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Specifikacije za plinske aparate na utekočinjeni naftni plin - Absorpcijski hladilniki

Specifications for dedicated liquefied petroleum gas appliances - Absorption refrigerators

Festlegungen für Flüssiggasgeräte - Absorber-Kühlschränke

Spécifications pour les appareils fonctionnant exclusivement aux gaz de pétrole liquéfiés
- Réfrigérateurs à absorption

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Specifications for dedicated liquefied petroleum gas appliances - Absorption refrigerators

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exclusivement aux gaz de pétrole liquéfiés -
Réfrigérateurs à absorption

Festlegungen für Flüssiggasgeräte - Absorber-
Kühlschränke

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European foreword

This document (prEN 732:2025) has been prepared by Technical Committee CEN/TC 181 “Appliances and leisure vehicle installations using liquefied petroleum gas and appliances using natural gas for outdoor use”, the secretariat of which is held by AFNOR.

This document is currently submitted to the Enquiry.

This document will supersede EN 732:1998.

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, which is an integral part of this document.

Items relating to quality assurance systems, production testing and particularly certificates of conformity of auxiliary equipment are not covered by this document.

This document does not deal with the refrigeration aspects of the appliances and contains no specific requirements or tests for this.

The following main changes have been made compared to EN 732:1998:

- editorial changes;
- adaptation of the scope to the application in practice;
- new definition for boat/small craft, caravan, motor caravan, caravan holiday home, leisure accommodation vehicle, liquefied petroleum gas (LPG), liquefied petroleum gas cylinder, liquefied petroleum installation, room sealed appliance, flueless appliance, open deck, dayroom, mobile refrigerating appliance;
- technical changes: vibration tests for appliances intended to be used on boats;
- new Annex B “Method of calculation of the nominal heat input” former Article 6.14.3;
- new Annex C “Construction of Appliances intended to be used on boats for leisure purposes and on-board ships”;
- rewording of the Annex ZA according to the Gas Appliance Regulation (EU) 2016/426.

prEN 732:2025 (E)**1 Scope**

This document specifies the requirements for the constructional features, safety and operation, test techniques and marking of absorption refrigerators using liquefied petroleum gas (referred to the body text as “appliances”).

This document is applicable to room sealed (Type C₁₁) and flueless (Type A₁) as defined in EN 1749, refrigerators using gas equipment fuelled by third family gases (LPG) as classified in 4.2.

This document is applicable for:

- mobile refrigerating appliances;
- refrigerating appliances installed in vehicles, caravan, leisure accommodation vehicles for habitation purposes, boats;
- refrigerating appliances for household and similar use.

NOTE Boats considered in this document are recreational craft covered by European Directive 2013/53/EU.

The gas consumption of absorption refrigerators is of the same order of magnitude as pilots currently used on other types of burners, maximum being 60 g/h. Consequently, efficiency measurement is not considered relevant for these appliances and is not covered by this document.

Energy consumption and efficiency are not covered by this document.

This document does not cover the requirements for LPG cylinder/cartridge and their associated regulators.

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 88-1:2022+A1:2023, *Safety and control devices for gas burners and gas burning appliances - Part 1: Pressure regulators for inlet pressures up to and including 50 kPa*

EN 125:2022+A1:2024, *Flame supervision devices für gas burning appliances — Thermoelectric flame supervision device*

EN 126:2012, *Multifunctional controls for gas burning appliances*

EN 161:2022, *Automatic shut-off valves for gas burners and gas appliances*

EN 257:2022+A1:2023, *Mechanical thermostats for gas-burning appliances*

EN 298:2022, *Automatic burner control systems for burners and appliances burning gaseous or liquid fuels*

EN 331:2015, *Manually operated ball valves and closed bottom taper plug valves for gas installations for buildings*

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

EN 549:2019+A2:2024, *Rubber materials for seals and diaphragms for gas appliances and gas equipment*

EN 751-1:1996, *Sealing materials for metallic threaded joints in contact with 1st, 2nd and 3rd family gases and hot water - Part 1: Anaerobic jointing compounds*

EN 751-2:1996, *Sealing materials for metallic threaded joints in contact with 1st, 2nd and 3rd family gases and hot water - Part 2: Non-hardening jointing compounds*

EN 1057:2006+A1:2010, *Copper and copper alloys - Seamless, round copper tubes for water and gas in sanitary and heating applications*

EN 1106:2022+A1:2023, *Manually operated taps for gas burning appliances*

EN 60068-2-6:2008, *Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)*

EN 60068-2-27:2009, *Environmental testing — Part 2-27: Test — Test Ea and guidance: Shock*

EN IEC 60068-2-52:2018, *Environmental testing - Part 2-52: Tests - Test Kb: Salt mist, cyclic (sodium chloride solution)*

EN IEC 60335-1:2023,¹ *Household and similar electrical appliances — Safety — Part 1: General requirements*

EN IEC 60335-2-24:2022,² *Household and similar electrical appliances — Safety — Part 2-24: Particular requirements for refrigerating appliances, ice-cream appliances and ice makers*

EN IEC 60335-2-25:2021,³ *Household and similar electrical appliances — Safety — Part 2-25: Particular requirements for microwave ovens, including combination microwave ovens*

EN 60335-2-102:2016, *Household and similar electrical appliances - Safety - Part 2-102: Particular requirements for gas, oil and solid-fuel burning appliances having electrical connections*

EN 60730-1:2016,⁴ *Automatic electrical controls for household and similar use: General requirements (IEC 60730-1:2013 + COOR1:2014+A1:2015)*

EN ISO 228-1:2003, *Pipe threads where pressure-tight joints are not made on the threads - Part 1: Dimensions, tolerances and designation (ISO 228-1:2000)*

ISO 7-1:1994,⁵ *Pipe threads where pressure-tight joints are made on the threads — Part 1: Dimensions, tolerances and designation*

ISO 7000:2019, *Graphical symbols for use on equipment — Registered symbols*

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

² As impacted by EN IEC 60335-2-24:2022/A11:2022.

³ As impacted by EN IEC 60335-2-25:2021/A1:2021.

⁴ As impacted by EN 60730-1:2016/A1:2019.

⁵ As impacted by ISO 7-1:2007, Technical Corrigendum 1:2007.

prEN 732:2025 (E)**3 Terms and definitions**

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

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**auxiliary equipment**

all controls and devices that can affect the safety of operation of a gas appliance, for example:

- taps
- flame supervision devices
- thermostats

3.2**appearance of yellow tips**

phenomenon characterized by the appearance of yellow colouration at the top of the blue cone on aerated flames

3.3**built-in-appliance**

appliance which is intended for permanent fitting into a cupboard or a kitchen unit in a space cut into a panel or similar

Note 1 to entry: The appliance does not necessarily have a casing on all sides.

3.4**burner**

component that allows the gas to burn

Note 1 to entry: It may be one of two types:

- non aerated burner, in which the air for combustion is entrained entirely at the burner outlet;
- aerated burner, in which part of the air for combustion, termed primary air, is entrained by the gas flow and mixed before the burner outlet. The remainder of the air, termed secondary air, is drawn in after the burner outlet.

3.5**calorific value**

quantity of heat produced by the complete combustion, at a constant pressure equal to 1 013,25 mbar of a unit volume or mass of gas, the constituents of the combustible mixture being taken at reference conditions and the products of combustion being brought back to the same conditions

Note 1 to entry: A distinction is made between:

- the gross calorific value H_s : the water produced by combustion is assumed to be condensed;
- the net calorific value H_i : the water produced by combustion is assumed to be in the vapour state.

Note 2 to entry: The calorific value is expressed:

- either in megajoules per cubic metre (MJ/m³) of dry gas under the reference conditions;
- or in megajoules per kilogram (MJ/kg) of dry gas.

Note 3 to entry: For the purposes of this European Standard only the gross calorific value is used.

[SOURCE: EN 437:2021, term 3.12 modified with additional note 3]

3.6**control handle**

component intended for manual use to control the opening and closing, totally or partially, of a valve

3.7**detachable**

which can be dismantled without using a tool

3.8**feed piping**

piping intended for distribution of gas to the burner

3.9**flame lift**

phenomenon characterized by the partial or total movement of the base of the flame away from the burner port

[SOURCE: EN 497:2022, term 3.28]

3.10**flame supervision device**

device which, due to the presence of a flame on the sensing element, keeps open the gas flow to the burner and pilot and which cuts off the gas supply to the burner and pilot in the case of extinction of the supervised flame

[SOURCE: EN 497:2022, term 3.7]

prEN 732:2025 (E)**3.11****gas rate adjuster**

device allowing gas rate to a burner to be set at a predetermined value according to the supply conditions

Note 1 to entry: The adjustment can be continuous (adjustment screw) or discontinuous (changing the calibrated orifices, ...).

Note 2 to entry: The operation of changing the setting of this device is termed the “adjustment of the gas rate”.

3.12**gas supply pressure**

difference between the static pressure measured at the gas inlet to the appliance and the atmospheric pressure

3.13**heat input** **Q**

quantity of energy used in unit time corresponding to the volume flow rate or mass flow rate, the calorific value used being either the net or gross calorific value

Note 1 to entry: The heat input is expressed in kilowatts (kW).

[SOURCE: EN 437:2021]

3.14**ignition device**

device to ignite one or more burners directly or indirectly, for instance through a flash tube

Note 1 to entry: It may be: either electric (resistance, spark, etc.) or thermal (flame, pilot, etc.).

[SOURCE: EN 497:2022, term 3.6]

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3.15**injector**

component part that admits the gas into an aerated and sealed combustion burner

Note 1 to entry: Injector considered in this standard are calibrated injectors where the section of the outlet orifice is fixed.

3.16**light back**

phenomenon characterized by the return of the flame inside the body of the burner

[SOURCE: EN 497:2022, term 3.30]

3.17**mass flow rate** **M**

mass of gas consumed by the appliance in unit time during continuous operation

Note 1 to entry: The mass flow rate is expressed in kilograms per hour (kg/h) or grams per hour (g/h).

[SOURCE: EN 437:2021, terms 3.16]

3.18**means of sealing**

any static or dynamic device designed to ensure soundness

Note 1 to entry: For example: flat-faced joints, O-ring joints, conical joints, diaphragms, grease, pastes, putties....

3.19**nominal heat input**

Q_n

value of the heat input of the appliance declared in the instructions

Note 1 to entry: Adapted from EN 437:2021, term 3.13.

3.20**relative density**

d

ratio of the masses of equal volumes of dry gas and dry air under the same conditions of temperature and pressure: 15 °C or 0 °C and 1 013,25 mbar

[SOURCE: EN 437:2021, term 3.11]

3.21**removable**

which can only be removed with a tool

3.22**restrictor**

device having a calibrated orifice which is placed in the gas circuit between the inlet of the appliance and the burner, in such a way to create a pressure loss and thus bring down the gas pressure at the burner to a pre-determined value

3.23**sealing of an adjuster/governor**

any arrangement relating to the adjuster whereby any change to the adjustment causes breaking of the sealing device and makes interference with the adjuster apparent

Note 1 to entry: The adjuster is said to be sealed in the adjusted position.

Note 2 to entry: A factory-sealed adjuster is regarded as non-existent.

3.24**soft solders**

solder for which the lowest temperature of the melting range after application, is less than 450 °C

3.25**stability of flames**

condition of flames when the phenomena of flame lift or light back do not occur

3.26**tap**

device designed to open or close the gas supply to a burner and eventually to adjust its rate during use

prEN 732:2025 (E)**3.27****thermostat**

component intended to maintain sensible constant temperatures automatically

3.28**volume flow rate**

V

volume of gas passed in unit time expressed in cubic metres per hour or in litres per hour (cubic decimetres per hour)

3.29**Wobbe index****gross Wobbe index**

W_s ;

net Wobbe index

W_i

ratio of the calorific value of a gas per unit volume and the square root of its relative density under the same reference conditions

Note 1 to entry: The Wobbe index is said to be gross (W_s) or net (W_i) according to whether the calorific value used is the gross or net calorific value, respectively is used.

Note 2 to entry: The Wobbe index is expressed:

- either in megajoules per cubic metre (MJ/m^3) of dry gas under the reference conditions;
- or in megajoules per kilogram (MJ/kg) of dry gas.

[SOURCE: EN 437:2021, term 3.13 modified to comply with CEN rules for definition wording]

3.30**boat****small craft**

recreational boat, and other watercraft using similar equipment, of up to 24 m length of hull (L_h)

Note 1 to entry: The measurement methodology for the length of hull (L_h) is defined in ISO 8666:2020.

[SOURCE: ISO 8666:2020, term 3.15, modified – Note 1 to entry has been added]

3.31**caravan**

trailer leisure accommodation vehicle that meets the requirements for the construction and use of road vehicles

[SOURCE: EN 13878:2019, term 3.5]