
Absorpcijske in adsorpcijske plinske naprave za gretje in/ali hlajenje z grelno močjo do vključno 70 kW - 6. del: Izračun sezonske zmogljivosti

Gas-fired sorption appliances for heating and/or cooling with a net heat input not exceeding 70 kW - Part 6: Calculation of seasonal performances

Gasbefeuerte Sorptions-Geräte für Heizung und/oder Kühlung mit einer Nennwärmebelastung nicht über 70 kW - Teil 6: Berechnung der saisonalen Effizienzkennzahlen

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 6 : Calcul des performances saisonnières

<https://standards.iteh.ai/>
[SIST EN 12309-6:2025](https://standards.iteh.ai/catalog/standards/sist/77346152-d8b3-46f2-bd11-969d44686867/sist-en-12309-6-2025)

<https://standards.iteh.ai/catalog/standards/sist/77346152-d8b3-46f2-bd11-969d44686867/sist-en-12309-6-2025>

Ta slovenski standard je istoveten z: EN 12309-6:2025

ICS:

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

SIST EN 12309-6:2025**en,fr,de**

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 12309-6

April 2025

ICS 27.080; 91.140.30

Supersedes EN 12309-6:2014

English Version

Gas-fired sorption appliances for heating and/or cooling
with a net heat input not exceeding 70 kW - Part 6:
Calculation of seasonal performances

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 6 : Calcul des performances saisonnières

Gasbefeuerte Sorptions-Geräte für Heizung und/oder Kühlung mit einer Nennwärmebelastung nicht über 70 kW - Teil 6: Berechnung der saisonalen Effizienzkennzahlen

This European Standard was approved by CEN on 24 February 2025.

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, 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 United Kingdom.

<https://standards.iteh.ai/catalog/standards/sist/77346152-d8b3-46f2-bd11-969d44686867/sist-en-12309-6-2025>



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

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

Contents

Page

European foreword	4
1 Scope.....	5
1.1 Scope of EN 12309	5
1.2 Scope of this Part 6 to EN 12309.....	5
2 Normative references.....	5
3 Terms and definitions	6
4 Calculation methods for reference <i>SGUE</i> and <i>SAEF</i> in cooling mode	6
4.1 General.....	6
4.2 Part load conditions.....	6
4.2.1 General.....	6
4.2.2 Air-to-water appliances.....	7
4.2.3 Water-to-water and brine-to-water appliances	7
4.3 Calculation of reference <i>SGUEc</i>	8
4.4 Calculation of reference <i>SAEFc</i>.....	9
4.5 Calculation of reference annual cooling demand (Q_{refc})	9
4.6 Calculation of reference <i>SAEFc</i>_{on}.....	9
4.7 Procedures for the determination of <i>GUEc</i> / <i>AEFc</i> values	10
5 Calculation methods for reference seasonal performance in heating mode	10
5.1 General.....	10
5.2 Part load conditions.....	11
5.2.1 General.....	11
5.2.2 Air-to-water appliances.....	12
5.2.3 Water-to-water and brine-to-water appliances	15
5.3 Calculation of reference <i>SPERh</i>	18
5.4 Calculation of reference <i>SGUEh</i>.....	18
5.5 Calculation of reference <i>SAEFh</i>	20
5.6 Calculation of reference annual heating demand (Q_{refh})	21
5.7 Calculation of reference <i>SAEFh</i>_{on}	21
5.8 Procedures for the determination of <i>GUEh</i> / <i>AEFh</i> values	22
Annex A (informative) Calculation example for reference <i>SGUEc</i> and <i>SAEFc</i>.....	23
Annex B (informative) Calculation example for reference <i>SGUEh</i>, <i>SAEFh</i> and <i>SPERh</i>	25
Annex C (normative) Number of hours in thermostat off mode, stand-by mode and off mode for reference <i>SAEFc</i> and <i>SAEFh</i> calculation	27
Annex D (normative) Calculation of the reference seasonal performance in heating mode for bivalent appliances	31
D.1 General.....	31
D.2 Determination of supplementary heater efficiency and heating capacity.....	31
D.3 Determination of <i>GUEh</i> and <i>AEFh</i>.....	32
D.4 Seasonal performance figures for the bivalent appliance as a whole	33

D.5	Seasonal performance figures for the sole heat pumps appliance during active mode	35
Annex E	(normative) Procedures for the determination of <i>GUEh</i>, <i>AEFh</i> and <i>SAEFh</i> value with multiple identical heat pumps	37
E.1	General	37
E.2	Calculation procedure for <i>GUEh</i> and <i>AEFh</i> for fixed capacity heat pumps	37
E.3	Calculation procedure for <i>GUEh</i> and <i>AEFh</i> for variable capacity heat pumps	38
E.4	Calculation procedure for <i>SAEFh</i>	39
Annex F	(normative) Calculation of seasonal space heating energy efficiency for monovalent or bivalent gas-driven sorption heat pump based heating appliances	40
Annex ZA	(informative) Relationship between this European Standard and the ecodesign requirements of Commission Regulation (EU) No 813/2013 of 2 August 2013 [OJEU L 239/136, 6.9.2013] aimed to be covered	43
Annex ZB	(informative) Relationship between this European Standard and the energy labelling requirements of Commission Delegated Regulation (EU) No 811/2013 of 18 February 2013 [OJEU L 239/1, 6.9.2013] aimed to be covered	44
Bibliography		45

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[SIST EN 12309-6:2025](https://standards.iteh.ai/catalog/standards/sist/77346152-d8b3-46f2-bd11-969d44686867/sist-en-12309-6-2025)

<https://standards.iteh.ai/catalog/standards/sist/77346152-d8b3-46f2-bd11-969d44686867/sist-en-12309-6-2025>

EN 12309-6:2025 (E)**European foreword**

This document (EN 12309-6:2025) 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 October 2025, and conflicting national standards shall be withdrawn at the latest by October 2025.

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 12309-6:2014.

EN 12309-6:2025 includes the following significant technical changes with respect to EN 12309-6:2014:

- terminology has been aligned to Commission Regulation (EU) No 813/2013 of 2 August 2013 and Commission Delegated Regulation (EU) No 811/2013 of 18 February 2013;
- heating temperature profile 45 °C has been eliminated;
- optional testing points have been added.

This document comprises parts under the general title, *Gas-fired sorption appliances for heating and/or cooling with a net heat input not exceeding 70 kW*. A list of all parts in a series can be found on the CEN website.

This document will be reviewed whenever new mandates could apply.

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 Annexes ZA and ZB, which are integral parts 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.