SLOVENSKI STANDARD
SIST EN 12309-1:2015

01-marec-2015

Nadomešča:
SIST EN 12309-1:1999
SIST EN 12309-2:2001

Absorpcijske in adsorpcijske plinske naprave za gretje in/ali hlajenje z grelno močjo do vključno 70 kW - 1. del: Izrazi in definicije

Gas-fired sorption appliances for heating and/or cooling with a net heat input not exceeding 70 kW - Part 1: Terms and definitions

Gasbefeuerte Sorptions-Geräte für Heizung und/oder Kühlung mit einer Nennwärmebelastung nicht über 70 kW - Teil 1: Begriffe

Appareils à sorption à chauffage direct au gaz pour chauffage et/ou refroidissement d'un débit calorifique sur PCI inférieur à 70 kW - Partie 1: Termes et définitions

Ta slovenski standard je istoveten z: **EN 12309-1:2014**

ICS:

27.080	Toplotne črpalke	Heat pumps
91.140.30	Prezračevalni in klimatski sistemi	Ventilation and air-conditioning

SIST EN 12309-1:2015 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 12309-1

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ICS 27.080; 91.140.30

Supersedes EN 12309-1:1999, EN 12309-2:2000

English Version

Gas-fired sorption appliances for heating and/or cooling with a net heat input not exceeding 70 kW - Part 1: Terms and definitions

Appareils à sorption fonctionnant au gaz pour le chauffage et/ou le refroidissement de débit calorifique sur PCI inférieur ou égal à 70 kW - Partie 1: Termes et définitions

Gasbefeuerte Sorptions-Geräte für Heizung und/oder Kühlung mit einer Nennwärmebelastung nicht über 70 kW - Teil 1: Begriffe

This European Standard was approved by CEN on 18 October 2014.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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

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Foreword

This document (EN 12309-1:2014) has been prepared by Technical Committee CEN/TC 299 “Gas-fired sorption appliances, indirect fired sorption appliances, gas-fired endothermic engine heat pumps and domestic gas-fired washing and drying appliances”, the secretariat of which is held by UNI.

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 June 2015, and conflicting national standards shall be withdrawn at the latest by June 2015.

This document supersedes EN 12309-1:1999 and EN 12309-2:2000.

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 standard comprises the following parts under the general title, *Gas-fired sorption appliances for heating and/or cooling with a net heat input not exceeding 70 kW*:

— *Part 1: Terms and definitions*;

— *Part 2: Safety*;

— *Part 3: Test conditions*;

— *Part 4: Test methods*;

— *Part 5: Requirements*;

— *Part 6: Calculation of seasonal performances*;

— *Part 7: Specific provisions for hybrid appliances*;

— *Part 8: Environmental aspects*.

EN 12309-1 and EN 12309-2 supersede EN 12309-1:1999, whereas EN 12309-1, EN 12309-3, EN 12309-4, EN 12309-5, EN 12309-6, and EN 12309-7 supersede EN 12309-2:2000.

EN 12309-1, EN 12309-2, EN 12309-3, EN 12309-4, EN 12309-5, EN 12309-6, and EN 12309-7 have been prepared to address the essential requirements of the European Directive 2009/142/EC relating to appliances burning gaseous fuels (see prEN 12309-2:2013, Annex ZA for safety aspects and EN 12309-5:2014, Annex ZA for rational use of energy aspects).

These documents are linked to the Energy Related Products Directive (2009/125/EC) in terms of tests conditions, tests methods and seasonal performances calculation methods under Mandate M/495 (see EN 12309-3:2014, Annex ZA; EN 12309-4:2014, Annex ZA; EN 12309-6:2014, Annex ZA and EN 12309-7:2014, Annex ZA and prEN 12309-2:2013, Annex ZB and EN 12309-5:2014, Annex ZB).

These documents will be reviewed whenever new mandates could apply.

EN 12309-8 (“Environmental aspects”) deals with the incorporation of the Resolution BT 27/2008 regarding CEN approach on addressing environmental issues in product and service standards.

Compared to EN 12309-1:1999, the following modifications have been made:

EN 12309-1:2014 gathers terms and definitions from all the other parts of EN 12309. Moreover, new terms and definitions used in the other parts have been added and existing terms and definitions have been updated consistently to the other parts of this standard.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

1.1 Scope of EN 12309

Appliances covered by this European Standard include one or a combination of the following:

— gas-fired sorption chiller;

— gas-fired sorption chiller/heater;

— gas-fired sorption heat pump.

This European Standard applies to appliances designed to be used for space heating or cooling or refrigeration with or without heat recovery.

This European Standard applies to appliances having flue gas systems of type B and C (according to CEN/TR 1749) and to appliances designed for outdoor installations. EN 12309 does not apply to air conditioners, it only applies to appliances having:

— integral burners under the control of fully automatic burner control systems,

— closed system refrigerant circuits in which the refrigerant does not come into direct contact with the water or air to be cooled or heated,

— mechanical means to assist transportation of the combustion air and/or the flue gas.

The above appliances can have one or more primary or secondary functions (i.e. heat recovery - see definitions in EN 12309-1:2014).

In the case of packaged units (consisting of several parts), this standard applies only to those designed and supplied as a complete package.

The appliances having their condenser cooled by air and by the evaporation of external additional water are not covered by EN 12309.

Installations used for heating and/or cooling of industrial processes are not within the scope of EN 12309.

All the symbols given in this text should be used regardless of the language used.

1.2 Scope of this Part 1 of EN 12309

This part of this European Standard specifies the terms and definitions for gas-fired sorption appliances for heating and/or cooling with a net heat input not exceeding 70 kW.

2 Normative references

Not applicable.

3 Terms and definitions

3.1 Appliance and its constituents

3.1.1
absorption
process in which molecules of the refrigerant are dissolved into a liquid

3.1.2
adsorption
process in which molecules of the refrigerant are held at the surface of a solid (possibly porous) structure

3.1.3
aeration adjuster
device enabling the air to be set at the desired value according to the supply conditions

3.1.4
air-conditioners
encased assembly or assemblies designed as an appliance to provide delivery of conditioned air to an enclosed space (room for instance) or zone

Note 1 to entry: The medium used for distribution of heating and/or cooling is exclusively air.

3.1.5
appliance
assembly of various parts according to the installation instructions, if the appliance is supplied to the market in multiple parts

Note 1 to entry: Accessories provided optionally are not to be included.

Note 2 to entry: Appliance may be supplied to be marketed in one or more than one part.

3.1.6
bivalent appliance
encased assembly or assemblies designed and packaged which is made up of components that can be tested separately

3.1.7
brine
liquid that has a freezing point depressed relative to water

3.1.8
chiller
encased assembly or assemblies designed as an appliance, whose primary function is delivery of cooling only, and whose primary function is dependent on circulation of fluid (refrigerant and/or solution) within the absorption, adsorption or refrigerant circuit(s)

3.1.9
chiller/heater
encased assembly or assemblies, whose primary function is delivery of cooling and/or heating and whose primary function of cooling is dependent on circulation of fluid (refrigerant and/or solution) within the absorption, adsorption or refrigerant circuit(s)

Note 1 to entry: The primary function of heating only uses directly or indirectly the energy delivered by the combustion system.

3.1.10
closed system
system in which the fluid within the refrigerant circuit (e.g. water, ammonia, etc.) providing heating or cooling does not come into contact with the surrounding air or the heat transfer medium (e.g. water, brine, air)

3.1.11
condensing appliance
appliance in which, under normal operating conditions and at certain operating water temperatures, the water vapour in the combustion products is partially condensed in order to make use of the latent heat of this water vapour for heating and/or heat recovery purposes

3.1.12
ductless appliance
outdoor appliance which is not designed to be fitted with external ducts to transport air to, or products of combustion away from, the appliance's casing

3.1.13
gas circuit
part of the appliance that conveys or contains the gas between the appliance gas inlet connection and the burner(s)

3.1.14
gas fired
appliance which mainly consume gas for implementation of the function or functions, the electrical power consumption being dedicated to auxiliaries needed for operation

3.1.15
gas inlet connection
part of the appliance intended to be connected to the gas supply

3.1.16
gas rate adjuster
component allowing an authorized person to set the gas rate of the burner to a predetermined value according to the supply conditions

Note 1 to entry: Adjustment may be progressive (screw adjuster) or in discrete steps (by changing restrictors).

Note 2 to entry: The adjusting screw of an adjustable pressure regulator is regarded as a rate adjuster.

3.1.17
heat pump
encased assembly or assemblies designed as an appliance whose primary function is delivery of heat and/or cooling (the primary function is dependent on circulation of fluid (refrigerant and/or solution) within the absorption, adsorption or refrigerant circuit(s))

3.1.18
heat recovery
recovery of heat rejected by the appliance whose primary control is in the cooling mode by means of an additional heat exchanger (e.g. a chiller with an additional condenser or absorber)

3.1.19
heat transfer medium
any medium (e.g. air, water, brine, etc.) used for the transfer of heat to or from refrigerant-containing parts of the appliance

Note 1 to entry: The medium may be

– the cooling medium circulating in the evaporator,

– the cooling medium circulating in the condenser and/or absorber and/or flue gas heat exchanger,

– the heat recovery medium circulating in the heat recovery heat exchanger.

3.1.20
hybrid appliance
encased assembly or assemblies utilizing at least two different technologies whose primary function is to generate heat, including overall control system that selects, according to predefined parameters, which technology (or combination thereof) satisfies the customers' requirements while minimizing energy costs, consumption and/or carbon emissions

Note 1 to entry: Hybrid appliances according to the scope of this standard are based on gas fired technologies.

3.1.21
ignition burner
burner whose flame is intended to ignite another burner

3.1.22
ignition device
any means (flame, electrical ignition device or other device) used to ignite the gas at the ignition burner or at the main burner

Note 1 to entry: This device can operate intermittently or permanently.

3.1.23
indoor heat exchanger
heat exchanger which is designed to transfer heat to the indoor part of the building or to the indoor hot water supplies or to remove heat from these

Note 1 to entry: In the case of heat pumps operating in cooling mode, this is the evaporator. In the case of heat pumps operating in heating mode, this is the condenser.

3.1.24
injector
component that admits the gas into a burner

3.1.25
main burner
burner that is intended to assure the thermal function of the appliance and is generally called “the burner”

3.1.26
mechanical joint
means of assuring the soundness of an assembly of several (generally metallic) parts without the use of liquids, pastes, tapes, etc.

Note 1 to entry: The means are, for example:

– metal to metal joints;

– conical joints;

– toroidal sealing rings (“O” rings);

– flat joints.

3.1.27
monovalent appliance
encased assembly or assemblies whose primary and secondary functions are dependent on circulation of fluid (refrigerant and/or solution) within the absorption, adsorption or refrigerant circuit(s)

3.1.28
outdoor heat exchanger
heat exchanger which is designed to remove heat from the outdoor ambient environment, or any other available heat source, or to transfer heat to it

Note 1 to entry: In the case of heat pumps operating in cooling mode, this is the condenser. In the case of heat pumps operating in heating mode, this is the evaporator.

3.1.29
open system
system in which the fluid within the refrigerant circuit (e.g. water, etc.) providing heating or cooling comes into direct contact with the heat transfer medium (e.g. water, air, etc.) which is to be heated or cooled

3.1.30
packaged unit
factory assembly of components of heat pump, chiller or chiller/heater fixed on a common mounting to form a discrete unit

3.1.31
primary function
main purpose for which the sorption appliance is designed

Note 1 to entry: In the case of chiller, the main purpose is the cooling function; in the case of a heat pump this is the heating function.

Note 2 to entry: Both the heating and cooling functions of the sorption appliance may be classed as primary functions if they satisfy the rational use of energy requirements for those functions.

3.1.32
putting an adjuster or a control out of service
procedure by which a control (temperature, pressure, etc.) is put out of action and sealed in this position

3.1.33
restrictor
part with an orifice, which is placed in the gas circuit so as to create a pressure drop and thus reduce the gas pressure at the burner to a predetermined value for a given supply pressure and rate

3.1.34
sealing an adjuster
procedure by which an adjuster is set so that changing the setting of the adjuster breaks the sealing material and makes the interference with the adjuster apparent

Note 1 to entry: A factory sealed adjuster is considered to be non-existent.

Note 2 to entry: A regulator is considered to be non-existent if it has been factory sealed in the fully opened position.

3.1.35
secondary function
optional function of the sorption appliance, such as heating or cooling, which is not expected to satisfy the rational use of energy requirements of a primary function

3.1.36
setting an adjuster
procedure by which an adjuster is immobilized in a position by some means (e.g. screw)

3.1.37
sorption
process that is absorption or adsorption

3.1.38
sorption appliance
generic word used to describe all the appliances covered by this standard

Note 1 to entry: The medium used for distribution of heating and/or cooling is liquid.

3.2 Combustion products circuit

3.2.1
combustion chamber
enclosure inside which combustion of the air/gas mixture takes place

3.2.2
draught diverter
device placed in the combustion products circuit to reduce the influence of flue pull and prevent down draught affecting on the burner performance and combustion

3.2.3
flue outlet
part of the appliance that connects with a flue to evacuate the products of combustion

3.2.4
flue terminal
device fitted at the end of the duct system that enables the discharge of flue gases and may, at the same time, allow entry of combustion air

3.3 Adjusting, control and safety devices

3.3.1
adjustable pressure regulator
regulator provided with means for changing the outlet pressure setting

3.3.2
automatic burner control system
system comprising at least a programming unit and all the elements of a flame detector device