



**NSAI**  
Standards

Irish Standard  
I.S. EN 12309-6:2014

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

**I.S. EN 12309-6:2014**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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## 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 18 October 2014.

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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.

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## Contents

	Page
Foreword.....	4
<b>1 Scope .....</b>	<b>6</b>
1.1 Scope of EN 12309.....	6
1.2 Scope of this Part 6 to EN 12309.....	6
<b>2 Normative references .....</b>	<b>7</b>
<b>3 Terms and definitions .....</b>	<b>7</b>
<b>4 Calculation methods for reference <i>SGUE</i> and <i>SAEF</i> in cooling mode .....</b>	<b>7</b>
4.1 General.....	7
4.2 Part load conditions .....	7
4.2.1 General.....	7
4.2.2 Air-to-water appliances .....	8
4.2.3 Water-to-water and brine-to-water appliances .....	8
4.3 Calculation of reference <i>SGUE<sub>c</sub></i> .....	8
4.4 Calculation of reference <i>SAEF<sub>c</sub></i> .....	9
4.5 Calculation of reference annual cooling demand ( <i>Q<sub>ref,c</sub></i> ) .....	10
4.6 Calculation of reference <i>SAEF<sub>c,on</sub></i> .....	10
4.7 Procedures for the determination of <i>GUE<sub>c</sub></i> / <i>AEF<sub>c</sub></i> values .....	11
<b>5 Calculation methods for reference seasonal performance in heating mode .....</b>	<b>11</b>
5.1 General.....	11
5.2 Part load conditions .....	12
5.2.1 General.....	12
5.2.2 Air-to-water appliances .....	13
5.2.3 Water-to-water and brine-to-water appliances .....	19
5.3 Calculation of reference <i>SPER<sub>h</sub></i> .....	27
5.4 Calculation of reference <i>SGUE<sub>h</sub></i> .....	27
5.5 Calculation of reference <i>SAEF<sub>h</sub></i> .....	29
5.6 Calculation of reference annual heating demand ( <i>Q<sub>ref,h</sub></i> ).....	29
5.7 Calculation of reference <i>SAEF<sub>h,on</sub></i> .....	30
5.8 Procedures for the determination of <i>GUE<sub>h</sub></i> / <i>AEF<sub>h</sub></i> values.....	30
<b>Annex A (informative) Calculation example for reference <i>SGUE<sub>c</sub></i> and <i>SAEF<sub>c</sub></i> .....</b>	<b>31</b>
<b>Annex B (informative) Calculation example for reference <i>SGUE<sub>h</sub></i>, <i>SAEF<sub>h</sub></i> and <i>SPER<sub>h</sub></i> .....</b>	<b>33</b>
<b>Annex C (normative) Number of hours in thermostat off mode, stand-by mode and off mode for reference <i>SAEF<sub>c</sub></i> and <i>SAEF<sub>h</sub></i> calculation .....</b>	<b>35</b>
<b>Annex D (normative) Calculation of the reference seasonal performance in heating mode for bivalent appliances.....</b>	<b>38</b>
D.1 General.....	38
D.2 Determination of auxiliary gas boiler efficiency and heating capacity .....	38
D.3 Determination of <i>GUE<sub>h</sub></i> and <i>AEF<sub>h</sub></i> .....	38
D.4 Seasonal performance figures for the bivalent appliance as a whole .....	39
D.5 Seasonal performance figures for the sole heat pumps appliance during active mode .....	41
<b>Annex E (normative) Procedures for the determination of <i>GUE<sub>h</sub></i>, <i>AEF<sub>h</sub></i> and <i>SAEF<sub>h</sub></i> value with multiple identical heat pumps .....</b>	<b>43</b>
E.1 General.....	43

<b>E.2</b>	<b>Calculation procedure for <i>GUEh</i> and <i>AEFh</i> for fixed capacity heat pumps .....</b>	<b>43</b>
<b>E.3</b>	<b>Calculation procedure for <i>GUEh</i> and <i>AEFh</i> for variable capacity heat pumps .....</b>	<b>44</b>
<b>E.4</b>	<b>Calculation procedure for <i>SAEFh</i> .....</b>	<b>45</b>
	<b>Annex F (informative) Table of tables for part load conditions in heating mode .....</b>	<b>46</b>
	<b>Annex G (normative) Calculation of seasonal space heating energy efficiency for monovalent or bivalent gas-driven sorption heat pump based heating appliances .....</b>	<b>47</b>
	<b>Annex ZA (informative) Relationship between this European Standard and the requirements of Commission Regulation (EC) No 813/2013 .....</b>	<b>49</b>
	<b>Annex ZB (informative) Relationship between this European Standard and the requirements of Commission Regulation (EC) No 811/2013 .....</b>	<b>50</b>
	<b>Bibliography .....</b>	<b>51</b>

**EN 12309-6:2014 (E)****Foreword**

This document (EN 12309-6:2014) 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.*

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 12309-8 (“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.

## EN 12309-6:2014 (E)

### 1 Scope

#### 1.1 Scope of EN 12309

Appliances covered by this 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 type 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 6 to EN 12309

This part of EN 12309 specifies the calculation methods of seasonal performances for gas-fired sorption appliances for heating and/or cooling with a net heat input not exceeding 70 kW. It deals in particular with the calculation methods of reference seasonal performances in cooling and heating mode for monovalent and bivalent appliances.

NOTE This European Standard serves as an input for the calculation of the system energy efficiency in heating mode of specific heat pump systems in buildings, as stipulated in EN 15316-4-2.



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