI,
- measuring leakage rate in l/h,
- withstanding the every-day working environment encountered by installation and service engineers in domestic, commercial, or industrial premises.

Such pressure meters might be capable of

- being switchable between units by the user,
- storing and/or transmitting said measurements to a remote user.

## 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 IEC 61326-1, *Electrical equipment for measurement, control and laboratory use — EMC requirements — Part 1: General requirements (IEC 61326-1)*

EN 50271:2018, *Electrical apparatus for the detection and measurement of combustible gases, toxic gases or oxygen — Requirements and tests for apparatus using software and/or digital technologies*

EN 60068-2-6, *Environmental testing — Part 2-6: Tests — Test Fc: Vibration (sinusoidal) (IEC 60068-2-6)*

EN IEC 60335-1:2023,<sup>1</sup> *Household and similar electrical appliances — Safety — Part 1: General requirements (IEC 60335-1:2020)*

EN 60529:1991,<sup>2</sup> *Degrees of protection provided by enclosures (IP Code)*

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

<sup>1</sup> As impacted by EN IEC 60335-1:2023/A11:2023.

<sup>2</sup> As impacted by EN 60529:1991/corrigendum May 1993, EN 60529:1991/AC:2016-12, EN 60529:1991/A1:2000 and EN 60529:1991/A2:2013.

**EN 50725:2025 (E)****3 Terms and definitions**

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

**3.1****domestic residential and commercial premises**

any place of residence of a household, family or person (whether temporary or permanent) and commercial premises whether residential or not and including recreational boats, caravans and mobile homes

**3.2****sensors**

assembly in which the sensing element is housed and which may contain associated circuit components

**3.3****sensing element**

device, the output of which will change with variation of the parameter of interest

**3.4****spot reading**

apparatus intended to be used for short periods of time in the range of minutes, as required

**3.5****mains powered apparatus**

apparatus designed to be powered by the domestic mains electrical supply with or without an additional power source

**3.6****battery powered apparatus**

apparatus designed to be energised from batteries alone, whether disposable or rechargeable

**3.7****sampling point connector**

part of the apparatus that is used to connect the apparatus to the appliance for the purpose of sampling the pressure

**3.8****initial start up delay**

time taken for the apparatus to reach the operating mode from switch-on, or after replacing batteries, or following power failure in the case of mains powered equipment

**3.9****calibration**

process of determining the deviation of an apparatus relative to a reference

**3.10****reference**

in laboratory tests, a measuring device with certification proving traceability to a national or international metrology institute



**3.11****adjustment**

process of tuning the apparatus, in order to return the deviation found in calibration to within the admissible error

**3.12****functional module**

all components required for one measurement task, including both hardware and software

Note 1 to entry: A functional module may consist of one or more separate pieces of equipment or may be completely integrated with the apparatus.

**3.13****response time (t<sub>90</sub>)**

time interval with the apparatus in a warmed-up condition, between the time when an instantaneous variation of the parameter to be measured is produced at the apparatus inlet, and the time when the response reaches and remains beyond 90 % of the final indication

**3.14****gas leakage rate**

volume flow (unit l/h) of burnable gas that escapes from the line system during a specified duration due to leakage

**3.15****standard volume flow**

volume flow (unit l/h) with reference to the physical standard temperature and pressure at a temperature of 273,15 K and a pressure of 1 013,25 hPa

**3.16****operating volume flow**

volume flow (unit l/h) with reference to the operating conditions (pressure, temperature) prevailing at the place of measurement

**3.17****operating pressure**

actual operating pressure as standing pressure found at the time of measurement

**3.18****reference operating pressure**

reference pressure for determining the leakage quantity as operating volume flow

**4 General requirements****4.1 General**

The apparatus shall reliably measure the applied pressure and shall clearly display the result.

**4.2 Construction****4.2.1 General**

All parts of the apparatus, including the sensors, shall be constructed of materials that will not be adversely affected by vapours and gases or chemical substances to be expected during normal operation of the apparatus, see 4.3.2 g). Similar consideration shall also be given to the sampling system and components that can be in contact with the measuring medium, as appropriate. The sampling point connector shall be constructed of materials that will not be adversely affected by environmental conditions found in applications within the scope of this document.

**EN 50725:2025 (E)****4.2.2 Sampling system**

The method of testing tightness of the complete gas sampling system, as specified by the manufacturer or installer, shall be checked and verified in practice.

**4.2.3 Adjustment**

Access to sensitivity controls shall only be possible by the use of special tool or a software pass-code or by destroying a special seal. Any regular checks shall be performed automatically or by access as described above.

**4.2.4 Power supply**

Apparatus which derives its power from internal batteries may give a visual warning before the battery capacity falls to a point where either the apparatus sensitivity or the stated display accuracy falls outside the requirements. When this point is actually reached, a clear indication shall be given to alert the user and the display shall switch out of normal operational mode.

**4.2.5 Display**

Indicators shall be provided to show the following:

- measured value(s) and physical unit;
- low battery warning;
- mode of operation or instrument status (e.g. warm-up, measurement);
- when values lie outside the indicating range; and
- software version.

For each separate parameter measured, the apparatus shall display the value, the physical unit and parameter description. For a combination of parameters, the display may switch automatically from one indication to another. If the display switches between information of simultaneous parameters it shall be clear and understandable. Displayed measured values shall be refreshed at intervals no greater than 3 s. If the apparatus is equipped with seven-segment displays it shall have a device or self-testing function for checking the displays.

**4.2.6 Measuring range and resolution**

Table 1 lists the different parameters covered by this document. For each parameter given it specifies:

- minimum indication range;
- minimum display resolution;
- accuracy of the apparatus;
- the detection limit; and
- maximum response time.

**4.2.7 Indication range**

The indication ranges are the minimum ranges for the apparatus. Higher ranges are allowed but will not change the values for accuracy or detection limit.

**4.2.8 Accuracy of the apparatus**

The values in Table 1 e.g. "± 20 Pa or 5 % rel." have the meaning: "The permitted deviation is up to ± 20 Pa or ± 5 % of the reading, whichever is the greater".