

Nadomešča:
SIST EN 12309-2:2001

Absorpcijske in adsorpcijske plinske naprave za gretje in/ali hlajenje z grelno močjo do vključno 70 kW - 3. del: Preskusni pogoji

Gas-fired sorption appliances for heating and/or cooling with a net heat input not exceeding 70 kW - Part 3: Test conditions

Gasbefeuerte Sorptions-Geräte für Heizung und/oder Kühlung mit einer Nennwärmebelastung nicht über 70 kW - Teil 3: Prüfbedingungen

Appareils à sorption à chauffage direct au gaz pour chauffage et/ou refroidissement d'un débit calorifique sur PCI inférieur à 70 kW - Partie 3: Conditions d'essais

Ta slovenski standard je istoveten z: EN 12309-3:2014

ICS:

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

SIST EN 12309-3:2015

en,fr,de

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EUROPEAN STANDARD

EN 12309-3

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2014

ICS 27.080; 91.140.30

Supersedes 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 3: Test conditions

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 3: Conditions d'essai

Gasbefeuerte Sorptions-Geräte für Heizung und/oder Kühlung mit einer Nennwärmebelastung nicht über 70 kW - Teil 3: Prüfbedingungen

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.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document (EN 12309-3:2014) 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 12309-2:2000.

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 document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA and Annex ZB, which are integral parts of this document.

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.*

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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 Annex ZA of prEN 12309-2:2013 for safety aspects and Annex ZA of EN 12309-5:2014 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 12309-3:2014 (E)

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.

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.

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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 European 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 3 of EN 12309

This part of EN 12309 specifies the test conditions for the rating of energy parameters of monovalent gas-fired sorption appliances for heating and/or cooling with a net heat input not exceeding 70 kW.

EN 12309-3:2014 (E)**2 Normative references**

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 12309-1:2014, *Gas-fired sorption appliances for heating and/or cooling with a net heat input not exceeding 70 kW – Part 1: Terms and definitions*

EN 12309-4:2014, *Gas-fired sorption appliances for heating and/or cooling with a net heat input not exceeding 70 kW – Part 4: Test methods*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12309-1:2014 apply.

4 Test conditions**4.1 Environmental conditions and electrical power supply requirements**

The test shall be carried out under the environmental conditions and electrical power supply requirements specified in Table 1 and Table 2 depending on the location of the appliance.

For all appliances, electrical power voltage and frequency shall be stated in the instructions.

Table 1 — Environmental conditions and electrical power supply requirements for appliances designed for indoor installations

Type	Measured quantities	Rating test
Water-to-water and brine-to-water appliances ^a	Ambient temperature (Dry bulb temperature)	15 °C to 30 °C
Air-to-water appliances with duct connection on the air inlet and outlet side	Ambient temperature (Dry bulb temperature)	15 °C to 30 °C
Air-to-water appliances without duct connection on the air inlet side	Air inlet temperature (Dry/Wet bulb temperature)	According to Table 3 and Table 4 or Table 5
All appliances	Voltage	Nominal voltage
All appliances	Frequency	Nominal frequency
^a Rating conditions for water to water or brine to water appliances can be extended to water to brine and brine to brine appliances respectively (e.g. for reversible applications).		

Table 2 — Environmental conditions and electrical power supply requirements for appliances designed for outdoor installations

Type	Measured quantities	Rating test
Water-to-water and brine-to-water appliances in cooling mode ^a	Ambient temperature (Dry bulb temperature)	25 °C to 35 °C
Water-to-water and brine-to-water appliances in heating mode	Ambient temperature (Dry bulb temperature)	0 °C to 7 °C
Air-to-water appliances	Air inlet temperature (Dry/Wet bulb temperature)	According to Table 3 and Table 4 or Table 5
All appliances	Voltage	Nominal voltage
All appliances	Frequency	Nominal frequency
^a Rating conditions for water to water or brine to water appliances can be extended to water to brine and brine to brine appliances respectively (e.g. for reversible applications).		

4.2 Rating conditions

For the rating tests, the appropriate test conditions shall be applied in accordance with:

- Table 3 for water-to-water, water-to-brine, air-to-water and air-to-brine appliances in cooling mode;
- Table 4 for appliances operating in cooling mode with heat recovery;
- Table 5 for air-to-water and air-to-brine appliances operating in the heating mode;
- Table 6 for water-to-water and brine-to-water appliances operating in the heating mode;

The prescribed test conditions shall be applied at full load of tested appliances.

For appliances with brine, the test shall be carried out with the brine specified in the instructions, see EN 12309-4:2014, 4.5.

NOTE 1 For air-to-water, brine-to-water and water-to-water appliances, the instructions may declare the water temperatures levels (lower, medium, high and very high) applicable to the heating mode.

NOTE 2 For comparison purposes between reverse cycle and non-reverse cycle appliances, the conditions on the water side are given by the inlet and outlet water temperatures, possibly leading to different water flow rates in heating and cooling modes.